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DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR 1971

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS HOUSE OF REPRESENTATIVES

NINETY-FIRST CONGRESS

SECOND SESSION

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SUBCOMMITTEE ON DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES

JULIA BUTLER HANSEN, Washington, *Chairman*

MICHAEL J. KIRWAN, Ohio
JOHN O. MARSH, Jr., Virginia
JOHN J. FLYNT, Jr., Georgia
DAVID R. OBEY, Wisconsin [1]
BEN REIFEL, South Dakota
JOSEPH M. McDADE, Pennsylvania
WENDELL WYATT, Oregon

GEORGE E. EVANS, *Staff Assistant to the Subcommittee*

[1] Assigned to Subcommittee Feb. 20, 1970.

PART 1

Bureau of Land Management
Bureau of Mines
Geological Survey
Office of Territories
Secretary of the Interior

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DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1971

TUESDAY, FEBRUARY 17, 1970.

DEPARTMENT OF THE INTERIOR

WITNESSES

HON. WALTER J. HICKEL, SECRETARY
HARRISON LOESCH, ASSISTANT SECRETARY—PUBLIC LAND MANAGEMENT
HOLLIS M. DOLE, ASSISTANT SECRETARY—MINERAL RESOURCES
DR. LESLIE L. GLASGOW, ASSISTANT SECRETARY FOR FISH AND WILDLIFE, PARKS, AND MARINE RESOURCES
CARL L. KLEIN, ASSISTANT SECRETARY FOR WATER QUALITY AND RESEARCH
LAWRENCE H. DUNN, ASSISTANT SECRETARY FOR ADMINISTRATION
JOHN R. QUARLES JR., ASSISTANT TO THE SECRETARY FOR PROGRAM PLANNING AND COORDINATION
MITCHELL MELICH, SOLICITOR
RICHARD R. HITE, DIRECTOR OF BUDGET
LOUIS R. BRUCE, COMMISSIONER OF INDIAN AFFAIRS

OPENING REMARKS OF CHAIRMAN

Mrs. HANSEN. This morning we begin consideration of the 1971 budget estimates for the Department of the Interior and Related Agencies.

It is a joy to start another year with Mr. Reifel as the ranking minority member.

It is also a joy to have Mr. Wyatt back with us. Other members of the committee are in other hearings and will be with us later in the day.

Mr. Secretary, it is a great pleasure to have you and the distinguished members of your staff here this morning. I may say before we start that we had the privilege of having Assistant Secretary Dunn and Commissioner Meacham in my district about 3 weeks ago on the rainiest, stormiest day that could possibly be experienced. They did an excellent job representing the Department on that occasion. It was a pleasure to have them.

Secretary HICKEL. Thank you.

Mrs. HANSEN. We are sorry Under Secretary Train is not back before us today. We enjoyed working with him last year and may I say that the committee wishes him well in his new and challenging job as Chairman of the Council on Environmental Quality.

Budget Totals for the Interior Department for 1971

The 1971 budget estimates for the Department of the Interior included in this bill for new budget authority and appropriations to liquidate contract authorization total $1,220,703,600. This is an increase of $161,927,500 over funds appropriated to date for the 1970 fiscal year.

At this point in the record, we will insert a comparative statement of all items included in this bill.

(The statement follows:)

COMPARATIVE STATEMENT OF NEW BUDGET (OBLIGATIONAL) AUTHORITY FOR 1970 AND BUDGET ESTIMATES FOR 1971

[NOTE.—All amounts are in the form of "appropriations" unless otherwise indicated.]

Agency and item	New budget (obligational) authority appropriated, 1970 (enacted to date)	Budget estimates of new (obligational) authority, 1971	Budget estimates, 1971, compared with 1970 appropriations
(1)	(2)	(3)	(4)
TITLE I—DEPARTMENT OF THE INTERIOR			
PUBLIC LAND MANAGEMENT			
BUREAU OF LAND MANAGEMENT			
Management of lands and resources	$53,823,000	$58,940,000	+$5,117,000
Construction and maintenance	2,899,000	3,215,000	+316,000
Public lands development roads and trails (appropriation to liquidate contract authority)	*(3,500,000)*	*(3,500,000)*	
Oregon and California grant lands (indefinite, appropriation of receipts)	16,000,000	18,000,000	+2,000,000
Range improvements (indefinite, appropriation of receipts)	1,769,000	1,841,000	+72,000
Total, Bureau of Land Management	74,491,000	81,996,000	+7,505,000
BUREAU OF INDIAN AFFAIRS			
Education and welfare services	181,646,000	216,995,000	+35,349,000
Education and welfare services (appropriation to liquidate contract authority)	*(1,057,000)*	*(1,500,000)*	*(+443,000)*
Resources management	55,242,000	66,217,000	+10,975,000
Construction	26,264,000	14,266,000	−11,998,000
Road construction (appropriation to liquidate contract authority)	*(20,000,000)*	*(20,000,000)*	
General administrative expenses	5,013,000	5,626,000	+613,000
Tribal funds (definite)	3,000,000	3,000,000	
Tribal funds (indefinite)	13,204,000	13,204,000	
Total, Bureau of Indian Affairs	284,369,000	319,308,000	+34,939,000
BUREAU OF OUTDOOR RECREATION			
Salaries and expenses	3,750,000	4,025,000	+275,000
Land and water conservation:			
Appropriation of receipts (indefinite)	108,472,000	138,500,000	+30,028,000
(Appropriation out of the fund to liquidate contract authority)	*(15,528,000)*	*(30,000,000)*	*(+14,472,000)*
Total, Bureau of Outdoor Recreation	112,222,000	142,525,000	+30,303,000

COMPARATIVE STATEMENT OF NEW BUDGET (OBLIGATIONAL) AUTHORITY FOR 1970 AND BUDGET ESTIMATES FOR 1971—Continued

Agency and item	New budget (obligational) authority appropriated, 1970 (enacted to date)	Budget estimates of new (obligational) authority, 1971	Budget estimates, 1971, compared with 1970 appropriations
(1)	(2)	(3)	(4)
OFFICE OF TERRITORIES			
Administration of territories	$14,921,400	$17,409,600	+$2,488,200
Permanent appropriation (special fund)	*(239,400)*	*(118,000)*	*(−121,400)*
Transferred from other accounts (special fund)	*(292,700)*	*(330,000)*	*(+37,300)*
Trust Territory of the Pacific Islands	48,112,000	60,000,000	+11,888,000
Total, Office of Territories	63,033,400	77,409,600	+14,376,200
Total, Public Land Management	534,115,400	621,238,600	+87,123,200
MINERAL RESOURCES			
GEOLOGICAL SURVEY			
Surveys, investigations, and research	96,455,000	105,757,000	+9,302,000
BUREAU OF MINES			
Conservation and development of mineral resources	39,331,000	44,972,000	+5,641,000
Health and safety	26,332,000	54,395,000	+28,063,000
General administrative expenses	1,647,000	1,799,000	+152,000
Helium fund (authorization to spend from public debt receipts)	24,000,000		−24,000,000
Total, Bureau of Mines	91,310,000	101,166,000	+9,856,000
OFFICE OF COAL RESEARCH			
Salaries and expenses	15,300,000	16,200,000	+900,000
OFFICE OF OIL AND GAS			
Salaries and expenses	994,000	1,195,000	+201,000
Total, Mineral Resources	204,059,000	224,318,000	+20,259,000
FISH AND WILDLIFE, PARKS, AND MARINE RESOURCES			
BUREAU OF COMMERCIAL FISHERIES			
Management and investigations of resources	26,600,000	27,156,000	+556,000
Management and investigations of resources (special foreign currency program)	15,000	15,000	
Construction	2,325,000		−2,325,000
Construction of fishing vessels	3,000,000	200,000	−2,800,000
Federal aid for commercial fisheries research and development	4,590,000	4,040,000	−550,000
Anadromous and Great Lakes fisheries conservation	2,307,000	2,168,000	−139,000
Administration of Pribilof Islands (indefinite, appropriation of receipts)	2,654,000	2,774,000	+120,000
Fishermen's protective fund	60,000	60,000	
General administrative expenses	765,000	896,000	+131,000
Limitation on administrative expenses, Fisheries loan fund	*(385,000)*	*(385,000)*	
Total, Bureau of Commercial Fisheries	42,316,000	37,309,000	−5,007,000

COMPARATIVE STATEMENT OF NEW BUDGET (OBLIGATIONAL) AUTHORITY FOR 1970 AND BUDGET ESTIMATES FOR 1971—Continued

Agency and item (1)	New budget (obligational) authority appropriated, 1970 (enacted to date) (2)	Budget estimates of new (obligational) authority, 1971 (3)	Budget estimates, 1971, compared with 1970 appropriations (4)
BUREAU OF SPORT FISHERIES AND WILDLIFE			
Management and investigations of resources	$49,160,000	$56,226,000	+$7,066,000
Construction	4,259,000	2,619,000	−1,640,000
Migratory bird conservation account (definite, repayable advance)	5,800,000	7,500,000	+1,700,000
Anadromous and Great Lakes fisheries conservation	2,294,000	2,311,000	+17,000
Management and investigations of resources (special foreign currency program)		100,000	+100,000
General administrative expenses	1,699,000	1,875,000	+176,000
Total, Bureau of Sport Fisheries and Wildlife	63,212,000	70,631,000	+7,419,000
NATIONAL PARK SERVICE			
Management and protection	49,150,000	58,021,000	+8,871,000
Maintenance and rehabilitation of physical facilities	40,050,000	48,763,000	+8,713,000
Construction	7,700,000	16,885,000	+9,185,000
Parkway and road construction (appropriation to liquidate contract authority)	*(21,500,000)*	*(16,000,000)*	*(−5,500,000)*
Preservation of historic properties	1,600,000	6,950,000	+5,350,000
General administrative expenses	3,317,000	3,605,000	+288,000
Total, National Park Service	101,817,000	134,224,000	+32,407,000
Total, Fish and Wildlife, Parks, and Marine Resources	207,345,000	242,164,000	+34,819,000
OFFICE OF SALINE WATER			
Saline water conversion	25,000,000	29,373,000	+4,373,000
OFFICE OF WATER RESOURCES RESEARCH			
Salaries and expenses	11,229,000	13,312,000	+2,083,000
OFFICE OF THE SOLICITOR			
Salaries and expenses	5,530,000	7,344,000	+1,814,000
OFFICE OF THE SECRETARY			
Salaries and expenses	9,912,700	11,954,000	+2,041,300
Total, new budget (obligational) authority, Department of Interior	997,191,100	1,149,703,600	+152,512,500
Consisting of—			
Appropriations	973,191,100	1,149,703,600	+176,512,500
Definite appropriations	(831,992,100)	(975,384,600)	(+144,292,500)
Indefinite appropriations	(142,999,000)	(174,319,000)	(+32,220,000)
Authorization to spend from public debt receipts	24,000,000		−24,000,000

COMPARATIVE STATEMENT OF NEW BUDGET (OBLIGATIONAL) AUTHORITY FOR 1970 AND BUDGET ESTIMATES FOR 1971—Continued

Agency and item (1)	New budget (obligational) authority appropriated, 1970 (enacted to date) (2)	Budget estimates of new (obligational) authority, 1971 (3)	Budget estimates, 1971, compared with 1970 appropriations (4)
Memoranda—			
Appropriations to liquidate contract authority	($61, 585, 000)	($71, 000, 000)	(+$9, 415, 000)
Total, new budget (obligational) authority *and* appropriation to liquidate contract authority	(1, 058, 776, 100)	(1, 220, 703, 600)	(+161, 927, 500)
TITLE II—RELATED AGENCIES			
DEPARTMENT OF AGRICULTURE			
FOREST SERVICE			
Forest protection and utilization:			
Forest land management	192, 810, 000	211, 561, 000	+18, 751, 000
Forest research	42, 137, 000	45, 066, 000	+2, 929, 000
State and private forestry cooperation	22, 729, 000	21, 939, 000	−790, 000
Total, forest protection and utilization	257, 676, 000	278, 566, 000	+20, 890, 000
Forest roads and trails (appropriation to liquidate contract authority)	*(100, 570, 000)*	*(115, 000, 000)*	*(+14, 430, 000)*
Acquisition of lands for national forests:			
Special acts (special fund, indefinite)	80, 000	80, 000	
Cooperative range improvements (special fund, indefinite)	700, 000	700, 000	
Assistance to States for tree planting	1, 000, 000	1, 000, 000	
Total, new budget (obligational) authority, Forest Service	259, 456, 000	280, 346, 000	+20, 890, 000
FEDERAL COAL MINE SAFETY BOARD OF REVIEW			
Salaries and expenses	148, 000		−148, 000
COMMISSION OF FINE ARTS			
Salaries and expenses	115, 000	115, 000	
DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE			
HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION			
Indian health services	101, 529, 000	113, 217, 000	+11, 688, 000
Indian health facilities	20, 952, 000	17, 950, 000	−3, 002, 000
Total, Health Services and Mental Health Administration	122, 481, 000	131, 167, 000	+8, 686, 000
INDIAN CLAIMS COMMISSION			
Salaries and expenses	850, 000	1, 000, 000	+150, 000
NATIONAL CAPITAL PLANNING COMMISSION			
Salaries and expenses	1 222, 700	1, 390, 000	+1, 167, 300

COMPARATIVE STATEMENT OF NEW BUDGET (OBLIGATIONAL) AUTHORITY FOR 1970 AND BUDGET ESTIMATES FOR 1971—Continued

Agency and item	New budget (obligational) authority appropriated, 1970 (enacted to date)	Budget estimates of new (obligational) authority, 1971	Budget estimates, 1971, compared with 1970 appropriations
(1)	(2)	(3)	(4)
NATIONAL FOUNDATION ON THE ARTS AND THE HUMANITIES			
Salaries and expenses	$1, 490, 000	$2, 400, 000	+$910, 000
Endowment for the arts	7, 250, 000	16, 300, 000	+9, 050, 000
Endowment for the humanities	7, 050, 000	16, 300, 000	+9, 250, 000
Total, National Foundation on the Arts and the Humanities	15, 790, 000	35, 000, 000	+19, 210, 000
PUBLIC LAND LAW REVIEW COMMISSION			
Salaries and expenses	922, 000	171, 000	−751, 000
SMITHSONIAN INSTITUTION			
Salaries and expenses	28, 134, 000	36, 367, 000	+8, 233, 000
Museum programs and related research (special foreign currency program)	2, 316, 000	4, 500, 000	+2, 184, 000
Construction and improvements, National Zoological Park	600, 000	200, 000	−400, 000
Restoration and renovation of buildings	525, 000	1, 130, 000	+605, 000
Construction	200, 000		−200, 000
Construction (appropriation to liquidate contract authority)	*(3, 300, 000)*	*(8, 897, 000)*	*(+5, 597, 000)*
The John F. Kennedy Center for the Performing Arts	7, 500, 000		−7, 500, 000
Salaries and expenses, National Gallery of Art	3, 390, 000	3, 716, 000	+326, 000
Total, Smithsonian Institution	42, 665, 000	45, 913, 000	+3, 248, 000
EXECUTIVE OFFICE OF THE PRESIDENT			
Salaries and expenses, National Council on Marine Resources and Engineering Development	700, 000		−700, 000
FEDERAL FIELD COMMITTEE FOR DEVELOPMENT PLANNING IN ALASKA			
Salaries and expenses	192, 500	263, 000	+70, 500
HISTORICAL AND MEMORIAL COMMISSIONS			
LEWIS AND CLARK TRAIL COMMISSION			
Salaries and expenses	5, 000		−5, 000
AMERICAN REVOLUTION BICENTENNIAL COMMISSION			
Salaries and expenses	175, 000	375, 000	+200, 000
NATIONAL COUNCIL ON INDIAN OPPORTUNITY			
Salaries and expenses	286, 000	300, 000	+14, 000
Total, new budget (obligational) authority, related agencies	444, 008, 200	496, 040, 000	+52, 031, 800

COMPARATIVE STATEMENT OF NEW BUDGET (OBLIGATIONAL) AUTHORITY FOR 1970 AND BUDGET ESTIMATES FOR 1971—Continued

Agency and item (1)	New budget (obligational) authority appropriated, 1970 (enacted to date) (2)	Budget estimates of new (obligational) authority, 1971 (3)	Budget estimates, 1971, compared with 1970 appropriations (4)
Consisting of—			
Appropriations	$444,008,200	$496,040,000	+$52,031,800
Definite appropriations	(443,228,200)	(495,260,000)	(+52,031,800)
Indefinite appropriations	(780,000)	(780,000)	----------
Memoranda—			
Appropriations to liquidate contract authority	(103,870,000)	(123,897,000)	(+20,027,000)
Total, new budget (obligational) authority *and* appropriation to liquidate contract authority	(547,878,200)	(619,937,000)	(+72,058,800)
RECAPITULATION			
Grand total, new budget (obligational) authority, all titles	1,441,199,300	1,645,743,600	+204,544,300
Consisting of—			
1. Appropriations	1,417,199,300	1,645,743,600	+228,544,300
Definite appropriations	(1,274,320,300)	(1,470,644,600)	(+196,324,300)
Indefinite appropriations	(142,879,000)	(175,099,000)	(+32,220,000)
2. Authorization to spend from public debt receipts	24,000,000	----------	−24,000,000
Memoranda—			
Appropriations to liquidate contract authority	(165,455,000)	(194,897,000)	(+29,442,000)
Grand total, new budget (obligational) authority *and* appropriation to liquidate contract authority	(1,606,654,300)	(1,840,640,600)	(+233,986,300)

[1] In addition, $770,000 transferred from "Land Acquisition, National Capitol Park, Parkway, and Playground System."

INTRODUCTION OF STAFF BY SECRETARY HICKEL

Mrs. HANSEN. Now, Mr. Secretary, would you introduce the members of your staff?

Secretary HICKEL. I will start at the far end.

Lawrence H. Dunn, Assistant Secretary for Administration; Mitchell Melich, Solicitor; Hollis M. Dole, Assistant Secretary for Mineral Resources; Richard R. Hite, Director of Budget; Harrison Loesch, Assistant Secretary for Public Land Management; Carl L. Klein, Assistant Secretary for Water Quality and Research.

Louis R. Bruce, Commissioner of Indian Affairs; Dr. Leslie L. Glasgow, Assistant Secretary for Fish and Wildlife, Parks and Marine Resources; John R. Quarles, Jr., Program Planning and Coordination; and Malcolm Roberts on my staff.

BIOGRAPHIES OF WITNESSES

Mrs. HANSEN. May I say that again, we welcome you, Mr. Secretary, and the distinguished members of your staff. It is a pleasure to have you here and may I request that you insert in the record the biographies of all your staff who have not previously appeared before this Committee.

(The biographies follow:)

BIOGRAPHICAL SKETCH OF RICHARD R. HITE, DIRECTOR OF BUDGET

Mr. Richard R. Hite was born March 28, 1926, in Columbus, Ga., but has resided in the District of Columbia area since the age of 6 months. His parents were natives of Washington, D.C.

Mr. Hite attended the District public schools, graduating from Western High School in 1944. After graduation he served in the U.S. Navy for 2 years, seeing duty in the Pacific. Upon his honorable discharge from the Navy in 1946, Mr. Hite attended American University in Washington, D.C., and was graduated cum laude with a bachelor of arts degree in economics in 1950.

He entered the Federal Government service as a management intern in the Department of Defense (Navy) in 1951. With the exception of a 15-month period in 1952–53 when he was employed in the office of the comptroller, Potomac Electric Power Co., Mr. Hite has served continuously in the Federal Government since 1951.

During the period 1954–66, Mr. Hite served on the Department of the Army Headquarters Staff as a management and budget analyst for the Deputy Chief of Staff for Personnel, the Chief of Research and Development, and, finally in the Office of the Army Chief of Staff. In his final assignment for the Department of the Army, at the request of Gen. William C. Westmoreland, he conducted a survey of the staffing organization, and management procedures of the U.S. Command, Vietnam, in Saigon.

In August 1966, Mr. Hite joined the Executive Office of the President, Bureau of the Budget, as an examiner in the General Government Management Division. During his 3 years with the Bureau, he served as principal examiner for the General Services Administration and the Post Office Department. In connection with the recent efforts on postal reform, Mr. Hite chaired a Bureau of the Budget committee which reviewed and evaluated reports of the President's Commission on Postal Organization, prepared the Bureau of the Budget's position, and assisted in the formulation of the postal reform bill which is currently before the Congress.

Mr. Hite holds the Meritorious Civilian Service Award from the Department of the Army.

Mr. Hite is married to the former Eileen Mary Doyle of Listowel, County Kerry, Ireland. They have two children, Kathleen, 11, and John 6. They reside at 2108 North Jefferson Street, Arlington, Virginia, 22205.

Lawrence H. Dunn

Lawrence H. Dunn, 53, of San Francisco, Calif., is Assistant Secretary of the Interior for Administration.

Dunn was real estate administrator for Allied Properties, Inc. in San Francisco before joining President Nixon's preelection staff in 1968 as an administrative assistant in the New York City headquarters of the campaign.

Following the election, he was appointed administrative officer of the President-elect's Transition Office in Washington, D.C., and after the Inauguration was named Deputy Special Assistant to the President for personnel.

"Mr. Dunn brings 15 years of broad gaged administrative experience to his important assignment in this Department," Secretary Hickel said.

"His excellent knowledge of administration, budget preparation and personnel management, recruitment and training is backed by his solid record as a prudent man who can get things done."

Born in Niles, Ohio, Dunn received a B.A. degree from the University of California and carried on graduate study at the University of Seville in Spain.

Dunn has served as president of the Brokers Title Co. in Menlo Park, Calif., and with several banks and title companies in San Francisco, Oakland, and Santa Barbara, Calif.

A U.S. Marine Corps officer in World War II, he has been secretary of the Navy League of Santa Barbara and secretary of the Santa Barbara Real Estate Board.

John R. Quarles, Jr.

John R. Quarles, Jr., 34, of Winchester, Mass., is assistant to the secretary for program planning and coordination.

Quarles is responsible for the development and primary coordination of programs for the department and for supervising the department's regional coordinators who serve as the secretary's representatives in the field.

Quarles came with the department on May 19, 1969, when he was appointed assistant for environmental planning to the Under Secretary of the Interior, where he was responsible for directing the environmental planing staff. As director of that staff Quarles was responsible for the formulation of environmental resource policies, analyzing resource management philosophies and resolving a broad range of conflicting interests which have an adverse effect on the environment.

A native of Massachusetts, Quarles was graduated from Yale University in 1957 and received a magna cum laude law degree from Harvard Law School in 1961. He was a member of the Harvard Law Review and was elected permanent secretary of his class. He is a member of Phi Beta Kappa.

Since 1962, Quarles has been engaged in the practice of corporative law in Boston. He is married to the former Nancy Barbara Harris. They have three children.

Mitchell Melich

MELICH, Mitchell, Salt Lake City; b. Bingham Canyon, Utah, Feb. 1, 1912; s. Joseph and Mary (Kalembar) Melich; LL. B. Univ. of Utah, 1934; Kappa Sigma; m. Doris Snyder, June 3, 1935; c.—Tanya (Mrs. Noel L. Silverman), Michael (Ph. D.), Nancy (Mrs. Robert Ossana), Robert A. Admitted Utah Bar, 1934; pvt. practice, Moab, 1934–63; city atty., Moab, 1934–55; county atty., Grand County, 1940–42; Utah State Senator, 1942–50, Minority Leader, 1949–50; mem. Colorado River Com. of Utah 1945–47; mem. Utah Water and Power Bd., 1947; mem. Utah Legislative Council, 1949–54; attended Republican National Conventions, 1952–56–60–64–68 (del. 1952–60–68), Republican National Committeeman for Utah, 1961–64; mem. Bd. of Regents, Univ. Utah, 1961–65; Republican candidate for Governor, 1964; sec., dir. Utex Exploration Co., Moab, 1953–62; pres., dir. Uranium Reduction Co., Moab, 1954–62; consult. to pres. Atlas Minerals, div. Atlas Corp., 1962–67; dir., treas., New Park Mining Co., 1962–65; dir. Ideal National Ins. Co., 1958–69; dir. Salt Lake Board First Security Bank of Utah, 1962–69; consult. staff of Congressman Sherman P. Lloyd, 1967–68; appointed Solicitor, Dept. of the Interior, Mar. 1969. Mem. Utah and Am. Bar Assns.; chmn. Salt Lake City Council Foreign Relations; Committee Designing Educ. for Future; Utah Ballet Soc.; Hon. Col. Corps, Utah; chmn., Citizens Advisory Committee on Higher Education; Distinguished Alumni Award, Univ. of Utah, 1969; mem. Univ. of Utah National Advisory Council 1968—; Alta Club,

Salt Lake City; Salt Lake Country Club; Mason; Shriner. Home: 4100 Cathedral Ave., N.W., Washington, D.C. 20016; Office: Department of the Interior, Washington, D.C. 20240.

DR. LESLIE L. GLASGOW

Dr. Leslie L. Glasgow, 54, of Baton Rouge, La., has been teaching for the past 20 years in the fields of fisheries, wildlife and forestry.

He was formerly professor of wildlife management at Louisiana State University for 18 years. In 1966 he became director of the Louisiana Wildlife and Fisheries Commission.

Dr. Glasgow has spent 18 years in research on wildlife wetlands management at the LSU Agricultural Experiment Station, and was formerly a waterfowl biologist in the Indiana Conservation Department. He was winner of the Governor's Award of the Louisiana Wildlife Federation in 1967.

A native of Portland, Jay County, Ind., he was graduated from Purdue University in wildlife and forestry, obtained his master's degree in wildlife at the University of Maine, and his doctorate in wildlife management at Texas A&M Unversity.

Dr. Glasgow had a graduate teaching assistantship while at the University of Maine, was named the Outstanding Louisiana Conservationist by the State's outdoor writers in 1958, and has been awarded membership in several chapters of the Louisiana Wildlife Federation.

Dr. Glasgow is a former president of the Louisiana Wildlife Biologists Association and the Southeastern Section of the Wildlife Society. He is and has been a member of the American Fisheries Society, the Gulf States Marine Fisheries Commission, the Gulf and Caribbean Fisheries Association, the Southeastern Association of Fish and Game Commission, International Association of Fish and Game Commission, Sigma Xi (National Research Fraternity), Louisiana Stream Pollution Control Commission, Louisiana Forestry Commission, and the Louisiana Tourist Development Commission.

In 1943–44, Dr. Glasgow was employed as a civilian by the U.S. War Department at Deep River, Conn., and during the next 2 years saw military service with the U.S. Army Air Force.

Dr. Glasgow and his wife, the former Garnet Lucile Confer, are the parents of three sons, Vaughn, 24; Hugh, 21; and Robert 16.

HOLLIS M. DOLE, ASSISTANT SECRETARY, MINERAL RESOURCES

Hollis M. Dole, 54, of Portland, Oreg., was Oregon State geologist and director of the Oregon Department of Geology and Minerals Industries, from 1956 until his appointment as assistant secretary of the interior for mineral resources. Except for academic leave in 1951 and 1952, he had served the Oregon agency since 1946.

He received his BS degree in geology from Oregon State University in 1940 and his MS degree in 1942. He also has studied economic geology at the University of California at Los Angeles and the University of Utah.

Although a native of Paonia, Colo., Dole has lived in Oregon most of his life. He has worked for Bohemia Mines at Cottage Grove, Oreg. (1934–35) and the American Trust Co., Palo Alto, Calif. (1935–37). In 1942 he was employed by the U.S. Bureau of Mines at Scappoose, Oreg., and by the U.S. Geological Survey, at Tucson, Ariz., in 1946. He served in the Navy from 1942 to 1945 and attained the rank of lieutenant.

Dole has been a college level geology instructor in both Portland and Salt Lake City.

He is the author of numerous technical publications on mineral resources and has testified before House and Senate Interior Committees on hearings regarding gold and chrome problems. He also has been general reporter for Oregon on the interstate oil compact commission.

Dole is a member of many technical groups, including the American Association of Petroleum Geologists, the Association of American State Geologists, and the Oregon Academy of Science.

He is married to the former Ruth Josephine Mitchell, a native of Okanogan County, Wash. They are the parents of two sons.

HARRISON LOESCH

Family: Born Chicago, Ill., March 10, 1916, to Joseph B. Loesch and Constance Harrison Loesch; married to Louise Mills, June 19, 1940. Children—one son, Jeffrey H. Loesch, born June 14, 1946.

Education: Montrose Colorado school; B.A., Colorado College, 1936; Denver University Law School, 1936–37; LL.B., Yale University, 1939.

Military service: Enlisted private AUA, March 1942; OCS, field intelligence training, commission October 1942, assigned 314th T.C. Gp., 9th A.F., North Africa (1943), Sicily, England, France, Germany. Distinguished unit citation, Air Medal (cluster). Discharged major, October 1945.

Bar admissions: Admitted to bar, Colorado, 1936; U.S. district court; U.S. Court of Appeals, 10th Circuit.

Professional associations: Moynihan & Hughes, associate, 1939–42; Strang & Loesch, 1945–56; Loesch & Kreidler, 1956–61; Loesch, Kreidler & Durham, 1961–69.

Bar association memberships: Seventh Judicial District (president 1956); Colorado (board of governors 1950–52; 1960–63; president 1961–62); American.

Organizations: Rotary, Elks, University Club of Denver, VFW, American Legion, Boy Scouts of America.

Politics: Republican.

Religion: Protestant (preference—Episcopal).

Public land law experience: As a Colorado lawyer, I have had extensive representational experience with the Bureau of Land Management and all phases of the Taylor Grazing Act including process, procedure, administrative appeals, and litigation covering rights and duties of permittees, exchanges, sales of isolated tracts, withdrawals, grazing districts, and homestead entries.

During the uranium boom of the 1950's, I became experienced in the AEC procedures involving exploratory permits, leases and claims on withdrawn lands, as well as the ordinary process concerning mining claims on open public lands. These latter are of course the same as lode mining matters which had already been a substantial part of my practice.

In connection with the establishment and enlargement of the Black Canyon National Monument, I have dealt with the hierarchy of the National Park Service on trades, purchases, resurveys, and other administrative procedures, and have been instrumental in effecting compromises which benefited both the public and the landowners.

Of late years, I have handled the procedures provided for granting title to small residential tracts to longtime occupants of invalid (or invalidated) mining or mill-site claims.

I claim expertise in Colorado water law, and have handled all phases of individual and ditch company appropriation procedures, development, and litigation. I have dealt with the Bureau of Reclamation, the Uncompahgre Project Association, and the Tri-County Water Conservancy District on administrative accommodations for development of municipal and rural domestic supply for the entire area. Water matters have become of particular moment with progress of Colorado River development upstream from Glen Canyon, and have intimate connection with the use and disposition of public lands in the entire five-State area, so acquaintance with Bureau of Reclamation rules, regulations and procedures is pertinent.

I have handled negotiations for access roads to public lands and have participated in litigation concerning them. I have some knowledge of the procedures involved in obtaining licenses for transmission line rights-of-way across public lands, and the rules and regulations involved in the process of building access roads to private lands.

This experience has afforded me a reasonable knowledge of the organization, structure and function of the Bureau of Land Management, the Bureau of Reclamation, the Rural Electrification Administration, the Forest Service, the Geological Survey, the Land Office, the Bureau of Mines, and the State organizations which interact with and supplement them.

CARL L. KLEIN, ASSISTANT SECRETARY OF THE INTERIOR FOR WATER QUALITY AND RESEARCH

Carl L. Klein, a Chicago lawyer and Illinois State Representative, was appointed Assistant Secretary of the Interior for Water Quality and Research by President Nixon and Secretary Walter J. Hickel in March 1969.

Long involveyd in the struggle for clean water in his home State, Klein was chairman of the Illinois Water Pollution and Water Resources Commission for 5 years, and of the House Commission on Water Resources for 2. In the State legislature, his devotion to the antipollution cause earned him the nickname "Mr. Clean Water," and brought wide recognition for water quality problems throughout the State.

A practicing lawyer since 1942, Klein served as Republican committeeman of his home 15th Chicago Ward, and was elected State representative from the 27th District in 1964, 1966, and 1968. In the State legislature, he was a member of the Committees on Higher Education and on Banks and Savings and Loan Institutions.

Klein moved to Chicago 2 years after his birth in Butternut, Wis., in 1917. He attended grammar and high schools in the city, and earned a degree in history and political science at the Central YMCA College in Chicago in 1939. Three years later he obtained a law degree at DePaul University.

Entering the Army as an enlisted man in April 1943, Klein served in the Counter Intelligence Corps, and was later commissioned a second lieutenant in the Quartermaster Corps. He performed in a number of legal and security roles before his discharge as a first lieutenant in 1946.

Assistant Secretary Klein is a member of the Chicago and Illinois State Bar Associations, and of the Hope Evangelical Lutheran Church in Chicago. He is also a past president of the Town of Lake Chamber of Commerce and of the Stock Yards Area Kiwanis Club.

Klein is married to the former Emma M. Klein of Chicago. They have a son and a daughter.

Mrs. HANSEN. Mr. Secretary, perhaps you would like to put your statement in the record, and then review it for us briefly.

Secretary HICKEL. I can put it in the record, or I can read it. Reading it will take time. I will read it if you like.

Mrs. HANSEN. We have plenty of time.

STATEMENT OF SECRETARY HICKEL

Secretary HICKEL. Fine.

Madam Chairman, it is really a pleasure to appear before this committee, which over the years has been a major focal point in not only providing the necessary funds, but also wise counseling and guidance in connection with the Department's programs for the conservation and development of our Nation's natural resources. As we look into the future it becomes very apparent that it will be necessary for our Department to work even closer with this committee to successfully overcome the huge environmental and natural resource problems facing our Nation. I am convinced that working together we can solve those problems and provide future generations an ample supply of needed natural resources in a clean and healthful environment.

The members of this committee may be assured that they can expect complete cooperation from our Department and that we will make every effort possible to work in close cooperation with the committee and the entire Congress to accomplish our mutual goals and objectives.

PRESS STATEMENTS

Mrs. HANSEN. Don't let the White House make your press statements about your projects in the future.

Secretary HICKEL. All right.

Mrs. HANSEN. It is well to have members of the Committee receive press releases on subjects with which they have been intimately associated, or which are in their districts.

Secretary HICKEL. I understand that.

Mrs. HANSEN. The restoration of the fisheries fingerling funds is an example of my concern. We had the same trouble with the last administration. So this is not the first time.

Mr. WYATT. You are suggesting a change in procedure?

Mrs. HANSEN. I am suggesting we had to remind departmental officials rather forcibly in the years gone by that it would be advisable to let the Appropriations Committee, who has actually provided the funds, know of the activities that are being initiated. May I say we don't blame Interior.

Secretary HICKEL. That is a good point.

Sometimes we like to know what we read in the papers too.

Mrs. HANSEN. I am sure of that.

INCREASED FUNDING REQUESTED IN FISCAL YEAR 1971

Secretary HICKEL. For the Bureaus and Offices of our department included in the Department of the Interior and related agencies appropriation bill, we are requesting $1,384 million (including permanent appropriations), an increase of $170 million over fiscal year 1970.

1971 RECEIPTS GENERATED BY INTERIOR

We estimate that for fiscal year 1971 the Bureaus and Offices included in this bill will generate, or have available, receipts in the total amount of $1,405 million, which is $21 million more than we are requesting for appropriation.

INDIAN AFFAIRS

We are currently in the process of restructuring the Bureau of Indian Affairs in a way we believe will enable the Bureau to be more responsive to the needs of the Indian people. As I have stated before, I am a firm believer in a quality education program for our Indian people. Consequently, we are requesting that this very essential program be expanded to provide for increased enrollments, increased assistance to Indian college students, strengthening of the program with new and improved curriculum material, and better qualified teachers and specialized personnel.

INITIATION OF INDIAN TRIBAL DEVELOPMENT FUND

We shall continue to emphasize the development of commercial and industrial potentials, as well as the programs for job training and placement. The budget this year includes for the first time a Tribal Development Fund. This fund will be used to make grants to Indian tribes that come forward with worthwhile proposals designed to create employment and improve the economic status of tribal members.

TERRITORIAL PROGRAMS

As with the Indian people, we are proposing the expansion of our programs for the health, educational advancement, and economic development of the inhabitants of the territories. We will propose to the Congress this year an increase of $10 million in the authorization for

the Trust Territory of the Pacific Islands. This will raise the annual authorized amount from $50 to $60 million.

POPULATION OF THE TRUST TERRITORY

Mrs. HANSEN. At this point in the record I think you might insert the total population of the Trust Territory so we may consider the expenditure as related to the population.

Secretary HICKEL. Fine. The population is around 100,000.

PARK AND RECREATION AREAS

A major part of the Department of the Interior program to enhance and protect the quality of our environment is an increase in the effort to provide adequate park and recreation areas. Our emphasis will be focused in and near the Nation's cities where the need is greatest, open spaces are rapidly vanishing, and land prices are escalating most rapidly.

At the same time we shall continue our efforts to acquire and develop those land areas possessing national historic value, natural scenic wonders, and high recreational potential.

FULL FUNDING REQUESTED FOR LAND AND WATER CONSERVATION

To carry out this program we are requesting the full amount available in the land and water conservation fund. The initial request for $168.5 million, including $30 million for liquidation of fiscal year 1970 contract authority has already been submitted. We are now preparing a program for use of the remaining $188.9 million, bringing the total fiscal year 1971 request to $357.5 million. This program, which will be submitted to you in the near future, will be aimed primarily at urban recreation and open space needs.

GEOLOGICAL SURVEY PROGRAMS

The Geological Survey while continuing all of its programs that are so necessary for the proper use and development of our natural resources, as well as essential for the protection of our environment, will be placing special emphasis in the following three areas:

WATER DATA

The people of the United States are withdrawing more than 100 billion gallons of water each day from streams, lakes, springs, and wells. They have invested tens of billions of dollars in dams and treatment plants. It is predicted that by 1980 this investment will have doubled. If the cost of managing our water is not to become an intolerably heavy drag on the economy, the Nation will have to manage it far more efficiently than in the past. The Survey's water program provides a nationwide base of data needed for national planning and management of this resource. The Survey is responsible for coordinating Federal activities of water data collection and dissemination.

Mrs. HANSEN. I will break in at this point to welcome another member of the committee, Congressman John Flynt. Continue please.

URBAN PROBLEMS

The Geological Survey is contributing increasingly to the solution of urban problems, particularly those involving resources and geologic hazards. Within 30 years it is predicted that 80 percent of our Nation's population will live in predominantly urban areas. To adequately serve this population growth the nation will have to construct in the next 25 years as many houses and facilities as now exist. To provide these facilities without ruin to our physical environment we will need a greater understanding of the environment, its hazards and advantages, and their interrelationship with man's activities.

PILOT URBAN AREAS STUDY PROGRAM

The pilot urban area studies program ultimately will involve seven urban areas. During 1971 studies will be initiated in one or two cities, yet to be determined. By assembling a comprehensive array of data for urban regions with different environmental problems the Geological Survey expects to determine which data are the most useful to urban planning officials, and how best to present such data for use by action agencies at local, regional and national levels.

ARCTIC PROBLEMS

Discoveries of huge reserves of petroleum on the Alaskan North Slope have introduced a high level of intensive, mechanized activity in what has been largely uninhabited Arctic wilderness.

The Arctic areas have been too long neglected and their resources and environment are in need of additional study. Experience in northern Alaska does indicate that the climate and permafrost create serious problems for buildings, roads, water supply and waste disposal. We have had our geologists working on these matters for the past several months and we believe that Arctic problems can be surmounted with full protection for the environment.

HEALTH AND SAFETY OF MINERS

The Department during fiscal year 1971, through its Bureau of Mines, will be placing great emphasis on programs designed to protect the health and safety of the Nation's coal miners as required by the newly-enacted Federal Coal Mine Health and Safety Act of 1969.

ACCELERATION OF MINE INSPECTION PROGRAM

The mine inspection program will be accelerated not only because of increased frequency of both regular and spot inspections but because of more intensive inspection requirements in the areas of electricity, ventilation, roof control and methane control. The act establishes for the first time a respirable dust standard applicable to all underground coal mines in the United States. Funds are included for an inspection force to make atmospheric dust samples in mines and to assure that the airborne dust concentrations do not exceed the standard.

RESEARCH ON MINE FIRE AND EXPLOSION PREVENTION

Research on fire and explosion prevention in coal mines will be expanded. This includes research on methane control which is of prime importance to achieve protection against explosions. Other safety research is aimed at the reduction of methane/dust ignition hazards from electrical sources, the development of nonsparking bits for mining machines, and on mine recovery and rescue equipment.

MINE ROOF-FALL PROBLEMS

An extensive effort is being launched to develop technology to cope with the serious roof-fall problems which account for more than one-half of the mine fatalities.

MINE HEALTH RESEARCH

Health research primarily will be aimed at the development of technology to minimize and control hazardous concentrations of respirable dust, which can cause serious lung disorders.

HELIUM PROGRAM

A decrease in the projected demand for helium together with technological developments which will augment the potential supply has resulted in a decision to reexamine the need for the long-range helium program initiated in 1960. Although no funds are requested in this submission it is anticipated that a 1971 amendment will be submitted to Congress upon completion of the current review.

RESEARCH ON COAL TO PRODUCE ELECTRIC POWER

We strongly concur with the recommendation made by the President's Office of Science and Technology for beginning research on the use of coal for the production of electric power using the magneto hydrodynamic process. This would enable much higher efficiency ratios with virtually no air or water pollution and would permit early utilization of the vast Western coal reserves. We are requesting funds to initiate this research.

COMMERCIAL FISHERIES PROGRAMS

1971 BUDGET LOWER THAN 1970 FOR COMMERCIAL FISHERIES

While the total amount we are requesting for commercial fisheries is a decrease below last year, the major portion of this decrease is due to nonrecurring construction items and to a reduction in the vessel subsidy program. Extension of the vessel subsidy program beyond June 30, 1969 has not been yet authorized.

During fiscal year 1971 we will place heavy emphasis on resource assessment and development of easier, less costly and more effective methods of location and harvest than those now available. We believe in this way we can be of greater assistance to our fishing industry.

PUBLIC UTILIZATION OF NATIONAL PARKS

One of the things that concerned me very much last year when I appeared before this committee was the fact that our national parks and monuments were not open to the public on a 7-day-a-week basis.

Mrs. HANSEN. That is what "economy" did.

Secretary HICKEL. Yes.

We requested funds for this purpose and this committee granted our request. We appreciate the committee's action, and our parks are now open to the public on a 7-day-a-week basis during the intensive visitor season. Even so, we are not operating them at acceptable standards. Our 1971 request is a first step toward getting our park operation and maintenance programs up to standard.

SALINE WATER PROGRAM

The Office of Saline Water's program for 1971 provides for the construction of a vertical tube evaporator/multistage flash module, which is a combination of the two leading distillation processes and offers advantages over either process when used separately. Engineers have estimated that the use of the VTE/MSF process in the construction of large-size plants will significantly reduce capital and water costs. Feasibility studies have concluded that a large size VTE/MSF plant could be constructed at 30 percent capital cost reduction resulting in a 15 percent reduction in product water cost when compared to a pure MSF plant of the same size.

Data must be obtained at the earliest possible date. Water problems are intensifying and will become critical in the future. The demonstration of this technology by large-scale testing is necessary now in order to provide the basis for constructing large-scale plants in time to make the critical decisions for the west-wide water plan and to meet the water needs of the Nation.

That concludes my statement, Mrs. Hansen. I and the members of my staff will be pleased to discuss the Department's programs with you and the members of the committee.

Mrs. HANSEN. Thank you. At this point we shall insert miscellaneous tables on the Department of the Interior's funding and personnel.

(The tables follow:)

DEPARTMENT OF THE INTERIOR

Comparison of Fiscal Year 1970 New Budget (Obligational) Authority with Fiscal Year 1971 Estimates

Bureau or Office and Appropriation Title	Fiscal Year 1970 Appropriation	Pay Cost Supplemental	Transfers 1/	Amount Available	Fiscal Year 1971 Estimate	Increase or Decrease (-) 1971 Compared with 1970
PUBLIC LAND MANAGEMENT						
Bureau of Land Management						
Management of Lands and Resources:						
Realty and mineral leasing services	$ 7,092,000	$ 481,000	$ -9,000	$ 7,564,000	$ 7,659,000	$ + 95,000
Resource management, conservation and protection	38,210,000	2,562,000	-79,000	40,693,000	42,229,000	+1,536,000
Cadastral surveys	5,385,000	323,000	-4,981	5,703,019	5,703,000	-19
Firefighting and rehabilitation	1,000,000	--	--	1,000,000	1,000,000	--
General administration	2,136,000	132,000	--	2,268,000	2,349,000	+81,000
Total, Management of Lands and Resources	53,823,000	3,498,000	-92,981	57,228,019	58,940,000	+1,711,981
Construction and Maintenance:						
Construction	1,030,000	--	--	1,030,000	940,000	-90,000
Maintenance	1,869,000	--	--	1,869,000	2,275,000	+406,000
Total, Construction and Maintenance	2,899,000	--	--	2,899,000	3,215,000	+316,000
Public Lands Development Roads and Trails: (Appropriation to liquidate contract authority)	(3,500,000)	--	--	(3,500,000)	(3,500,000)	--
Oregon and California Grant Lands (Indefinite, Appropriation of Receipts)						
Construction and acquisition	10,087,000	--	--	10,087,000	10,687,000	+600,000
Forest development, protection, and management	4,413,000	--	--	4,413,000	5,263,000	+850,000
Operation and maintenance	1,500,000	--	--	1,500,000	2,050,000	+550,000
Total, Oregon and California Grant Lands	16,000,000	--	--	16,000,000	18,000,000	+2,000,000
Range Improvements (Indefinite, Appropriation of Receipts)						
Improvements to public lands	1,700,000	--	--	1,700,000	1,769,000	+69,000
Farm tenant act lands	69,000	--	--	69,000	72,000	+3,000
Total, Range Improvements	1,769,000	--	--	1,769,000	1,841,000	+72,000
Total, Bureau of Land Management	74,491,000	3,498,000	-92,981	77,896,019	81,996,000	+4,099,981
Bureau of Indian Affairs						
Education and Welfare Service:						
Educational assistance, facilities, and services	110,246,000	8,013,000	--	118,259,000	135,622,000	+17,363,000
Welfare and guidance services	29,778,000	608,000	--	30,386,000	35,217,000	+4,831,000
Relocation and adult vocational training	36,881,000	880,000	--	37,761,000	40,717,000	+2,956,000
Maintaining law and order	4,741,000	298,000	--	5,039,000	5,439,000	+400,000
Total, Education and Welfare Service	181,646,000	9,799,000	--	191,445,000	216,995,000	+25,550,000

DEPARTMENT OF THE INTERIOR

Comparison of Fiscal Year 1970 New Budget (Obligational) Authority with Fiscal Year 1971 Estimates

Bureau or Office and Appropriation Title	Fiscal Year 1970 Appropriation	Pay Cost Supplemental	Transfers 1/	Amount Available	Fiscal Year 1971 Estimate	Increase or Decrease (-) 1971 Compared with 1970
Education and Welfare Services (Appropriation to Liquidate Contract Authority)	(1,057,000)	--	--	(1,057,000)	(1,500,000)	(+443,000)
Resources Management:						
Forest and range lands	6,860,000	528,000	--	7,388,000	6,738,000	-650,000
Fire suppression and emergency rehabilitation	140,000	--	--	140,000	140,000	--
Agricultural and industrial assistance	10,400,000	792,000	--	11,192,000	12,246,000	+1,054,000
Soil and moisture conservation	5,975,000	550,000	--	6,525,000	6,025,000	-500,000
Maintenance of roads	4,286,000	350,000	--	4,636,000	5,129,000	+493,000
Development of Indian arts and crafts	579,000	35,000	--	614,000	614,000	--
Management of Indian trust property	7,774,000	671,000	--	8,445,000	9,105,000	+660,000
Repair and maintenance of buildings and utilities	17,988,000	1,436,000	--	19,424,000	19,889,000	+465,000
Operation, repair, and maintenance of Indian irrigation systems	1,390,000	16,000	--	1,406,000	1,404,000	-2,000
Tribal development	--	--	--	--	4,927,000	+4,927,000
Unobligated balance available, start of year	-150,000	--	--	-150,000	--	+150,000
Total, Resources Management	55,242,000	4,378,000	--	59,620,000	66,217,000	+6,597,000
Construction:						
Buildings and utilities	18,391,000	--	-53,257	18,337,743	11,566,000	-6,771,743
Irrigation systems	7,873,000	--	--	7,873,000	2,700,000	-5,173,000
Total, Construction	26,264,000	--	-53,257	26,210,743	14,266,000	-11,944,743
Road Construction (Appropriation to Liquidate Contract Authority)	(20,000,000)	--	--	(20,000,000)	(20,000,000)	--
General Administrative Expenses:						
Departmental offices	5,013,000	513,000	--	5,526,000	5,626,000	+100,000
Tribal Funds:						
Definite:						
Education and welfare services	70,000	--	--	70,000	70,000	--
Resources management	710,000	--	--	710,000	710,000	--
Construction and land acquisition	319,000	--	--	319,000	319,000	--
General tribal affairs	1,901,000	--	--	1,901,000	1,901,000	--
Total, Definite	3,000,000	--	--	3,000,000	3,000,000	--
Indefinite:						
Advances to Indian tribes	13,204,000	--	--	13,204,000	13,204,000	--
Total, Bureau of Indian Affairs	284,369,000	14,690,000	-53,257	299,005,743	319,308,000	+20,302,257

Comparison of Fiscal Year 1970 New Budget (Obligational) Authority with Fiscal Year 1971 Estimates

Bureau or Office and Appropriation Title	Fiscal Year 1970				Fiscal Year 1971 Estimate	Increase or Decrease (-) 1971 Compared with 1970
	Appropriation	Pay Cost Supplemental	Transfers 1/	Amount Available		
Bureau of Outdoor Recreation						
Salaries and Expenses:						
Planning and research	$ 2,240,000	$ 160,000	$ --	$ 2,400,000	$ 2,400,000	$ --
Federal coordination	934,000	71,000	--	1,005,000	1,005,000	--
Technical assistance	576,000	44,000	--	620,000	620,000	--
Total, Salaries and Expenses	3,750,000	275,000	--	4,025,000	4,025,000	--
Land and Water Conservation:						
Assistance to States	61,875,800	--	--	61,875,800	62,500,000	+624,200
Federal programs	43,171,200	--	--	43,171,200	72,541,000	+29,369,800
Administrative expenses	3,425,000	--	-35,000	3,390,000	3,459,000	+69,000
Total, Appropriation of Receipts (Indefinite)	108,472,000	--	-35,000	108,437,000	138,500,000	+30,063,000
Appropriation out of Fund to Liquidate Contract Authority	(15,528,000)	--	--	(15,528,000)	(30,000,000)	(+14,472,000)
Total, Bureau of Outdoor Recreation	112,222,000	275,000	-35,000	112,462,000	142,525,000	+30,063,000
Office of Territories						
Administration of Territories:						
Virgin Islands:						
Governor's office	--	--	--	--	40,000	+40,000

Comparison of Fiscal Year 1970 New Budget (Obligational) Authority with Fiscal Year 1971 Estimates

Bureau or Office and Appropriation Title	Fiscal Year 1970 Appropriation	Pay Cost Supplemental	Transfers 1/	Amount Available	Fiscal Year 1971 Estimate	Increase or Decrease (-) 1971 Compared with 1970
Guam:						
Governor's office	102,000	--	--	102,000	52,000	-50,000
Loans	4,637,666	--	--	4,637,666	4,455,500	-182,166
Grants	2,796,334	--	--	2,796,334	4,093,500	+1,297,166
American Samoa:						
Governor's office	196,175	--	--	196,175	210,963	+14,788
Legislative expense	91,865	--	--	91,865	--	-91,865
Chief Justice and High Court	113,715	--	--	113,715	164,400	+50,685
Grants	6,534,245	--	--	6,534,245	7,824,637	+1,290,392
General Administration	449,400	--	--	449,400	568,600	+119,200
Total, Administration of Territories	14,921,400	--	--	14,921,400	17,409,600	+2,488,200
Trust Territory of the Pacific Islands:						
High Commissioner's office	315,000	--	--	315,000	425,000	+110,000
Judiciary	271,000	--	--	271,000	290,000	+19,000
Grants	47,526,000	--	--	47,526,000	59,285,000	+11,759,000
Total, Trust Territory of the Pacific Islands	48,112,000	--	--	48,112,000	60,000,000	+11,888,000
Total, Office of Territories	63,033,400	--	--	63,033,400	77,409,600	+14,376,200
TOTAL, PUBLIC LAND MANAGEMENT	534,115,400	18,463,000	-181,238	552,397,162	621,238,600	+68,841,438

Comparison of Fiscal Year 1970 New Budget (Obligational) Authority with Fiscal Year 1971 Estimates

Bureau or Office and Appropriation Title	Fiscal Year 1970 Appropriation	Pay Cost Supplemental	Transfers[1]	Amount Available	Fiscal Year 1971 Estimate	Increase or Decrease (-) 1971 Compared with 1970
MINERAL RESOURCES						
Geological Survey						
Surveys, Investigations, and Research:						
Special resource and environmental projects	$ --	$ --	$ --	$ --	$ 1,500,000	$ +1,500,000
Alaska Pipeline related investigations	700,000	--	--	700,000	1,300,000	+600,000
Topographic surveys and mapping	26,796,000	379,000	597,000	27,772,000	28,903,000	+1,131,000
Geologic and mineral resource surveys and mapping	28,891,000	381,000	600,000	29,872,000	29,200,000	-672,000
Minerals discovery loan program	246,000	3,000	4,000	253,000	253,000	--
Water resources investigations	29,382,000	388,000	631,852[2]	30,401,852	32,542,000	+2,140,148
Conservation of lands and minerals	6,830,000	96,000	150,000	7,076,000	7,855,000	+779,000
Earth resources observation satellite	1,100,000	--	--	1,100,000	1,600,000	+500,000
General administration	2,510,000	40,000	63,000	2,613,000	2,604,000	-9,000
Total, Surveys, Investigations, and Research	96,455,000	1,287,000	2,045,852[3]	99,787,852	105,757,000	+5,969,148
Bureau of Mines						
Conservation and Development of Mineral Resources:						
Research:						
Coal	6,406,000	562,000	--	6,968,000	8,468,000	+1,500,000
Petroleum	2,494,000	201,000	--	2,695,000	2,295,000	-400,000
Oil shale	2,267,000	146,000	--	2,413,000	2,413,000	--
Metallurgy	11,303,000	844,000	--	12,147,000	12,235,000	+88,000
Mining	5,936,000	455,000	--	6,391,000	7,691,000	+1,300,000
Marine mineral mining	878,000	47,000	--	925,000	925,000	--
Explosives	606,000	57,000	--	663,000	663,000	--
Resource Development:						
Statistics	1,915,000	176,000	--	2,091,000	2,091,000	--
Economic analysis	482,000	38,000	--	520,000	520,000	--
Bituminous coal	856,000	78,000	--	934,000	934,000	--
Anthracite	697,000	49,000	--	746,000	746,000	--
Petroleum	751,000	88,000	--	839,000	839,000	--
Minerals	4,135,000	370,000	-11,000	4,494,000	4,494,000	--
International activities	605,000	53,000	--	658,000	658,000	--
Total, Conservation and Development of Mineral Resources	39,331,000	3,164,000	-11,000	42,484,000	44,972,000	+2,488,000

Comparison of Fiscal Year 1970 New Budget (Obligational) Authority with Fiscal Year 1971 Estimates

Bureau or Office and Appropriation Title	Fiscal Year 1970 Appropriation	Pay Cost Supplemental	Transfers[1/]	Amount Available	Fiscal Year 1971 Estimate	Increase or Decrease (-) 1971 Compared with 1970
Health and Safety:						
Inspections, investigations, and rescue work	16,015,255	931,000	-868,000[4/]	16,078,255	33,557,000	+17,478,745
Control of fires in coal deposits	212,000	6,000	--	218,000	218,000	--
Health and safety research	10,837,000	183,000	--	11,020,000	20,620,000	+9,600,000
Unobligated balance available, start of year	-732,255	--	--	-732,255	--	+732,255
Total, Health and Safety	26,332,000	1,120,000	-868,000	26,584,000	54,395,000	+27,811,000
General Administrative Expenses	1,647,000	152,000	--	1,799,000	1,799,000	--
Helium Fund (Authorization to spend from public debt receipts	24,000,000	--	--	24,000,000	--	-24,000,000
Total, Bureau of Mines	91,310,000	4,436,000	-879,000	94,867,000	101,166,000	+6,299,000
Office of Coal Research						
Salaries and Expenses:						
Administration and contract supervision	448,000	--	--	448,000	495,000	+47,000
Contract research	14,852,000	--	--	14,852,000	15,705,000	+853,000
Total, Salaries and Expenses	15,300,000	--	--	15,300,000	16,200,000	+900,000
Office of Oil and Gas						
Salaries and Expenses:						
Coordination of oil and gas activities	658,600	57,500	--	716,100	728,000	+11,900
Administration of the oil import program	318,800	32,000	--	350,800	439,000	+88,200
Oil Import Appeals Board	16,600	1,000	--	17,600	28,000	+10,400
Total, Salaries and Expenses	994,000	90,500	--	1,084,500	1,195,000	+110,500
TOTAL, MINERAL RESOURCES	204,059,000	5,813,500	+1,166,852	211,039,352	224,318,000	+13,278,648

Comparison of Fiscal Year 1970 New Budget (Obligational) Authority with Fiscal Year 1971 Estimates

Bureau or Office and Appropriation Title	Fiscal Year 1970 Appropriation	Pay Cost Supplemental	Transfers 1/	Amount Available	Fiscal Year 1971 Estimate	Increase or Decrease (-) 1971 Compared with 1970
FISH AND WILDLIFE, PARKS AND MARINE RESOURCES						
Bureau of Commercial Fisheries						
Management and Investigations of Resources:						
Management	$ 580,000	$ 46,000	$ --	$ 626,000	$ 626,000	$ --
Marketing and technology	7,816,000	630,000	-14,000	8,432,000	8,810,000	+378,000
Research	13,698,000	784,000	-9,000	14,473,000	13,316,000	-1,157,000
Research on fish migration over dams	1,454,000	59,000	-2,665	1,510,335	1,310,000	-200,335
Fishing vessel mortgage insurance	48,000	11,000	--	59,000	59,000	--
Columbia River fishery development	3,004,000	33,000	-2,000	3,035,000	3,035,000	--
Total, Management and Investigations of Resources	26,600,000	1,563,000	-27,665	28,135,335	27,156,000	-979,335
Management and Investigations of Resources (Special Foreign Currency Program):						
Research	15,000	--	--	15,000	15,000	--
Construction:						
Columbia River fishery facilities	1,625,000	--	--	1,625,000	--	-1,625,000
Fishery facilities	700,000	--	--	700,000	--	-700,000
Total, Construction	2,325,000	--	--	2,325,000	--	-2,325,000
Construction of Fishing Vessels:						
Subsidy payments	2,660,000	--	--	2,660,000	--	-2,660,000
Program administration	340,000	--	--	340,000	200,000	-140,000
Total, Construction of Fishing Vessels	3,000,000	--	--	3,000,000	200,000	-2,800,000
Federal Aid for Commercial Fisheries Research and Development:						
Aid to States	3,800,000	--	--	3,800,000	3,800,000	--
Resources disaster aid	563,000	--	--	563,000	--	-563,000
Program administration	227,000	13,000	--	240,000	240,000	--
Total, Federal Aid for Commercial Fisheries Research and Development	4,590,000	13,000	--	4,603,000	4,040,000	-563,000
Anadromous and Great Lakes Fisheries Conservation:						
Payment to cooperators	2,150,000	--	--	2,150,000	2,000,000	-150,000
Program administration	157,000	11,000	--	168,000	168,000	--

Comparison of Fiscal Year 1970 New Budget (Obligational) Authority with Fiscal Year 1971 Estimates

Bureau or Office and Appropriation Title	Fiscal Year 1970 Appropriation	Pay Cost Supplemental	Transfers[1/]	Amount Available	Fiscal Year 1971 Estimate	Increase or Decrease (-) 1971 Compared with 1970
Total, Anadromous and Great Lakes Fisheries Conservation	2,307,000	11,000	--	2,318,000	2,168,000	-150,000
Administration of Pribilof Islands (Indefinite, Appropriation of receipts)	2,654,000	120,000	--	2,774,000	2,774,000	--
Fishermen's Protective Fund	60,000	--	--	60,000	60,000	--
General Administrative Expenses:						
Departmental expenses	322,000	44,000	--	366,000	366,000	--
Regional office expenses	443,000	87,000	--	530,000	530,000	--
Total, General Administrative Expenses	765,000	131,000	--	896,000	896,000	--
Total, Bureau of Commercial Fisheries	42,316,000	1,838,000	-27,665	44,126,335	37,309,000	-6,817,335
Bureau of Sport Fisheries and Wildlife						
Management and Investigations of Resources:						
Fish hatcheries	9,743,000	625,000	-50,000	10,318,000	10,958,000	+640,000
Wildlife refuges	14,995,000	1,150,000	-98,866	16,046,134	17,958,000	+1,911,866
Soil and moisture conservation	728,000	13,000	--	741,000	741,000	--
Management and enforcement	4,105,000	290,000	--	4,395,000	4,470,000	+75,000
Fishery research	4,115,000	295,000	--	4,410,000	4,674,000	+264,000
Wildlife research	7,981,000	515,000	--	8,496,000	8,902,000	+406,000
Fishery services	1,984,000	150,000	--	2,134,000	2,209,000	+75,000
Wildlife services	3,487,000	255,000	--	3,742,000	3,742,000	--
River basin studies	1,758,074	150,000	--	1,908,074	2,019,000	+110,926
Pesticides review	398,000	30,000	--	428,000	553,000	+125,000
Unobligated balance available, start of year	-134,074	--	--	-134,074	--	+134,074
Total, Management and Investigations of Resources	49,160,000	3,473,000	-148,866	52,484,134	56,226,000	+3,741,866
Construction:						
Sportfish facilities	1,046,000	--	--	1,046,000	366,000	-680,000
Wildlife facilities	3,213,000	--	--	3,213,000	2,253,000	-960,000
Total, Construction	4,259,000	--	--	4,259,000	2,619,000	-1,640,000

Comparison of Fiscal Year 1970 New Budget (Obligational) Authority with Fiscal Year 1971 Estimates

Bureau or Office and Appropriation Title	Fiscal Year 1970 Appropriation	Pay Cost Supplemental	Transfers[1]	Amount Available	Fiscal Year 1971 Estimate	Increase or Decrease (-) 1971 Compared with 1970
FISH AND WILDLIFE, PARKS AND MARINE RESOURCES (Cont'd)						
Bureau of Sport Fisheries and Wildlife (Cont'd)						
Migratory Bird Conservation Account:						
Acquisition of refuges and other areas	$ 5,800,000	$ --	$ --	$ 5,800,000	$7,500,000	$+1,700,000
Anadromous and Great Lakes Fisheries Conservation:						
Payments to cooperators	2,105,000	--	--	2,105,000	2,105,000	--
Administration	189,000	17,000	--	206,000	206,000	--
Total, Anadromous and Great Lakes Fisheries Conservation	2,294,000	17,000	--	2,311,000	2,311,000	--
Management and Investigations of Resources (Special Foreign Currency Program)						
Fishery research	--	--	--	--	40,000	+40,000
Wildlife research	--	--	--	--	60,000	+60,000
Total, Special Foreign Currency Program	--	--	--	--	100,000	+100,000
General Administrative Expenses:						
Departmental expense	281,000	15,000	--	296,000	296,000	--
Regional Office expense	1,418,000	161,000	--	1,579,000	1,579,000	--
Total, General Administrative Expenses	1,699,000	176,000	--	1,875,000	1,875,000	--
Total, Bureau of Sport Fisheries and Wildlife	63,212,000	3,666,000	-148,866	66,729,134	70,631,000	+3,901,866
National Park Service						
Management and Protection:						
Management of park and other areas	42,274,800	2,948,400	+549,700[5]	45,772,900	51,350,600	+5,577,700
Forestry and fire control	2,250,000	97,300	--	2,347,300	2,347,300	--
Park and recreation programs	4,625,200	338,300	-640,400[5]	4,323,100	4,323,100	--
Total, Management and Protection	49,150,000	3,384,000	-90,700	52,443,300	58,021,000	+5,577,700

Comparison of Fiscal Year 1970 New Budget (Obligational) Authority with Fiscal Year 1971 Estimates

Bureau or Office and Appropriation Title	Fiscal Year 1970 Appropriation	Pay Cost Supplemental	Transfers[1/]	Amount Available	Fiscal Year 1971 Estimate	Increase or Decrease (-) 1971 Compared with 1970
Maintenance and Rehabilitation of Physical Facilities:						
Roads and trails	14,574,700	535,000	--	15,109,700	16,447,700	+1,338,000
Buildings, utilities, and other facilities	25,475,300	811,000	--	26,286,300	32,315,300	+6,029,000
Total, Maintenance and Rehabilitation of Physical Facilities	40,050,000	1,346,000	--	41,396,000	48,763,000	+7,367,000
Construction:						
Buildings, utilities, and other facilities	7,200,000	--	-72,700	7,127,300	16,385,000	+9,257,700
Acquisition of water rights	500,000	--	--	500,000	500,000	--
Total, Construction	7,700,000	--	-72,700	7,627,300	16,885,000	+9,257,700
Parkway and Road Construction (Liquidation of Contract Authority):						
Parkways and roads and trails	(21,500,000)	--	--	(21,500,000)	(16,000,000)	(-5,500,000)
Preservation of Historic Properties:						
Historic preservation and special studies	1,600,000	50,000	--	1,650,000	6,950,000	+5,300,000
General Administrative Expenses:						
Departmental expense	1,770,000	162,200	--	1,932,200	1,932,200	--
Regional office expense	1,547,000	125,800	--	1,672,800	1,672,800	--
Total, General Administrative Expenses	3,317,000	288,000	--	3,605,000	3,605,000	--
Total, National Park Service	101,817,000	5,068,000	-163,400	106,721,600	134,224,000	+27,502,400
TOTAL, FISH AND WILDLIFE, PARKS AND MARINE RESOURCES	207,345,000	10,572,000	-339,931	217,577,069	242,164,000	+24,586,931

Comparison of Fiscal Year 1970 New Budget (Obligational) Authority with Fiscal Year 1971 Estimates

Bureau or Office and Appropriation Title	Fiscal Year 1970 Appropriation	Pay Cost Supplemental	Transfers 1/	Amount Available	Fiscal Year 1971 Estimate	Increase (+) Decrease (-) 1971 Compared with 1970
WATER QUALITY AND RESEARCH						
Office of Saline Water						
Saline Water Conversion:						
Research and development	$ 16,373,000	$ --	$-139,000 6/	$ 16,234,000	$ 16,650,000	$+ 416,000
Construction, operation and maintenance:						
Test bed and facilities	5,205,000	--	-28,000 6/	5,177,000	5,000,000	-177,000
Modules	1,450,000	--	--	1,450,000	5,345,000	+3,895,000
Administration and coordination	1,972,000	--	+167,000 6/	2,139,000	2,378,000	+239,000
Total, Office of Saline Water	25,000,000	--	--	25,000,000	29,373,000	+4,373,000
Office of Water Resources Research						
Salaries and Expenses:						
Assistance to States for institutes	5,100,000	--	--	5,100,000	5,100,000	--
Matching grants to institutes	3,000,000	--	--	3,000,000	3,000,000	--
Additional water research	2,000,000	--	--	2,000,000	3,500,000	+1,500,000
Scientific information center	506,000	10,000	--	516,000	900,000	+384,000
Administration	623,000	42,000	--	665,000	812,000	+147,000
Total, Office of Water Resources Research	11,229,000	52,000	--	11,281,000	13,312,000	+2,031,000
TOTAL, WATER QUALITY AND RESEARCH	36,229,000	52,000	--	36,281,000	42,685,000	+6,404,000
SECRETARIAL OFFICES						
Office of the Solicitor						
Salaries and Expenses:						
Legal services	5,530,000	474,000	719,200 7/	6,723,200	7,344,000	+620,800
Office of the Secretary						
Salaries and Expenses:						
Departmental direction	2,228,400	172,900	-251,200 8/	2,150,100	2,258,100	+108,000
Program direction and coordination	1,663,500	139,800	--	1,803.300	2,039,300	+236,000
Administrative management	4,754,200	410,900	--	5,165,100	5,275,500	+110,400
Commissioner of Fish and Wildlife	171,900	8,600	--	180,500	188,200	+7,700

Comparison of Fiscal Year 1970 New Budget (Obligational) Authority with Fiscal Year 1971 Estimates

Bureau or Office and Appropriation Title	Fiscal Year 1970 Appropriation	Pay Cost Supplemental	Transfers[1]	Amount Available	Fiscal Year 1971 Estimate	Increase or Decrease (-) 1971 Compared with 1970
Natural Resources Library	895,400	54,500	--	949,900	968,700	+18,800
Office of Mine Health and Safety Appeals	--	--	400,000[9]	400,000	990,000	+590,000
General services	199,300	15,300	--	214,600	234,200	+19,600
Total, Salaries and Expenses	9,912,700	802,000	148,800	10,863,500	11,954,000	+1,090,500
TOTAL, SECRETARIAL OFFICES	15,442,700	1,276,000	868,000	17,586,700	19,298,000	+1,711,300
TOTAL, NEW BUDGET (OBLIGATIONAL) AUTHORITY, DEPARTMENT OF THE INTERIOR	997,191,100	36,176,500	1,513,683	1,034,881,283	1,149,703,600	+114,822,317
Consisting of:						
Appropriations	973,191,100	36,176,500	1,513,683	1,010,881,283	1,149,703,600	+138,822,317
Definite Appropriations	(831,092,100)	(36,056,500)	(1,548,683)	(868,697,283)	(975,384,600)	(+106,687,317)
Indefinite Appropriations	(142,099,000)	(120,000)	(-35,000)	(142,184,000)	(174,319,000)	(+32,135,000)
Authorizations to Spend From Public Debt Receipts	24,000,000	--	--	24,000,000	--	-24,000,000
Memoranda						
Appropriations to Liquidate Contract Authority	(61,585,000)	(--)	(--)	(61,585,000)	(71,000,000)	(+9,415,000)
TOTAL, NEW BUDGET (OBLIGATIONAL) AUTHORITY AND APPROPRIATIONS TO LIQUIDATE CONTRACT AUTHORITY	(1,058,776,100)	(36,176,500)	(1,513,683)	(1,096,466,283)	(1,220,703,600)	(+124,237,317)

1/ Represents transfers to General Services Administration for space costs unless otherwise footnoted.
2/ Includes $22,852 transferred from General Services Administration to consolidate lease financing.
3/ Includes unobligated balance transfer of $2,023,000 from Lead and Zinc Stabilization program for pay increase cost.
4/ Represents transfer of $400,000 to Office of the Secretary and $468,000 to Office of the Solicitor.
5/ Interactivity adjustment of $640,400. The amount of $549,700 is net of $90,700 transferred to General Services Administration.
6/ Interactivity adjustment to provide for pay increases.
7/ Represents $468,000 transferred from Health and Safety, Bureau of Mines and $251,200 from Salaries and Expenses, Office of the Secretary.
8/ Represents $251,200 transferred to Salaries and Expenses, Office of the Solicitor.
9/ Transferred from Health and Safety, Bureau of Mines.

DEPARTMENT OF THE INTERIOR

Comparison of Fiscal Year 1970 New Budget (Obligational) Authority with Fiscal Year 1971 Estimates

Bureau or Office and Appropriation Title	Fiscal Year 1970 Appropriation	Pay Cost Supplemental	Transfers	Amount Available	Fiscal Year 1971 Estimate	Increase or Decrease (-) 1971 Compared with 1970
Total, new budget (obligational) authority, Department of the Interior	$ 997,191,100	$36,176,500	$ 1,513,683	$1,034,881,283	$1,149,703,600	$ 114,822,317
PERMANENT APPROPRIATIONS						
Payments to States and local governments						
Bureau of Land Management	87,642,506	--	--	87,642,506	91,757,000	4,114,494
Bureau of Indian Affairs	171,000	--	--	171,000	171,000	--
Office of Territories	11,756,938	--	--	11,756,938	12,618,000	861,062
Bureau of Commercial Fisheries	306,663	--	--	306,663	145,000	-161,663
Bureau of Sport Fisheries and Wildlife	2,021,046	--	--	2,021,046	2,614,000	592,954
National Park Service	125,700	--	--	125,700	125,700	--
Subtotal	102,023,853	--	--	102,023,853	107,430,700	5,406,847
Receipts applied to operations						
Bureau of Land Management	1,202,000	--	--	1,202,000	1,202,000	--
Bureau of Indian Affairs	7,510,000	--	--	7,510,000	7,410,000	-100,000
Bureau of Commercial Fisheries	7,636,413	--	--	7,636,413	7,636,413	--
Bureau of Sport Fisheries and Wildlife	7,713,954	--	--	7,713,954	6,886,000	-827,954
Subtotal	24,062,367	--	--	24,062,367	23,134,413	-927,954
Mixed receipts						
Bureau of Sport Fisheries and Wildlife	44,985,041	--	--	44,985,041	49,400,000	4,414,959
Total, Permanent Appropriations	171,071,261	--	--	171,071,261	179,965,113	8,893,852
CONTRACT AUTHORITY						
Bureau of Land Management	5,000,000	--	--	5,000,000	3,000,000	-2,000,000
Bureau of Indian Affairs	31,500,000	--	--	31,500,000	1,500,000	-30,000,000
Bureau of Outdoor Recreation	30,000,000	--	--	30,000,000	--	-30,000,000
National Park Service	41,000,000	--	--	41,000,000	--	-41,000,000
Total, Contract Authority	107,500,000	--	--	107,500,000	4,500,000	-103,000,000
TRUST FUNDS						
Bureau of Land Management	665,000	--	--	665,000	665,000	--
Bureau of Indian Affairs	85,364,000	--	--	85,364,000	53,939,000	-31,425,000
Bureau of Mines	1,000,000	--	--	1,000,000	1,000,000	--
Bureau of Commercial Fisheries	1,746,000	--	--	1,746,000	2,000,000	254,000

DEPARTMENT OF THE INTERIOR

Comparison of Fiscal Year 1970 New Budget (Obligational) Authority with Fiscal Year 1971 Estimates

Bureau or Office and Appropriation Title	Fiscal Year 1970 Appropriation	Pay Cost Supplemental	Transfers	Amount Available	Fiscal Year 1971 Estimate	Increase or Decrease (-) 1971 Compared with 1970
Bureau of Sport Fisheries and Wildlife	215,000	--	--	215,000	210,000	-5,000
National Park Service	11,564,840	--	--	11,564,840	1,102,540	-10,462,300
Office of Saline Water	1,527,752	--	--	1,527,752	--	-1,527,752
Total, Trust Funds	102,082,592	--	--	102,082,592	58,916,540	-43,166,052
PROPOSED FOR SEPARATE TRANSMITTAL						
Existing legislation:						
Bureau of Land Management Management of lands and resources	24,000,000	--	--	24,000,000	--	-24,000,000
Bureau of Indian Affairs Resources management	900,000	--	--	900,000	--	-900,000
Office of Territories Administration of territories	275,000	--	--	275,000	--	-275,000
Bureau of Mines Helium fund	21,100,000	--	--	21,100,000	40,000,000	18,900,000
Bureau of Sport Fisheries and Wildlife Management and investigations of resources	854,000	--	--	854,000	--	-854,000
National Park Service Management and protection	1,000,000	--	--	1,000,000	--	-1,000,000
Total, proposed for separate transmittal under existing legislation	48,129,000	--	--	48,129,000	40,000,000	-8,129,000
Proposed legislation:						
Bureau of Outdoor Recreation Land and water conservation (Indefinite, special fund)	7,100,000	--	--	7,100,000	188,900,000	181,800,000
Total, proposed for separate transmittal	55,229,000	--	--	55,229,000	228,900,000	173,671,000
Total, New budget (obligational) authority	1,433,073,953	36,176,500	1,513,683	1,470,764,136	1,621,985,253	151,221,117
Less transferred unobligated balance shown above for pay costs for Geological Survey appropriated in prior years			-2,023,000	-2,023,000	--	2,023,000
Grand Total, New Budget (obligational) Authority, Department of the Interior	1,433,073,953	36,176,500	-509,317	1,468,741,136	1,621,985,253	153,244,117

DEPARTMENT OF THE INTERIOR

Statement of Appropriations, Fiscal Years 1961-1971

	Actual										Est.
	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Bureau of Land Management											
Appropriations - Direct	$ 32,421,000	$ 35,625,000	$ 45,410,200	$ 47,712,500	$ 53,922,000	$ 55,725,000	$ 62,113,000	$ 65,326,000	$ 69,345,000	$ 60,222,000	$ 65,655,000
Permanent .	52,148,824	54,692,739	64,726,533	63,695,860	70,566,180	69,030,313	71,391,201	72,312,092	79,645,433	88,844,506	92,959,000
Indefinite.	8,131,829	8,575,686	8,399,550	10,895,430	20,344,245	17,260,233	12,969,324	12,822,882	20,177,644	17,769,000	19,841,000
Total	92,701,653	98,893,425	118,536,283	122,303,790	144,832,425	142,015,546	146,473,525	150,460,974	169,368,077	166,835,506	178,455,000
Bureau of Indian Affairs											
Appropriations - Direct	126,186,000	165,324,000	203,835,600	208,123,550	228,942,417	207,862,400	241,595,300	245,333,000	249,643,000	289,222,000	324,604,000
Permanent .	5,220,837	5,336,947	6,172,377	6,889,857	7,080,657	7,002,798	7,331,479	7,294,942	8,013,058	7,681,000	7,581,000
Total	131,406,837	170,660,947	210,007,977	215,013,407	236,023,074	214,865,198	248,926,779	252,627,942	257,656,058	296,903,000	332,185,000
Bureau of Outdoor Recreation											
Appropriations - Direct	--	--	1,201,098[1/]	1,900,000	18,780,000	125,380,649	98,996,591	123,476,000	168,815,000	127,750,000	172,525,000
Office of Territories											
Appropriations - Direct	9,246,000	16,638,000	27,686,500	28,000,000	43,795,000	34,525,600	29,707,000	45,813,000	44,697,000	63,033,400	77,409,600
Permanent .	6,494,445	6,842,478	7,682,529	7,042,107	8,313,413	10,405,984	11,073,732	12,367,772	12,867,871	11,756,938	12,618,000
Total	15,740,445	23,480,478	35,369,029	35,042,107	52,108,413	44,931,384	40,780,732	58,180,772	57,564,871	74,790,338	90,027,600
The Alaska Railroad											
Appropriations - Direct	--	--	--	20,000,000	1,300,000	4,100,000	--	--	--	--	--
Geological Survey											
Appropriations - Direct	45,956,000	49,820,000	57,943,000	63,700,000	70,384,000	73,190,870	81,609,000	86,919,000	90,917,000	96,455,000	105,757,000
Permanent .	726	700	1,055	1,270	771	764	726	628	665	--	--
Total	45,956,726	49,820,700	57,944,055	63,701,270	70,384,771	73,191,634	81,609,726	86,919,628	90,917,665	96,455,000	105,757,000
Bureau of Mines											
Appropriations - Direct	33,601,000	44,125,000	43,767,100	45,528,000	72,204,000	60,941,000	83,686,000	68,388,000	79,249,000	91,310,000	101,166,000
Office of Coal Research											
Appropriations - Direct	1,000,000	1,000,000	3,450,000	5,075,000	6,836,000	7,220,000	8,220,000	10,980,000	13,700,000	15,300,000	16,200,000
Office of Minerals Exploration											
Appropriations - Direct	550,000	5,440,000[2/]	3,200,000	850,000	850,000	--	--	--	--	--	--
Office of Oil and Gas											
Appropriations - Direct	512,000	331,000	557,600	615,500	704,000	720,300	747,800	763,000	866,900	994,000	1,193,000

Statement of Appropriations, Fiscal Years 1961-1971

	Actual										
	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	Est. 1971
Office of the Commissioner, Fish and Wildlife Service											
Appropriations - Direct	$ 364,000	$ 364,000	$ 374,450	$ 386,000	$ 444,000	$ 452,500	$ --	$ --	$ --	$ --	$ --
Bureau of Commercial Fisheries											
Appropriations - Direct	11,461,000	21,643,000	26,028,250	24,635,900	30,649,900	37,343,329	34,893,300	39,414,650	38,699,000	39,662,000	34,535,000
Permanent .	6,371,083	5,293,952	5,774,194	5,962,396	6,261,585	6,610,569	7,078,524	7,775,848	7,722,283	7,943,076	7,781,413
Indefinite.	2,099,000	1,981,000	2,017,000	2,468,000	2,454,000	2,464,000	2,495,700	2,496,000	2,653,400	2,654,000	2,774,000
Total	19,931,082	28,917,952	33,819,444	33,066,296	39,365,485	46,417,898	44,467,524	49,686,498	49,074,683	50,259,076	45,090,413
Bureau of Sport Fisheries and Wildlife											
Appropriations - Direct	25,459,000	31,479,150	42,944,550	47,182,400	55,380,800	64,083,800	59,325,927	60,890,400	60,630,000	63,212,000	70,631,000
Permanent .	28,381,905	27,420,598	26,809,796	29,663,199	33,666,670	37,143,385	41,230,109	47,671,537	50,387,340	54,720,041	58,900,000
Total	53,840,905	58,899,748	69,754,346	76,845,599	89,047,470	101,227,185	100,556,036	108,561,937	111,017,340	117,932,041	129,531,000
National Park Service											
Appropriations - Direct	89,418,000	110,237,500	120,793,154	113,149,500	128,185,600	127,791,000	123,177,000	128,395,800	104,860,000	123,317,000	150,224,000
Permanent .	184,490	176,605	267,157	150,132	180,112	26,493	106,898	116,095	114,892	125,700	125,700
Total	89,602,490	110,414,105	121,060,311	113,299,632	128,365,712	127,817,493	123,283,898	128,511,895	104,974,892	123,442,700	150,349,700
Office of Saline Water											
Appropriations - Direct	3,795,000	9,805,000	9,600,000	11,850,000	16,150,000	23,151,000	29,851,000	20,800,000	25,642,835	25,000,000	29,373,000
Office of the Solicitor											
Appropriations - Direct	3,475,000	3,492,000	3,852,650	4,000,000	4,393,000	4,596,800	4,821,000	5,244,000	5,683,000	5,530,000	7,344,000
Office of the Secretary											
Appropriations - Direct	2,898,000	3,385,000	3,482,050	3,858,400	4,365,000	4,557,200	5,165,900	7,114,500	8,755,000	9,912,700	11,954,000
Office of Water Resources Research											
Appropriations - Direct	--	--	--	--	3,450,000	6,396,000	6,910,000	11,130,000	11,181,000	11,229,000	13,312,000
Virgin Islands Corporation											
Appropriations - Direct	4,329,000	881,000	880,000	--	--	--	--	--	--	--	--
Commission of Fine Arts											
Appropriations - Direct	69,000	70,000	--	--	--	--	--	--	--	--	--
TOTAL, DEPARTMENT OF THE INTERIOR (EXCLUSIVE OF RECLAMATION, POWER MARKETING AGENCIES AND FEDERAL WATER POLLUTION CONTROL ADM.											
Direct	390,740,000	499,859,650	595,006,200	626,566,750	740,735,717	838,237,448	870,818,818	919,987,350	972,883,735	1,022,149,100	1,181,884,600
Permanent .	98,802,310	99,764,019	111,433,641	113,404,821	126,069,388	130,220,306	138,212,669	147,538,914	158,751,542	171,071,261	179,965,113
Indefinite.	10,230,829	10,556,686	10,416,550	13,363,430	22,798,245	19,724,233	15,465,024	15,318,882	22,831,044	20,423,000	22,615,000
Total	499,773,139	610,180,355	716,856,391	753,335,001	889,603,350	988,181,987	1,024,496,511	1,082,845,146	1,154,466,321	1,213,643,361	1,384,464,713

Statement of Appropriations, Fiscal Years 1961-1971

	Actual										
	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	Est. 1971
Bureau of Reclamation											
Appropriations - Direct	$281,498,705	$274,408,100	$ 342,687,600	$ 353,778,200	$ 323,246,500	$ 324,980,000	$ 326,010,000	$ 314,047,000	$ 277,002,500	$ 267,701,500	$ 295,423,000
Permanent .	4,006,837	3,788,182	3,745,241	4,837,353	4,188,453	3,369,223	3,330,763	3,535,463	3,188,782	3,600,000	3,600,000
Total	285,505,542	278,196,282	346,432,841	358,615,553	327,434,953	328,349,223	329,340,763	317,582,463	280,191,282	271,301,500	299,023,000
Bonneville Power Administration											
Appropriations - Direct	30,007,000	33,080,000	42,926,250	50,044,000	102,680,000	113,938,000	126,010,000	129,000,000	123,500,000	118,000,000	117,122,000
Permanent .	--	--	1,140,361	--	700,000	--	--	--	--	130,198	--
Total	30,007,000	33,080,000	44,066,611	50,044,000	103,380,000	113,938,000	126,010,000	129,000,000	123,500,000	118,130,198	117,122,000
Southeastern Power Administration											
Appropriations - Direct	800,000	800,000	800,000	1,000,000	1,000,000	1,000,000	1,000,000	850,000	850,000	700,000	830,000
Permanent .	--	--	--	--	--	--	--	--	45,263	150,000	--
Total	800,000	800,000	800,000	1,000,000	1,000,000	1,000,000	1,000,000	850,000	895,263	850,000	830,000
Southwestern Power Administration											
Appropriations - Direct	2,594,000	2,260,000	8,689,450	4,500,000	4,290,000	4,045,300	6,065,000	7,255,000	6,366,000	5,450,000	7,300,000
Indefinite..	5,000,000	5,000,000	5,000,000	4,500,000	4,500,000	4,000,000	3,700,000	3,200,000	3,200,000	2,800,000	--
Total	7,594,000	7,260,000	13,689,450	9,000,000	8,790,000	8,045,300	9,765,000	10,455,000	9,566,000	8,250,000	7,300,000
Alaska Power Administration											
Appropriations - Direct	--	--	--	--	--	--	--	--	1,002,000	1,000,000	1,120,000
Federal Water Pollution Control Administration											
Appropriations - Direct	--	--	--	--	--	186,142,000 3/	234,718,618 3/	295,400,000	300,789,000	886,382,000	98,018,000
Office of the Secretary											
Appropriations - Direct	--	--	--	--	--	--	--	--	--	--	1,000,000
TOTAL, RECLAMATION, POWER MARKETING AGENCIES AND FEDERAL WATER POLLUTION CONTROL ADMINISTRATION ...											
Appropriations - Direct	314,899,705	310,548,100	395,103,300	409,322,200	431,216,500	630,105,300	693,803,618	746,552,000	709,509,500	1,279,233,500	520,813,000
Permanent .	4,006,837	3,788,182	4,885,602	4,837,353	4,888,453	3,369,223	3,330,763	3,535,463	3,234,045	3,880,198	3,600,000
Indefinite.	5,000,000	5,000,000	5,000,000	4,500,000	4,500,000	4,000,000	3,700,000	3,200,000	3,200,000	2,800,000	--
Total	323,906,542	319,336,282	404,988,902	418,659,553	440,604,953	637,474,523	700,834,381	753,287,463	715,943,545	1,285,913,698	524,413,000
GRAND TOTAL, DEPARTMENT OF THE INTERIOR											
Appropriations - Direct	705,639,705	810,407,750	990,109,500	1,035,888,950	1,171,952,217	1,468,342,748	1,564,622,436	1,666,539,350	1,682,393,235	2,301,382,600	1,702,697,600
Permanent .	102,809,147	103,552,201	116,319,243	118,242,174	130,957,841	133,589,529	141,543,432	151,074,377	161,985,587	174,951,459	183,565,113
Indefinite	15,230,829	15,536,686	15,416,550	17,863,430	27,298,245	23,724,233	19,165,024	18,518,882	26,031,044	23,223,000	22,615,000
GRAND TOTAL	823,679,681	929,516,637	1,121,845,293	1,171,994,554	1,330,208,303	1,625,656,510	1,725,330,892	1,836,132,609	1,870,409,866	2,499,557,059	1,908,877,713
Delaware River Basin Commission											
Appropriations - Direct	--	20,000	113,610	155,000	136,000	140,000	160,000	179,000	201,000	200,000	233,000

1/ Includes $1,101,096 transferred from National Park Service pursuant to Reorganization Plan No. 3 of 1950.
2/ Includes $4,690,000 to initiate the Lead and Zinc Stabilization Program.
3/ Funds appropriated in Department of Health, Education and Welfare Appropriation Acts.

DEPARTMENT OF THE INTERIOR

Permanent Appropriations, Fiscal Years 1969, 1970, and 1971

Bureau or Office and Appropriation Title	1969 Actual	1970 Estimate	1971 Estimate
PUBLIC LAND MANAGEMENT			
Bureau of Land Management			
Leasing of grazing lands	$188	---	---
Payment to:			
Oklahoma (royalties)	166	$1,000	---
Coos and Douglas Counties, Oregon from receipts Coos Bay Wagon Road grant lands	308,304	525,000	$525,000
Counties, Oregon and California grant lands	25,567,167	32,116,506	32,000,000
States (grazing fees)	1,491	2,000	2,000
States (proceeds of sales)	239,906	212,000	300,000
States from grazing receipts, etc., public lands outside grazing districts	253,681	297,000	307,000
States from grazing receipts, etc., public lands within grazing districts	311,540	385,000	396,000
States from grazing receipts, etc., public lands within grazing districts, misc.	4,785	4,000	5,000
States from receipts under Mineral Leasing Act	51,361,213	53,871,000	57,991,000
Payments to counties, national grasslands	204,995	229,000	231,000
Expenses, Public Land Administration Act	1,391,997	1,202,000	1,202,000
Total, Bureau of Land Management	79,645,433	88,844,506	92,959,000
Bureau of Indian Affairs			
Acquisition of lands and loans to Indians in Oklahoma Act of June 26, 1936	36,905	10,000	10,000
Indian arts and crafts fund	12	---	---
Operation and maintenance, Indian irrigation systems	4,619,274	4,230,000	4,130,000
Power systems, Indian irrigation projects	3,171,510	3,280,000	3,280,000
Claims and treaty obligations	185,357	161,000	161,000
Total, Bureau of Indian Affairs	8,013,058	7,681,000	7,581,000
Office of Territories			
Internal Revenue Collections for Virgin Islands	12,867,871	11,517,538	12,500,000
Administration of Territories	---	239,400	118,000
Total, Office of Territories	12,867,871	11,756,938	12,618,000
TOTAL, PUBLIC LAND MANAGEMENT	100,526,362	108,282,444	113,158,000

Permanent Appropriations, Fiscal Years 1969, 1970, and 1971

Bureau or Office and Appropriation Title	1969 Actual	1970 Estimate	1971 Estimate
MINERAL RESOURCES			
Geological Survey			
Payment from proceeds, sale of water	$665	---	---
FISH AND WILDLIFE, PARKS, AND MARINE RESOURCES			
Bureau of Commercial Fisheries			
Promote and develop fishery products and research pertaining to American fisheries	7,412,775	$7,636,413	$7,636,413
Payment to Alaska from Pribilof Islands Fund	309,508	306,663	145,000
Total, Bureau of Commercial Fisheries	7,722,283	7,943,076	7,781,413
Bureau of Sport Fisheries and Wildlife			
Migratory Bird Conservation account	5,562,303	5,000,000	5,000,000
Federal aid in fish restoration and management	9,228,299	11,903,719	13,128,000
Federal aid in wildlife restoration	31,371,605	33,081,322	36,272,000
National wildlife refuge fund	4,225,133	4,735,000	4,500,000
Total, Bureau of Sport Fisheries and Wildlife	50,387,340	54,720,041	58,900,000
National Park Service			
Educational expenses, children of employees Yellowstone National Park	92,340	113,700	113,700
Payment for tax losses on land acquired for Grand Teton National Park	22,552	12,000	12,000
Total, National Park Service	114,892	125,700	125,700
TOTAL, FISH AND WILDLIFE, PARKS, AND MARINE RESOURCES	58,224,515	62,788,817	66,807,113
WATER AND POWER DEVELOPMENT			
TOTAL			
Department of the Interior, Other than Reclamation and Power Agencies	158,751,542	171,071,261	179,965,113

Annual Indefinite Appropriations, Fiscal Years 1969, 1970, and 1971

Bureau or Office and Appropriation Title	1969 Actual	1970 Estimate	1971 Estimate
PUBLIC LAND MANAGEMENT			
Bureau of Land Management			
Oregon and California Grant Lands	$18,717,920	$16,000,000	$18,000,000
Range improvements	1,459,724	1,769,000	1,841,000
Total, Bureau of Land Management	20,177,644	17,769,000	19,841,000
FISH AND WILDLIFE, PARKS, AND MARINE RESOURCES			
Bureau of Commercial Fisheries			
Administration of Pribilof Islands	2,653,400	2,654,000	2,774,000
TOTAL			
Department of the Interior, Other than Southwestern Power Administration	22,831,044	20,423,000	22,615,000

Trust Funds, Fiscal Years 1969, 1970, and 1971

Bureau or Office and Appropriation Title	1969 Actual	1970 Estimate	1971 Estimate
PUBLIC LAND MANAGEMENT			
Bureau of Land Management			
Contributed funds	$562,119	$600,000	$600,000
Expenses, public survey work	89,140	60,000	60,000
Trustee funds, Alaska Townsites	637	5,000	5,000
Total, Bureau of Land Management	651,896	665,000	665,000
Bureau of Indian Affairs			
Indian tribal funds:			
Appropriations:			
Definite	2,398,423	3,000,000	3,000,000
Indefinite	13,899,307	13,204,000	13,204,000
Permanent	85,601,017	81,563,000	50,138,000
Total, Indian tribal funds	101,898,747	97,767,000	66,342,000
Indian moneys proceeds of labor, agencies, schools, etc.	4,086,778	3,800,000	3,800,000
Funds contributed for Indian projects	33,100	---	---
Bequest of George C. Edgeter, relief of indigent Indians	802	1,000	1,000
Total, Bureau of Indian Affairs	106,019,427	101,568,000	70,143,000
Bureau of Outdoor Recreation			
Contributed funds	3,005	---	---
TOTAL, PUBLIC LAND MANAGEMENT	106,674,328	102,233,000	70,808,000
MINERAL RESOURCES			
Bureau of Mines			
Contributed funds	1,283,470	1,000,000	1,000,000
FISH AND WILDLIFE, PARKS, AND MARINE RESOURCES			
Bureau of Commercial Fisheries			
Contributed funds	973,916	946,000	1,100,000
Inspection and grading of fishery products	791,058	800,000	900,000
Total, Bureau of Commercial Fisheries	1,764,974	1,746,000	2,000,000
Bureau of Sport Fisheries and Wildlife			
Contributed funds	315,525	215,000	210,000

Trust Funds, Fiscal Years 1969, 1970, and 1971

Bureau or Office and Appropriation Title	1969 Actual	1970 Estimate	1971 Estimate
FISH AND WILDLIFE, PARKS, AND MARINE RESOURCES (Continued)			
National Park Service			
Donations	$976,920	$2,663,700	$1,100,000
Advances from District of Columbia, National Park Service	7,596,742	8,898,600	---
Preservation, birthplace of Abraham Lincoln	2,540	2,540	2,540
National Park trust fund	8,920	---	---
Total, National Park Service	8,585,122	11,564,840	1,102,540
TOTAL, FISH AND WILDLIFE, PARKS, AND MARINE RESOURCES	10,665,621	13,525,840	3,312,540
TOTAL			
Department of the Interior, Other than Reclamation, Bonneville Power Administration, and Federal Water Pollution Control Admin.	119,382,417	118,286,592	75,120,540

DEPARTMENT OF THE INTERIOR

Outlays by Appropriation for Fiscal Years 1967 through 1971

Appropriation	1967	1968	1969	1970	1971
PUBLIC LAND MANAGEMENT					
Bureau of Land Management					
Management of Lands and Resources	$ 57,392,000	$ 58,394,000	$ 66,615,000	$ 51,000,000	$ 57,645,000
Construction and Maintenance	3,634,000	3,040,000	4,437,000	3,377,000	3,160,000
Public Lands Development Roads and Trails	1,871,000	2,242,000	3,223,000	3,500,000	3,537,000
Oregon and California Grant Lands	19,591,000	11,787,000	11,891,000	18,788,000	19,145,000
Range Improvements	1,561,000	1,584,000	1,396,000	1,750,000	1,838,000
Subtotal, Items in Appropriation Bill	84,049,000	77,047,000	87,562,000	78,415,000	85,325,000
Miscellaneous Permanent Appropriations	72,188,000	72,422,000	79,554,000	88,845,000	92,959,000
Trust Funds	498,000	581,000	587,000	665,000	665,000
Management of Lands and Resources Firefighting	--	--	--	23,274,000	726,000
Management of Lands and Resources Pay Costs	--	--	--	3,189,000	309,000
Subtotal, Forecasted Supplementals	--	--	--	26,463,000	1,035,000
Advances and Reimbursements	-23,000	-29,000	52,000	--	--
TOTAL, Bureau of Land Management	156,712,000	150,021,000	167,555,000	194,388,000	179,984,000

Outlays by Appropriation for Fiscal Years 1967 through 1971

Appropriation	1967	1968	1969	1970	1971
Bureau of Indian Affairs					
Education and Welfare Services	$ 112,293,674	$ 133,835,455	$ 147,234,427	$ 180,393,000	$ 217,293,000
Resources Management	43,664,729	47,427,522	54,883,576	54,756,000	67,140,000
Construction	40,712,753	30,774,772	29,266,302	39,560,000	39,500,000
Road Construction	15,578,550	15,327,995	18,803,777	21,089,000	20,000,000
General Administrative Expenses	4,823,596	4,848,259	5,125,082	5,000,000	5,561,000
Revolving Fund for Loans	792,841	633,412	-79,443	2,304,000	750,000
Subtotal, Items in Appropriation Bill	217,866,143	232,847,415	255,233,721	303,102,000	350,244,000
Miscellaneous Permanent Appropriations	6,989,916	7,800,941	7,465,970	7,300,000	7,300,000
Tribal Funds (Trust)	174,245,306	116,227,745	114,137,894	81,044,000	66,259,000
Miscellaneous Trust Funds	2,874,071	2,479,085	5,145,068	3,200,000	3,500,000
Subtotal, Trust Funds	177,119,377	118,706,830	119,282,962	84,244,000	69,759,000
Education and Welfare Services Pay Cost	--	--	--	9,379,000	420,000
Resources Management-Pay Cost ..	--	--	--	4,057,000	321,000
Resources Management-Fire Suppression	--	--	--	890,000	10,000
General Administrative Expenses-Pay Cost	--	--	--	497,000	16,000
Subtotal, Forecasted Supplementals	--	--	--	14,823,000	767,000
Advances and Reimbursements	-242,860	-4,414,959	444,367	--	--
Liquidation of Hoonah Housing Project Revolving Fund	-3,584	-4,119	-5,499	12,000	114,000
TOTAL, Bureau of Indian Affairs	401,728,992	354,936,108	382,421,521	409,481,000	428,184,000

Outlays by Appropriation for Fiscal Years 1967 through 1971

Appropriation	1967	1968	1969	1970	1971
Bureau of Outdoor Recreation					
Salaries and Expenses	$ 3,576,687	$ 3,937,319	$ 4,237,345	$ 3,810,000	$ 4,070,000
Land and Water Conservation	64,721,505	99,347,499	125,245,013	160,846,000	159,048,000
Liquidation of Contract Authority	--	--	--	15,528,000	30,000,000
Subtotal, Items in Appropriation Bill	68,298,192	103,284,818	129,482,358	180,184,000	193,118,000
Salaries and Expenses, Pay Cost	--	--	--	260,000	15,000
Land and Water Conservation	--	--	--	7,100,000	62,260,000
Subtotal, Forecasted Supplementals	--	--	--	7,360,000	62,275,000
Advances and Reimbursements	-42,854	51,488	--	25,000	--
Trust Funds, Contributed Funds	10,000	--	--	3,000	--
TOTAL, Bureau of Outdoor Recreation	68,265,338	103,336,306	129,482,358	187,572,000	255,393,000

Outlays by Appropriation for Fiscal Years 1967 through 1971

Appropriation		1967	1968	1969	1970	1971
Office of Territories						
Administration of Territories	Exp.	$ 12,040,694	$ 11,971,001	$ 14,045,930	$ 12,714,000	$ 13,138,000
	NL	3,071,578	4,049,983	7,363,003	4,763,000	5,337,000
Trust Territory of the Pacific Islands		14,848,446	21,341,179	33,821,774	47,282,000	60,928,000
Claims of inhabitants of Rongelap Atoll		47,500	--	1,166	--	--
Subtotal, Items in Appropriation Bill		30,008,218	37,362,163	55,231,873	64,759,000	79,403,000
Internal Revenue collections for the Virgin Islands (Permanent)		11,073,732	12,367,772	12,814,462	11,278,247	12,170,000
Forecasted Supplemental (Samoa)		--	--	--	--	275,000
Repayments deposited in miscellaneous receipt accounts:						
Guam		--	--	-259,155	-300,000	-400,000
Alaska Public Works		--	-25,000	-25,000	-25,000	-25,000
Subtotal		--	-25,000	-284,155	-325,000	-425,000
TOTAL, Office of Territories		41,081,950	49,704,935	67,762,180	75,712,247	91,423,000
TOTAL, PUBLIC LAND MANAGEMENT		667,788,280	657,998,249	747,221,059	867,153,247	954,984,000

Outlays by Appropriation for Fiscal Years 1967 through 1971

Appropriation	1967	1968	1969	1970	1971
MINERAL RESOURCES					
Geological Survey					
Surveys, Investigations, and Research in Appropriation Bill	$ 79,696,810	$ 89,430,517	$ 90,723,796	$ 96,772,000	$ 105,139,000
Miscellaneous Permanent appropriations	59,989	228,471	269,135	130,000	--
Forecasted Supplementals (Pay Cost)	--	--	--	1,226,000	61,000
Advances and reimbursements	2,717,683	-1,570,661	780,114	--	--
TOTAL, Geological Survey	82,474,482	88,088,327	91,773,045	98,128,000	105,200,000
Bureau of Mines					
Conservation and Development of Mineral Resources	34,261,000	36,240,000	39,184,000	38,190,000	45,730,000
Health and Safety	9,626,000	10,385,000	11,299,000	26,035,000	53,932,000
General Administrative Expenses	1,494,000	1,570,000	1,656,000	1,657,000	1,791,000
Miscellaneous Appropriations (Solid Waste and Anthracite drainage)	1,974,000	3,442,000	2,210,000	1,600,000	904,000
Appalachian Region Mining Area Restoration	1,928,000	--	--	--	--
Public Enterprise Funds: Helium Fund (Borrowing Authority)	23,194,000	29,838,000	16,133,000	32,094,000	2,000,000
Subtotal, Items in Appropriation Bill	72,477,000	81,475,000	70,482,000	99,476,000	104,357,000

Outlays by Appropriation for Fiscal Years 1967 through 1971

Appropriation	1967	1968	1969	1970	1971
Trust Funds	$ 1,538,000	$ 1,207,000	$ 1,738,000	$ 1,200,000	$ 1,200,000
Advances and Reimbursements	145,000	53,000	240,000	200,000	200,000
Pay Act Supplemental	--	--	--	4,206,000	230,000
Helium Fund (Borrowing Authority)	--	--	--	21,100,000	40,000,000
Subtotal, Forecasted Supplementals	--	--	--	25,306,000	40,230,000
TOTAL, Bureau of Mines	74,160,000	82,735,000	72,460,000	126,182,000	145,987,000
Office of Coal Research					
Salaries and Expenses, in Appropriation Bill	9,987,000	11,856,000	8,427,000	15,254,000	17,065,000
Trust Funds	2,000	6,000	2,000	86,000	--
TOTAL, Office of Coal Research	9,989,000	11,862,000	8,429,000	15,340,000	17,065,000
Office of Oil and Gas					
Salaries and Expenses, in Appropriation Bill	731,000	722,000	874,000	1,010,500	1,197,000
Forecasted Supplemental (Pay Costs)	--	--	--	87,500	3,000
TOTAL, Office of Oil and Gas	731,000	722,000	874,000	1,098,000	1,200,000
TOTAL, MINERAL RESOURCES	167,354,482	183,407,327	173,536,045	240,748,000	269,452,000

41-447 O - 70 - pt. 1 -- 4

Outlays by Appropriation for Fiscal Years 1967 through 1971

Appropriation	1967	1968	1969	1970	1971
FISH AND WILDLIFE, PARKS AND MARINE RESOURCES					
Commissioner of Fish & Wildlife	$ 92,000	$ --	$ --	$ --	$ --
Bureau of Commercial Fisheries					
Management and Investigations of Resources	22,028,810	23,401,751	24,588,718	26,123,000	29,835,000
Special Foreign Currency Program	304,358	235,223	141,622	200,000	150,000
Construction	5,096,219	2,092,662	703,310	2,700,000	700,000
Construction of Fishing Vessels	1,348,857	5,941,027	7,075,264	6,500,000	4,200,000
Federal Aid for Commercial Fisheries Research and Development	2,679,368	4,465,803	4,200,310	5,750,000	4,500,000
Anadromous and Great Lakes Fisheries Conservation	300,602	1,270,976	1,727,374	2,189,000	2,100,000
General Administrative Expenses	699,158	716,814	754,299	754,000	875,000
Administration of Pribilof Islands	2,163,741	2,451,893	2,602,397	2,585,000	2,695,000
Fishermen's Protective Fund	--	--	62,626	60,000	60,000
Subtotal, Items in Appropriation Bill	34,621,113	40,576,149	41,730,668	46,861,000	45,115,000
Federal ship mortgage insurance fund, fishing vessels	-490,328	-150,276	-163,995	-150,000	-225,000
Fisheries Loan Fund	1,329,991	2,066,973	1,424,276	1,010,000	880,000
Subtotal, Public Enterprise Funds	839,663	1,916,697	1,260,281	860,000	655,000
Advances and Reimbursements	-388,091	-16,487	150,954	--	--
Promote and Develop Fishery Products and Research Pertaining to American Fisheries	6,493,068	7,635,447	7,711,717	7,700,000	7,700,000
Payment to Alaska from Pribilof Islands Fund	300,017	332,256	309,508	306,663	145,000
Subtotal, Permanents	6,793,085	7,967,703	8,021,225	8,006,663	7,845,000

Outlays by Appropriation for Fiscal Years 1967 through 1971

Appropriation	1967	1968	1969	1970	1971
Contributed Funds (Trust)	$ 864,429	$ 869,072	$ 1,014,081	$ 900,000	$ 1,100,000
Inspection and Grading of Fishery Products (Trust)	669,266	702,058	755,421	800,000	900,000
Subtotal, Trust Funds	1,533,695	1,571,330	1,769,502	1,700,000	2,000,000
Forecasted Supplemental (Pay Costs)	--	--	--	1,763,000	75,000
TOTAL, Bureau of Commercial Fisheries	43,399,465	52,015,392	52,932,630	59,190,663	55,690,000
Bureau of Sport Fisheries & Wildlife					
Management and Investigations of Resources	38,185,696	44,539,709	46,889,607	48,877,000	55,726,000
Special Foreign Currency Program	--	--	--	--	50,000
Construction	7,829,925	7,707,394	4,469,423	3,375,000	5,800,000
General Administrative Expenses	1,517,728	1,614,639	1,683,039	1,683,000	1,841,000
Anadromous and Great Lakes Fisheries Conservation	160,223	591,169	1,832,770	1,984,000	2,499,000
Migratory Bird Conservation Account	6,000,000	7,500,000	5,635,000	5,800,000	7,500,000
Appalachian Region fish and wildlife restoration projects	62,148	--	--	--	--
Subtotal, Items in Appropriation Bill	53,755,720	61,952,911	60,509,839	61,719,000	73,416,000
Migratory Bird Conservation Account	9,014,841	4,361,239	8,935,012	1,750,000	7,500,000
Miscellaneous Appropriations	28,031,034	35,404,061	39,528,822	43,700,000	58,000,000
Subtotal, Permanents	37,045,875	39,765,300	48,463,834	45,450,000	65,500,000

Outlays by Appropriation for Fiscal Years 1967 through 1971

Appropriation	1967	1968	1969	1970	1971
Trust Funds (Contributed Funds)	$ 171,713	$ 194,016	$ 310,234	$ 200,000	$ 200,000
Forecasted Supplemental (Pay Costs)	--	--	--	4,286,000	234,000
TOTAL, Bureau of Sport Fisheries and Wildlife	90,973,308	101,912,227	109,283,907	111,655,000	139,350,000
National Park Service					
Management and Protection	35,634,397	43,461,915	45,500,141	48,906,000	57,635,000
Maintenance and Rehabilitation of Physical Facilities	26,968,967	30,503,455	32,848,277	39,510,000	48,298,000
General Administrative Expenses	2,482,535	2,655,646	3,023,136	3,284,000	3,548,000
Preservation of Historic Properties	--	684,060	604,716	1,578,000	6,923,000
Construction	21,983,914	14,233,231	18,438,732	15,420,000	14,000,000
Parkway and Road Construction (Liquidation of Contract Authority)	31,683,631	25,485,502	22,472,847	20,795,000	19,000,000
Subtotal, Items in Appropriation Bill	118,753,444	117,023,809	122,887,849	129,493,000	149,404,000
Educational expenses, children of employees, Yellowstone National Park	65,397	110,318	92,291	113,836	113,700
Payment for tax losses on land acquired for Grand Teton National Park	22,674	21,805	22,144	22,552	12,000
Operation, Management, Maintenance & Demolition of Federally Acquired Properties, Independence National Historical Park	7,041	370	--	--	--
Subtotal, Miscellaneous Permanent Appropriations	95,112	132,493	114,435	136,388	125,700

Outlays by Appropriation for Fiscal Years 1967 through 1971

Appropriation	1967	1968	1969	1970	1971
National Park Service, Donations	$ 367,527	$ 768,915	$ 1,567,139	$ 1,800,000	$ 1,200,000
Advances from District of Columbia	6,358,822	7,499,002	7,973,387	9,764,288	194,014
Preservation, birthplace of Abraham Lincoln	--	--	--	494	--
National Park Foundation	10,478	29,664	811,148	--	--
Jefferson National Expansion Memorial, Contributions	398,202	82,201	38,394	35,218	--
Subtotal, Trust Funds	7,135,029	8,379,782	10,390,068	11,600,000	1,394,014
Advancements and Reimbursements	1,505	42,241	-251,934	280,470	--
Forecasted Supplemental, Management and Protection	--	--	--	1,000,000	--
Pay Cost	--	--	--	4,873,000	195,000
Subtotal, Forecasted Supplementals	--	--	--	5,873,000	195,000
TOTAL, National Park Service	125,985,090	125,578,325	133,140,418	147,382,858	151,118,714
TOTAL, FISH AND WILDLIFE, PARKS AND MARINE RESOURCES	260,449,863	279,505,944	295,356,955	318,228,521	346,158,714
Office of Saline Water					
Saline Water Conversion	--	--	28,177,076	27,853,000	27,000,000
Salaries and Expenses	13,396,724	25,286,190	--	--	--
Operation and Maintenance	1,762,887	1,999,113	--	--	--
Construction, Operation, and Maintenance	1,660,255	203,505	241,339	9,000	--
Prototype Desalting Plant	--	--	290,413	460,000	--
Subtotal, Items in Appropriation Bill	16,819,866	27,488,809	28,708,828	28,322,000	27,000,000
Trust Funds	328,956	1,102,552	8,740,733	8,384,524	1,500,000
TOTAL, Office of Saline Water	17,148,822	28,591,360	37,449,561	36,706,524	28,500,000

Outlays by Appropriation for Fiscal Years 1967 through 1971

Appropriation	1967	1968	1969	1970	1971
Office of Water Resources Research					
Salaries and Expenses, in Appropriation Bill	$ 6,226,000	$ 8,962,000	$ 10,810,000	$ 9,752,000	$ 10,316,000
Forecasted Supplemental (Pay Cost)	--	--	--	51,000	1,000
TOTAL, Office of Water Resources Research ..	6,226,000	8,962,000	10,810,000	9,803,000	10,317,000
Office of the Solicitor					
Salaries and Expenses, In Appropriation Bill	4,872,000	5,193,000	5,533,000	6,264,000	7,329,000
Pay Cost Supplemental	--	--	--	459,000	15,000
TOTAL, Office of the Solicitor	4,872,000	5,193,000	5,533,000	6,723,000	7,344,000
Office of the Secretary					
Salaries and Expenses	6,175,000	7,378,000	8,406,000	10,049,000	11,900,000
Underground Electric Power Transmission	--	--	--	--	600,000
Subtotal, Items in Appropriation Bill	6,175,000	7,378,000	8,406,000	10,049,000	12,500,000
Working Capital Fund	-48,000	61,000	-387,000	200,000	--
Advances and Reimbursements	-34,000	-51,000	32,000	74,000	74,000
Forecasted Supplemental, Pay Cost	--	--	--	772,000	30,000
TOTAL, Office of the Secretary	6,093,000	7,388,000	8,051,000	11,095,000	12,604,000

Outlays by Appropriation for Fiscal Years 1967 through 1971

Appropriation	1967	1968	1969	1970	1971
Virgin Islands Corporation Operating Fund	$ -554,000	$ 229,000	$ -505,000	$ --	$ --
GRAND TOTAL, DEPARTMENT OF THE INTERIOR	1,129,378,447	1,171,274,881	1,277,452,620	1,490,457,292	1,629,359,714

DEPARTMENT OF THE INTERIOR

SUMMARY Appropriations for Research and Development, by Activities
Fiscal Years 1969-1970-1971 and Comparison

(thousands of dollars)

Bureau and Appropriation	Fiscal Year 1969 Actual	Fiscal Year 1970 Current	Fiscal Year 1971 Estimated	Increase (+) Decrease (-) 1971 vs. 1970
Bureau of Land Management				
Management of Lands and Resources	638	686	693	+ 7
Oregon and California Grant Lands	86	86	88	+ 2
Sub-total	724	772	761	+ 9
Bureau of Outdoor Recreation				
Salaries & Expenses (Planning and Research)	115	123	123	-
Geological Survey				
Surveys, Investigations, and Research	35,310	38,930	41,675	+ 2,745
Bureau of Mines				
Conservation and Development of Mineral Resources	29,113	32,202	34,690	+ 2,488
Health and Safety	2,597	11,020	20,620	+ 9,600
Sub-total	31,710	43,222	55,310	+ 12,088
Bureau of Commercial Fisheries				
Management and Investigations	19,283	21,604	20,680	- 924
Construction	381	1,476	-	- 1,476
Federal Aid for Commercial Fisheries Research and Development	4,505	4,795	3,800	- 995
Anadromous and Great Lakes Fisheries Conservation	1,248	1,210	1,210	-
Administration of Pribilof Islands	267	314	314	-
Promote and Develop Fishery Products and Research	6,179	6,337	5,861	- 476
Contributed Funds	744	703	857	+ 154
Sub-total	32,607	36,439	32,722	- 3,717
Bureau of Sport Fisheries and Wildlife				
Management and Investigations of Resources	11,896	12,906	13,576	+ 670
Construction	1,029	290	955	+ 665
Anadromous and Great Lakes Fisheries Conservation	260	300	400	+ 100
Federal Aid in Fish Restoration and Management	3,341	3,400	3,400	-
Federal Aid in Wildlife Management	4,960	4,876	4,876	-
Sub-total	21,486	21,772	23,207	+ 1,435

SUMMARY Appropriations for Research and Development, by Activities
Fiscal Years 1969-1970-1971 and Comparison
(thousands of dollars)

Bureau and Appropriations	Fiscal Year 1969 Actual	Fiscal Year 1970 Current	Fiscal Year 1971 Estimated	Increase (+) Decrease (-) 1971 vs. 1970
National Park Service				
Management and Protection	1,550	1,883	1,883	-
Construction and Rehabilitation (Missouri River Basin)	344	316	300	- 16
Maintenance and Rehabilitation	210	345	345	-
Construction	90	159	159	-
Sub-total	2,194	2,703	2,687	- 16
Office of Saline Water				
Saline Water Conversion	24,652	25,000	29,373	+ 4,373
Office of Water Resources Research				
Salaries and Expenses	11,181	11,281	13,312	+ 2,031
Office of Coal Research				
Salaries and Expenses	13,700	15,300	16,200	+ 900
TOTAL, Department of the Interior, except FWPCA, Reclamation and Water & Power Marketing Bureaus	$ 173,679	$ 195,542	$ 215,390	+ 19,848

DEPARTMENT OF THE INTERIOR
Other than Reclamation, Power Marketing Agencies, and
Federal Water Pollution Control Administration

Analysis of Permanent Positions, Fiscal Years 1969-1971

Bureau or Office and Appropriation Title	Permanent Positions in 1971 Budget			
	1969	1970	1971	Increase or Decrease (-)
PUBLIC LAND MANAGEMENT				
Bureau of Land Management:				
Management of lands and resources	3,199	3,227	3,300	+73
Construction and maintenance	95	95	98	+3
Public lands development roads and trails (Liquidation of contract authority)	67	77	75	-2
Oregon and California grant lands	304	428	439	+11
Allocations to other agencies	-128	-130	-128	+2
Net, Total	176	298	311	+13
Range improvements	47	47	47	--
Subtotal	3,584	3,744	3,831	+87
Other funds	143	138	134	-4
Total, Bureau of Land Management	3,727	3,882	3,965	+83
Bureau of Indian Affairs:				
Education and welfare services	8,934	9,549	10,019	+470
Resources management	3,944	4,059	4,009	-50
Construction	508	510	505	-5
Allocation to another bureau	-88	-90	-85	+5
Net Total	420	420	420	--
Road construction (liquidation of contract authority)	490	491	491	--
Allocations to another agency	--	-1	-1	--
Net, Total	490	490	490	--
General administrative expenses	452	452	452	--
Subtotal	14,240	14,970	15,390	+420
Other funds	1,084	1,084	1,084	--
Total, Bureau of Indian Affairs	15,324	16,054	16,474	+420
Bureau of Outdoor Recreation:				
Salaries and expenses	270	252	252	--
Land and water conservation	636	659	698	+39
Allocations to other bureaus and agencies	-432	-436	-476	-40
Net, Total	204	223	222	-1
Subtotal	474	475	474	-1
Other funds	31	31	29	-2
Total, Bureau of Outdoor Recreation	505	506	503	-3
Office of Territories:				
Administration of Territories	94	94	94	--
Trust Territory of the Pacific Islands	280	311	352	+41
Total, Office of Territories	374	405	446	+41
TOTAL, PUBLIC LAND MANAGEMENT	19,930	20,847	21,388	+541

Analysis of Permanent Positions, Fiscal Years 1969-1971

Bureau or Office and Appropriation Title	Permanent Positions in 1971 Budget			
	1969	1970	1971	Increase or Decrease (-)
MINERAL RESOURCES				
Geological Survey:				
Surveys, investigations, and research	5,553	5,576	5,596	+20
Miscellaneous appropriations	2	2	--	--
Allocation to another agency	-2	-2	--	--
Net, Total	--	--	--	--
Subtotal	5,553	5,576	5,596	+20
Other funds	2,626	2,709	2,689	-20
Total, Geological Survey	8,179	8,285	8,285	--
Bureau of Mines:				
Conservation and development of mineral resources	2,552	2,595	2,623	+28
Health and safety	825	1,380	2,192	+812
General administrative expenses	140	140	140	--
Helium fund	470	459	411	-48
Subtotal	3,987	4,574	5,366	+792
Other funds	607	498	485	-13
Total, Bureau of Mines	4,594	5,072	5,851	+779
Office of Coal Research:				
Salaries and expenses	25	25	25	--
Office of Oil and Gas:				
Salaries and expenses	53	58	63	+5
Other funds	9	9	9	--
Total, Office of Oil and Gas	62	67	72	+5
TOTAL, MINERAL RESOURCES	12,860	13,449	14,233	+784
FISH AND WILDLIFE, PARKS, AND MARINE RESOURCES				
Bureau of Commercial Fisheries:				
Management and investigations of resources	1,166	1,174	1,125	-49
Construction of fishing vessels	8	8	8	--
Federal aid for commercial fisheries research and development	14	14	14	--
Anadromous and Great Lakes fisheries conservation	11	11	11	--
General administrative expenses	43	43	43	--
Administration of Probilof Islands	81	81	81	--
Fishermen's protective fund	1	1	1	--
Subtotal	1,324	1,332	1,283	-49
Other funds	640	636	641	+5
Total, Bureau of Commercial Fisheries	1,964	1,968	1,924	-44
Bureau of Sport Fisheries and Wildlife:				
Management and investigations of resources	2,906	2,904	2,997	+93
Construction	51	73	50	-23
Allocation to other agencies	-2	-9	--	+9
Net, Total	49	64	50	-14

Analysis of Permanent Positions, Fiscal Years 1969-1971

Bureau or Office and Appropriation Title	Permanent Positions in 1971 Budget			
	1969	1970	1971	Increase or Decrease (-)
FISH AND WILDLIFE, PARKS, AND MARINE RESOURCES (Cont'd)				
Bureau of Sport Fisheries and Wildlife (Cont'd)				
General administrative expenses	158	158	158	--
Anadromous and Great Lakes fisheries conservation	13	14	14	--
Migratory bird conservation account	205	205	210	+5
Subtotal	3,331	3,345	3,429	+84
Other funds	765	745	741	-4
Total, Bureau of Sport Fisheries and Wildlife	4,096	4,090	4,170	+80
National Park Service:				
Management and protection	2,922	3,224	3,605	+381 A/
Allocation to another agency	-2	--	--	
Net, Total	2,920	3,224	3,605	+381
Maintenance and rehabilitation of physical facilities	1,969	2,207	2,771	+564 B/
Allocation to another agency	-1	--	--	
Net, Total	1,968	2,207	2,771	+564
General administrative expenses	207	216	216	--
Preservation of historic properties	30	40	48	+8
Construction	285	285	385	+100
Parkway and road construction (liquidation of contract authority)	619	619	619	
Allocations to other agencies	-324	-324	-324	
Net, Total	295	295	295	--
Subtotal	5,705	6,267	7,320	+1,053
Other funds	1,435	1,341	504	-837
Total, National Park Service	7,140	7,608	7,824	+216
TOTAL, FISH AND WILDLIFE, PARKS, AND MARINE RESOURCES	13,200	13,666	13,918	+252
WATER QUALITY AND RESEARCH				
Office of Saline Water:				
Saline water conversion	137	137	144	+7
SECRETARIAL OFFICES				
Office of the Solicitor:				
Salaries and expenses	438	468	478	+10
Office of the Secretary				
Salaries and expenses	539	600	614	+14
Other funds	240	243	247	+4
Total, Office of the Secretary	779	843	861	+18

Analysis of Permanent Positions, Fiscal Years 1969-1971

Bureau or Office and Appropriation Title	Permanent Positions in 1971 Budget			
	1969	1970	1971	Increase or Decrease (-)
SECRETARIAL OFFICES (Cont'd)				
Office of Water Resources Research:				
Salaries and expenses	37	40	42	+2
GRAND TOTAL	47,381	49,450	51,064	+1,614
Annual Appropriations:				
Gross positions	40,780	43,008	45,515	+2,507
Allocations to other bureaus and agencies	-979	-992	-1,014	-22
Net positions	39,801	42,016	44,501	+2,485
Other funds	7,580	7,434	6,563	-871

NOTE: "Other funds" includes permanent appropriations; trust funds; advances and reimbursements: revolving and management funds; and allocations from other bureaus and agencies.

A/ Includes 281 permanent positions due to change from advance from D. C. Government to direct Federal financing for portion of National Capital Parks in D. C.

B/ Includes 461 permanent positions due to change from advance from D.C. Government to direct Federal financing for portion of National Capital Parks in D. C.

SECRETARY'S ACCOMPLISHMENTS IN FIRST YEAR

Mrs. HANSEN. Mr. Secretary, you have been Secretary of the Interior for a little over a year. What would you consider to have been your major accomplishments during your first year of tenure?

Secretary HICKEL. I think, if I could put it in order of priority as I see it, first was the attention given to those public areas such as offshore drilling—the outer continental shelf, basically, which includes resources of obtainable and renewable items, such as fish resources; the upgrading of regulations therefor and the absolute liability we established for the cleanup of pollution with recourse to third parties as well as the growing public awareness that the Government owns and has an obligation for 700 million acres of land and a million square miles of continental shelf in the ocean.

If I could put them all in one category, I think that is the direction in which we feel the emphasis should go, and the direction toward which we will have to go in future years.

No. 2, I think, is the whole pollution area. The major water programs are in our Department. Giving that No. 1 priority not only for this Department but for the Nation as a whole was an achievement. It wasn't easily sold but it is there now. I think the public has raised up in some indignation on the whole pollution and environmental problem of how man lives.

Then a third area, how we can better catalog and inventory, but use, conserve, and preserve the natural resources. I think that this Department, as we move from here on down the road, will become a Department that is more important to government and to how people live, so the whole idea of how we wisely use and conserve a natural resource is the thing that sticks uppermost in my mind.

1971 BUDGET—GENERAL POLICY GUIDELINES

Mrs. HANSEN. You have defined the Department's activities for now and the future very well. The compilation of a budget estimate has always been difficult, but it seems to me to become increasingly more so as each year goes by due to the fact we have more severe fiscal restraints and at the same time more urgent needs for Federal expenditures. Please describe the general policy guidelines you followed in the preparation of your 1971 budget estimate.

Secretary HICKEL. Well, I will make this a general statement and ask Mr. Hite and the different Assistant Secretaries to follow up.

First, we tried to put into priority those things that I just mentioned. I think we were as successful if not more so than other Departments in getting what we requested. When we, like other members of the Executive, were asked to maintain a certain level, I think our appeals on certain proposed reductions in the budget were successful in more ways and more times than not.

I think in the area of parks we are making a step forward not only in what we have done but what I think will come about in the next few months. In the area of water pollution I think without a doubt that is a great step forward for this Department because of its responsibilities, not only for now but for years to come.

If I could be critical of what we didn't do, it would be in the area of commercial fisheries which I am very close to, coming from a very large fishing area. But we had to set priorities in what we needed and we set those priorities——

Mrs. HANSEN. Are you sure the Department set the priorities or did the Bureau of the Budget?

Secretary HICKEL. We went in for certain things we didn't get. We fought for them, and consequently we have to live with what we have here.

NATIONAL PROGRAM NEEDED FOR NATURAL RESOURCES

I think in the areas of depletable and renewable resources we do not yet have a program of national significance we need. I'm talking about the whole area, both renewable and depletable, such as trees and fish. We are working on that. Mr. Quarles is in charge of our new Program Planning and Coordination area, in which we have incorporated the Office of Program Analysis because we want to see action on the programs, rather than just analyzing what is happening. I think if we don't have a direction in the next year or two we can't do much. I don't have to tell you what you can accomplish in 1 year in Government. But as a direction, I think we have to see action in those areas that we own, like the fish, the Continental Shelf, and nearly 700 million acres of land. I think we have to lead in finding out what is there, and prescribe the highest use and value of those resources. I don't care if it's a mile of beach. We wouldn't have had a Santa Barbara if we had inventories and had placed a value on those things that don't have a dollar value now. If we would have taken 5 miles of beach and water, and had a value for recreation, natural beauty, navigation, fishing, and sports, then we might have not set the same priority of value that was set in the past.

Maybe those things are of greater value than just the amount of oil, for example, that was in that local area. We are not talking about big areas. We are talking about unique areas.

We have to do this throughout the whole United States. I don't know whether 10,000 acres of land is put to its best use in order to graze a cow. I'm not being derogatory by saying that, but what is the highest use?

It will take money to do this. We are not just going to look at it and guesstimate just what is the highest value. I would like to see this Department go out and really hit for a national land use and Continental Shelf policy that is within the jurisdiction of the Federal Government. I say it is the obligation of our ownership to do something about it.

REDUCED BUDGET FOR COMMERCIAL FISHERIES

Mrs. HANSEN. I think your statement is very significant. In reviewing your 1971 estimate I notice the Department is recommending increases for each and every one of the Bureaus and Offices, with the exception of the Bureau of Commercial Fisheries, which is budgeted at a level $5 million below the 1970 appropriation.

Some day the people in the United States are going to wake up with the same outcry against the lack of fishing resources that they have done with pollution. The day may come when a foreign country is

able to say to the world, "We control this particular food item, and you will use it only at our discretion."

This is why I am disturbed to note the $5 million reduction below the appropriation for 1970. Mr. Wyatt comes from a district like mine that has extensive shoreline.

Mr. Flynt, of Georgia, comes from a State where fisheries are an important part of their resources. I cannot quite understand the logic in reducing the 1971 budget at a time when it is going to affect the world's food resources as well as the sport resources.

FOOD CONSUMPTION OF FISH INCREASING

Mr. WYATT. May I interject at this point? I think that the day is almost here where what you have been predicting is happening, because while the total food consumption of fish products has gone up in total poundage very substantially in the last 2 or 3 years in the United States, the total production of fish food in the United States has remained either stagnant or at a lower level.

This simply means the Russians, South Koreans, Japanese and the other foreign fishing nations are getting a very substantially increased proportion of the world's fish.

TOP SIX FISHING NATIONS

Mrs. HANSEN. In Sunday's paper there was an interesting table listing the six leading commercial fish nations. We are sixth. Peru ranked first. This is largely in the fishmeal production. Russia, Korea, and many other nations are spending a lot of money for their fishery programs.

The intriguing part is that we are always able to appropriate commercial fishery monies for foreign operations. The Bureau of the Budget has a field day recommending fisheries programs for all the other nations of the world.

I wonder if the United States has to get on the AID program to get some help for its fisheries.

Secretary HICKEL. I would like to talk on that a moment.

Mrs. HANSEN. Please do.

FUTURE LOOK AT OCEANOGRAPHY AND FISHERIES

Secretary HICKEL. I think the whole field of oceanography and research, and fisheries will come into this, is one that is grabbing hold and coming into its own. I think you will see this in the next year. Last year it was the pollution problem that came to the front.

I think by the year 2000—I don't want to editorialize—but the land basically will be used for man's enjoyment, to live and to work on; and the oceans, to a great degree, will supply not only the minerals, but even the food, from the Continental Shelf.

That is why I am such a strong believer in establishing our rights, at least out to the far edge of the Continental Shelf.

THREE KINDS OF ECONOMIES IN THE NORTH PACIFIC

There is another problem we ought to face that is very apparent in the North Pacific, where I spent most of my life. We come together up there with three kinds of economics—the totalitarian one, which is Russia, the completely free one, which is the United States, and the combination of the two, which is the Japanese. You can see how difficult it is for any one person or one company to try to compete with a nation.

I have watched the Russians and the Japanese come out to the Bering Sea to fish, and they look like floating cities. We sit there with a skin boat, or one boat, because of the very nature of how we have to operate. I think we have the greatest system on earth, there isn't any doubt. Individually, we can out-fish any Russian or Japanese. Individually, there isn't any doubt about it. But we have to convince our industry to use new methods. As long as we are going to use the individual method, and I think the fisherman is about as individual as any man I ever met, one man must try and compete with this complex. As I say, in the North Pacific we really see it. It is really the system that is beating us because of things I mentioned. I think we ought to address ourselves to that.

ACCEPTABLE NEW PROGRAMS SOUGHT

I have called all our people in and talked about this thing, and we are working on it. We are trying to come up with programs that will be acceptable and attainable. We can't think of things that aren't attainable, because they won't be accepted.

But I think that in this lies one real basic problem. The only reason we are sixth in fishing is because the seventh nation hasn't started yet. When it starts, it will pass us up.

COMPETITION OF AMERICAN FISHERMAN AND FOREIGN FISHERIES

Mr. WYATT. Mr. Secretary, what you are saying, as I understand it, is that our individual fishermen are competing against foreign governments.

Secretary HICKEL. That is what I am saying. That is the problem. The individual, no matter how great he is, even the greatest company—I have seen tremendous companies in the North Pacific, the biggest ones have been there—is competing with other nations, and then is competing with his own competitors in our own system.

It is so very clear when you go up to the North Pacific and see it.

Mrs. HANSEN. I think, Mr. Secretary, that you are going to have to organize a conservation group on the Pacific rim to analyze what those nations are harvesting beyond the ability of the cycle to reproduce.

Secretary HICKEL. The real problem that we have, and I am sure you are aware of it, Madam Chairman, is that we did come up with so many new programs that we couldn't fund them all. We have the national parks program on the move, and also the water pollution control program. At that point we found ourselves knocking on the door for all the money there was.

RECEIPTS GENERATED BY INTERIOR DEPARTMENT

Mrs. HANSEN. Mr. Secretary, your Department not only is vital to the lifeblood of people, but it also generates a great deal of revenue.

Secretary HICKEL. If we had the wherewithal, we could not only generate more revenues, but we would be doing a better job in this whole area of public domain we talk about. No one else is going to do some of these things that we have the obligation to do as owners. We have to face up to the fact that we are the owners, and we do have the obligation to lead.

That will take some money. When I suggested about a year ago that maybe we ought to do geophysical work on the Continental Shelf, it looked like the roof would come in on top of everybody. But it will have to happen. It isn't in competition with anyone, it's only giving knowledge of what we have. When I say "we," I talk about the public, because you cannot expect private enterprise to go out and do it for the public. This is not in competition with anyone. This is what we must have for ourselves.

Mrs. HANSEN. The Department that administers this land is entitled to the same amount of information as those who expect to reap the harvest. This is the point the committee has made repeatedly.

In your general statement, you say that receipts generated by Interior's bureaus and offices included in this bill will total approximately $1.4 billion in 1971. Please discuss for the committee the current situation with regard to your revenue-producing activities.

Secretary HICKEL. I will have Assistant Secretary Dole respond to your question.

Mr. DOLE. Probably the largest area in which we collect funds is for the royalties and lease/sales of oil and gas on the offshore areas. I think that we can look forward in the years to come to this increasing, as we are now just barely getting out into the offshore areas.

OIL LEASING IN CERTAIN CALIFORNIA AREAS

Mrs. HANSEN. In context with this statement, Mr. Dole, what about the discussion that has been going on in California to the effect that no more leases should be granted in certain areas? The Santa Barbara channel is a classic example.

Isn't it true that your oil leasing is a basic component of the land and water conservation fund?

Mr. HITE. That is correct.

Mr. DOLE. But as far as the Santa Barbara area goes, it certainly has to be, as the Secretary has said, an inventory of the various lands in order to determine what best they might be used for, and what hazards might exist, so that we can utilize these and develop them to a better and to a higher degree.

Now the oil and gas royalties will continue. The offshore oil and gas royalties will continue to generate a great deal of cash for the Federal Government as well as a great deal of energy, and energy that is very badly needed.

I think also that onshore, especially in coal, there will be considerable revenue derived from this because, as you folks well know, the energy demands of the country are so great we will have to do this if we are going to have the electricity which you referred to earlier in your statement.

So it is within the area of the offshore that is going to be the largest, but the onshore is still going to contribute a great deal of revenue.

Source of Revenues Generated by Interior

Mrs. Hansen. I think at this point it might be well for you to put in the record a listing of your revenues, item by item.

Mr. Hite. I have a detailed listing which I will submit.

(The listing follows:)

DEPARTMENT OF THE INTERIOR, EXCLUSIVE OF THE BUREAU OF RECLAMATION, POWER MARKETING AGENCIES, AND FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

APPROPRIATIONS COMPARED WITH RECEIPTS (EXCLUSIVE OF TRUST FUNDS)

	1969 actual	1970 estimate	1971 estimate
APPROPRIATIONS			
Annual definite	$972,883,735	$1,022,149,100	$1,181,884,600
Annual indefinite	22,831,044	20,423,000	22,615,000
Permanent	158,751,542	171,071,261	179,965,113
Total	1,154,466,321	1,213,643,361	1,384,464,713
RECEIPTS			
Admission fees and concessions	1,581,692	1,646,100	1,683,100
Receipts from sale of refuge products	4,225,133	4,735,000	4,500,000
Grazing fees	6,096,130	6,562,700	7,015,700
Revenue, Oregon and California and Coos Bay Wagon Road lands	66,188,750	66,022,053	73,997,800
Sale of sealskins and other products	4,941,024	5,022,375	5,424,525
Oil, gas, and mining royalties and rents	130,750,697	140,531,500	148,957,000
Receipts, mineral leasing, Outer Continental Shelf	428,278,499	292,000,000	970,000,000
Interest on and repayment of principal to certain funds	1,045,519	1,451,000	1,551,000
Collections, reclamation fund, Bureau of Land Mangement:			
Receipts from mineral leasing, public lands	61,037,986	63,019,000	64,000,000
Other receipts	5,490,069	6,729,300	6,910,300
Total collections, reclamation fund	(66,528,055)	(69,748,300)	(70,910,300)
Miscellaneous rentals, fees, and permits	651,229	3,114,605	4,629,170
Collections and services to Indians	10,932,642	10,389,000	10,571,000
Recoveries and refunds	1,488,340	1,297,450	1,306,050
Sale of public lands, buildings, and other property	199,698	580,100	621,400
Receipts, land and water conservation fund	8,271,473	8,154,135	7,949,000
Unclassified receipts	79,124	108,091	109,625
Gross proprietary receipts	731,258,005	611,362,409	1,309,225,670
Less duplication (Receipts from mineral leasing, public lands, collected by Bureau of Land Management included in "Oil, gas, and mining royalties and rents" and "Collections, reclamation fund")	61,037,986	63,019,000	64,000,000
Net proprietary receipts	670,220,019	548,343,409	1,245,225,670
Collected by Interior not deducted in printed budget:			
Governmental receipts	10,739,530	9,829,747	9,326,990
Interest on loans and advances	540,107	1,204,540	800,000
Collected by other Federal agencies:			
Receipts, land and water conservation fund	64,749,527	85,845,865	80,051,000
Receipts, Federal aid in fish restoration and management	9,228,299	11,903,719	13,128,000
Receipts, Federal aid in wildlife restoration	31,371,605	33,081,322	36,272,000
Receipts, promote and develop fishery products and research pertaining to American fisheries	7,412,775	7,636,413	7,636,413
Internal Revenue collections for Virgin Islands	12,867,871	11,517,538	12,500,000
Total net receipts	807,129,733	709,362,553	1,404,940,073
Net difference, amount by which appropriations exceed net receipts	347,336,588	504,280,808	−20,475,360

Mrs. HANSEN. Read some of the larger items.

OUTER CONTINENTAL SHELF RECEIPTS AND OTHER RECEIPTS

Mr. HITE. The largest single item in the revenue estimate for 1971 is the receipt figure for the outer continental shelf at $970 million. I have a breakdown of this figure also. Receipts from the sale of refuge products amount to $4.5 million. Grazing fees are $7 million. The receipts from the Oregon and California Coos Bay Wagon Road Lands are $73.9 million.

Our receipts for mineral leasing on public lands are $64 million. These are some of the most significant items that are included in this $1.405 million estimate.

Mrs. HANSEN. It is interesting to note that the sources of most of the large receipts are now under attack. For example, the oil and gas leasing, strip mining, and mining royalties.

ADVISING THE PUBLIC ABOUT INTERIOR PROGRAMS

What is the Department doing about presenting facts to the people of the United States about the Department's offshore leasing, and the integral cost that is involved in the prevention of future oil leaks? What is the Department doing?

Secretary HICKEL. We don't have the program thought out completely yet. We are doing this with industry on an individual basis. We started with and brought in the oil industry. We have done it somewhat with the coal industry.

REGULATIONS REGARDING USE OF RESOURCES

What we have to do is say that this resource, whatever it might be, is not only usable but must be used in accordance with certain regulations and cost factors. I think the reason the hue and cry is against oil, for instance, or against mining perhaps, is that we have been allowing things to happen on public lands, especially where we have jurisdiction, that have not been in the best interest of the public from the standpoint of desecrating the land. We must restore it, we must have safety precautions on drilling regulations, et cetera. This I call zoning of the land to its highest use.

When we do that, and when we point out what we are doing, the public will accept it. I think the reason for the hue and cry is that there haven't been any guidelines about how this should be done. Not to be critical of Government or industry, but we have relied on industry to say we want this section, and then we nominate it for them.

But in essence, we only have the knowledge that we can pick up from industry. I will say this, it is not a good way to run a business. You wouldn't run your business that way. I don't think the Government should.

The Government has got to accept the whole idea that it is in business in those areas in which it owns things, and then there won't be this hue and cry.

Mrs. HANSEN. This is the point of my question. Mr. Secretary, we are never going to be able to provide this necessary knowledge unless the budgets are substantially increased.

EROS PROGRAM

Secretary HICKEL. The EROS program, for example, which doesn't require a lot of money, and we did put a real battle up for it, we were only talking about $8 million—this project would help us catalog our resources.

It would help us do that. This doesn't mean we will give up. We will have to sell our program and we will have to put it in some priority.

I think the Administration did have a difficult time in trying to confine its budget and yet do the things we are trying to do, but this EROS program, for one, is one that will do it. We will use a satellite to inventory our resources.

Mrs. HANSEN. This can be the single most important method for acquiring knowledge of our resources.

Secretary HICKEL. That is right.

Mrs. HANSEN. We are shortsighted if we don't do it. It will be just like pollution.

FUNDS IN BUDGETARY RESERVE

Mrs. HANSEN. How much of the EROS money is in the 1970 reserve?

Mr. HITE. None of the EROS money is in reserve. The $1.1 million that is in the 1970 column of the budget is all we have for EROS. The balance of the 1970 money, the $3 million, was reprogramed to defray pay costs.

Mrs. HANSEN. We will get to the full list of reserves in a minute. This committee is very interested to see what is in reserve.

It is a sizable sum of money.

DEPARTMENTAL REORGANIZATION

The committee would be interested in hearing a summary review of any major reorganizations you have instituted in the Department during the past year, and any which you anticiapte for the immediate future.

Secretary HICKEL. I don't have our reorganizational program approved yet, but I will talk in generalities and then we can add to that.

When we first came in there was just Undersecretary Train, myself, and an executive assistant, and we had Santa Barbara, and that was sort of a hectic time. I am not apologizing for it. I am just saying I was on the run for about 4½ months.

Mrs. HANSEN. You had Santa Barbara, too.

Secretary HICKEL. That is what I am talking about. At that time we were just coming in new, and there were only three people aboard. Four days later Santa Barbara blew and I had to concentrate on it. We moved budget down to the Under Secretary at his request. He said, "I will watch it because you won't be able to do this." We took the legislative counsel and put it in his office at the same time. We were experimenting. It was of necessity just because we couldn't stop to organize.

Since that time we discussed it with the Under Secretary, and, by the way, he even moved to the fifth floor because he didn't have room. He suggested when he left—Under Secretary Train talked to me and said his office should move back up on the sixth floor. Then we put the legislative counsel back in the Solicitor's office. We put budget back with the

Assistant Secretary for Administration. Then we had the new Program Planning and Coordination area. I placed John Quarles in charge of this office. I found myself with enough employees in the office but not in the right places. We were not staffed on the Secretary's level to really do the new programing; and the policymaking that I thought we should. That is why we brought John Quarles up to set up this new thrust all in one area.

We are now staffed to the point that when we come up with these new ideas and new programs, such as oceanography, research and what we can do for commercial fish, and how we catalog an inventory, and so forth.

Mr. Quarles works with each bureau and office. If they have a new program we can try to put it in legislative form if that is necessary or Executive Order if that can be done. So in the general area of those new programs, without the Bureau of Indian Affairs which I will talk about separately, I have strengthened the staff of the Secretary to where we can initiate new programs and put those new programs in legislative form that we figure are acceptable and attainable. So at that level you will find that is what we have done.

John, would you like to comment on anything I missed? Or Larry? Did I miss anything in the general way of what we are doing?

We have requested—let's see, could I talk off the record?

Mrs. HANSEN. Surely.

(Discussion off the record.)

Mrs. HANSEN. On the record.

I congratulate you, Mr. Secretary, on your very forthright proposals. I don't think there is anything quite as important as an Assistant Secretary for Indians.

ENVIRONMENTAL FUNCTIONS AS PART OF DEPARTMENT

I also think it is very important that environmental functions not be transferred from the Department of the Interior.

Secretary HICKEL. I would like to talk on that one.

Mrs. HANSEN. They are an innate part of the Department.

Secretary HICKEL. I made a very strong point to the Executive that at no time, regardless of where natural resources go, you can't separate natural resources from environment. If you plant a tree or cut a tree it changes something. If you drill a well or mine coal you change the environment and how people live. There is a school of thought, and I would like your support on this if you agree, that we should separate and have one Department for development and one Department for environment. I will tell you why this is wrong. The place to keep the environment from being desecrated is where you start the development. So if we set down the rules and guidelines of how we should have an open pit mine so we don't desecrate the looks of the area, and it is restored when it is worked over, we must set those guidelines. If you have a steel mill and we set the guidelines that you will not pollute the air and water and you will protect against the unsightliness of the area, then we don't have to worry about the environment. It is done at the start of the development process. Fishing, timber, or mining, whatever it is. If we do it and keep it in one Department, then we will really solve the problem and we won't have this great conflict where there are two Departments fighting about it.

Mrs. HANSEN. I completely agree with the Secretary on this matter.

Mr. WYATT. I would like your ideas as to the line of demarcation between the Department of Interior activities and the new Council on Environmental Quality, because we have here the seeds of starting a separation of the two factors that you mentioned.

Secretary HICKEL. I wonder if I should be on the record on this.

Mrs. HANSEN. It can be on the record. I agree with Mr. Wyatt. I think it is a sad mistake that the Council on Environmental Quality funding has not been assigned to this particular committee. It has been through the active efforts of this committee that proper attention has been focused on the 754 million acres of public land.

Secretary HICKEL. That is right.

Mrs. HANSEN. And on our offshore lands. This is the committee that has dealt with these problems over the years.

Secretary HICKEL. I can answer your question a bit on the record.

Mr. WYATT. On or off the record.

Secretary HICKEL. Start on the record first. I think right now the Environmental Council is looking at the picture of all departments such as air pollution, which we don't have, or solid waste. But basically their contact for environmental problems will be in Interior. I think it is advisory at this point to the President. I think that the President's Environmental Council—the Council on Environment, the Cabinet level one he appointed last April, was functioning well.

Now I would like to go off the record for your information and you can use it the way you want.

(Discussion off the record.)

FUNDS PLACED IN BUDGETARY RESERVE

Mrs. HANSEN. I understand that pursuant to directives issued by the Bureau of the Budget, there have been placed in reserve various funds appropriated by the Congress for specific projects.

Please describe for the committee the general policies your Department followed in this connection.

Secretary HICKEL. OK. I will ask Mr. Hite to start on that.

Mr. HITE. Madam Chairman——

Mrs. HANSEN. Please exeplain how every congressional add-on ended up being placed in reserve.

Mr. HITE. Employing the rationale of the Bureau of the Budget, these congressional add-ons were placed in reserve in order that we would not add to the expenditure ceiling placed upon us for the fiscal year 1970.

Mrs. HANSEN. Mr. Hite, we observed a ceiling in this committee. We were very cautious about appropriating funds when we approved the add-ons.

It is very strange that everything Congress thought was important, was put in reserve.

You can't explain this any more than I can.

Mr. HITE. I can't, but I am trying to give you the rationale that the Budget Bureau employed in impounding congressional add-ons.

Mrs. HANSEN. That is not a rational institution.

Mr. HITE. Part of this was also——

Mrs. HANSEN. I can say it. You can't.

Mr. WYATT. It is an institution.

CONSTRUCTION CUTBACKS IN FORCE

Mr. HITE. A lot of this was also pursuant to the construction cutback which is in force.

Mrs. HANSEN. I think Mr. Wyatt's district and my district has about a 7.3 percent unemployment ratio right now. Don't you think it is about time we took that construction limitation off so that we don't have a 10 percent welfare load?

Mr. HITE. Madam Chairman, I don't have the picture. It doesn't——

Mrs. HANSEN. I am concerned.

Mr. HITE. Yes, Madam Chairman.

Secretary HICKEL. That is a concern of a lot of people.

Mrs. HANSEN. When you slow up construction, you retard so much of the overall activity of this Nation. We have always been a Nation that forged ahead. We have been builders. We have been doers. Mr. Hite, you haven't told me why the congressional add-ons were the Bureau of the Budget's chief target.

Did the Bureau figure that we are going to add them on anyway and they might as well start cutting there?

Mr. HITE. I really couldn't say that that is their philosophy of life, Mrs. Hansen. It certainly is true——

Mrs. HANSEN. This is my fourth year of breaking through the——

Mr. HITE. These are impounded with regularity.

Mrs. HANSEN. They are cut before they ever get to this committee. Do you know the interesting part? Each and every member of the committee had his projects cut.

Mr. HITE. I am aware of this.

Mrs. HANSEN. Why do you suppose this is done, Mr. Hite?

Mr. HITE. Well, I can't attribute any vindictiveness to the Budget Bureau.

Mrs. HANSEN. Don't you suppose they go through an exercise in challenging the Congress to see what will be put back?

Mr. HITE. It certainly seems so.

Mrs. HANSEN. I don't think it is a very honest challenge. This committee will continue to fund what the committee considers important. If there is one thing that I am dedicated to, it is the belief that there are three branches of government and each one is entitled to its opinion, Congress should act like Congress. The Executive should act like the Executive.

Mr. HITE. It is true that if there were no expenditure controls, that these funds——

Mrs. HANSEN. I don't mind expenditure controls a bit. But this is a very singular thing. The expenditure controls are limited to the congressional add-ons.

Mr. HITE. And the construction cutback.

Mrs. HANSEN. Those very interestingly enough were largely congressional add-ons.

Mr. HITE. That is true.

Mrs. HANSEN. Can you tell me the rationale for holding back funds for a forest laboratory that is going to do vital work in increasing timber production? How are we going to develop a better species of trees and faster growing trees?

USE OF O. & C. LAND MONEY IN ALASKA

That is a ridiculous cutback. Can you tell me a good reason why the Bureau of the Budget decided to take O. & C. land money and use it in Alaska?

Mr. HITE. No, Madam Chairman, I can't advance any rationale.

Mrs. HANSEN. This is what I am asking you. What is their rationale?

We have no repugnance about spending money in Alaska. But let's not take it out of the O. & C. lands. What economy was there in holding back funds for feeding fingerlings in hatcheries? That is not construction.

Secretary HICKEL. Maybe that is tied into the population cutback.

Mr. HITE. As you know, Mrs. Hansen, the Department goes forward on its own initiative during the formulation of the administration's budget with many items which we feel are of considerable priority which fall victim to the constraints of a tight budget, and to the expenditure controls. So we can only advance what we know of the administration's posture——

Mrs. HANSEN. Let me discuss another item.

JAIL AT GALLUP, N. MEX.

You are familiar with the Gallup Jail. I visited Gallup last year and we went through that jail. It is a disgrace. We talk about crime and law and order. You will never have law and order any place until you have better facilities for crime correction. This is a major part of crime correction.

CROW RESERVATION JAIL

The Crow jail is in as disgraceful a condition. There is a holdback of $400,000.

NAVAJO IRRIGATION PROJECT FUNDING

If there is one thing on earth the Navajos need it is food. There is only one way to get it. That is through irrigation, isn't it?

Mr. HITE. Yes.

Mrs. HANSEN. I notice $2 million is reserved on the Navajo irrigation project. Which is cheaper, to let the Indians work on an irrigation project, or pay welfare?

FUNDS FOR FISH FINGERLING PROGRAM

Mr. WYATT. Madam Chairman, if I may also at this point on the fingerling question, which the chairman and I were so interested in, we last year added to the budget $180,000 for full planning of the fingerling salmon. One of the hatcheries that I am acquainted with, approximately 9 to 10 million fingerlings would have been destroyed for want of this $180,000. There was a truck actually loaded with some of them prepared to start dumping by the time the decision was finally made to restore it and the word hadn't gotten back out to the Northwest to stop.

We managed to stop it, but it was that close to having this resource just totally destroyed for want of $180,000.

Mrs. HANSEN. I hope the Bureau of the Budget never goes fishing.

Mr. WYATT. I would like to take them fishing.

Mrs. HANSEN. We have been talking about air pollutants. It is necessary that we develop research to abolish the fly ash content of coal. The $1 million for the Pittsburgh Midway project is held up. Yet you can't use the coal in the West at all for these purposes until we have the answers. Now we get down to catfish research. That is not construction.

FUNDS FOR PESTICIDE RESEARCH

Great Lakes pesticides research is being held up. We have everybody making speeches on what pesticides are doing and the Bureau of the Budget reserved $200,000. That doesn't make sense.

Secretary HICKEL. Could I suggest something here? I think I was at the meeting when this came up. Weren't they trying to consolidate a lot of governmental research from that in various departments? Does anyone remember that?

Mr. KLEIN. We have $160,000 out for research on pesticides already, so this would be duplicative.

Secretary HICKEL. Something came up on that.

Mrs. HANSEN. Why don't we get answers?

Mr. KLEIN. It is still going on with the States.

Mrs. HANSEN. The States are doing it.

Mr. KLEIN. We furnished $160,000 in Federal funds.

Mrs. HANSEN. So you didn't get the $200,000.

Mr. KLEIN. That would have been more or less duplicative in that line. We have a Great Lakes Council on this right now.

Mrs. HANSEN. Why do all the States in those areas come in and ask for this money, Mr. Klein. They state, for example, that Lake Erie is practically dead. You have problems in Lake Michigan. You have

problems in every one of the Great Lakes. They say that research isn't going forward fast enough.

Secretary HICKEL. I think she has a good point.

RESOURCE DISASTER AID

Mrs. HANSEN. We have resource disaster aid funds reserved. At the same time I have a letter on my desk from the Speaker of the House of Representatives expressing his concern about the fishing programs of the Northeast.

QUINAULT FISH HATCHERY

I am glad to see that you have some money in the 1971 budget for Quinault, but you reserved $113,000 of the 1970 appropriation. It isn't much use to build a hatchery without providing rearing ponds. This is a silly way to do business. Again this affects the Indians. This relates to a major part of their food consumption. It is a major part of their economy. Is it cheaper to provide them a way to earn their living and to contribute to the fish resources of the entire Northwest or is it better to put them on relief? I say put them in an economic status where they can earn their money.

OTHER PROGRAM HOLDBACKS

We have the Panama City laboratory funds impounded. Obviously this money was to be used to answer some of the vexing problems we have with sport fish.

We have holdbacks on items the National Park Service came up and asked for.

This is just foolishness. I can understand limitations on visitor centers. But I can't understand why they would hold back $5,000 on sign construction that could prevent some poor soul from driving over a bluff. This doesn't make sense.

Please insert the complete list of items placed in reserve in the record.

(The information follows:)

Statement of amounts in budgetary reserve as of Jan. 31, 1970, Interior and related agencies appropriations

Bureau or office and appropriation title	
Public land management:	
Bureau of Land Management:	
Construction and maintenance	$75,000
Public land development roads and trails (liquidation of C.A.)	[1] 51,731
Total	126,731
Bureau of Indian Affairs:	
Construction	[2] 400,000
Road construction (liquidation of C.A.)	[3] 25,759,878
Total	26,159,878
Bureau of Outdoor Recreation: Land and water conservation	[4] 32,500,000
Total	32,500,000
Office of Territories: Administration of territories	171,215
Total	171,215
Total, public land management	58,957,824
Mineral resources:	
Geological Survey: Surveys, investigations and research	171,415
Total	171,415
Bureau of Mines: Health and safety	[5] 15,390
Total	15,390
Office of Coal Research: Salaries and expenses	2,000,000
Total	2,000,000
Total, mineral resources	2,186,805
Fish and wildlife, parks, and marine resources:	
Bureau of Commercial Fisheries:	
Management and investigations of resources	627,000
Federal aid for commercial fisheries, research and development	563,000
Total	1,190,000
Bureau of Sport Fisheries and Wildlife:	
Construction	[2] 9,764,000
Migratory bird account	800,000
Total	10,564,000
National Park Service:	
Construction	[2] 652,000
Parkway and road construction (liquidation of C.A.)	[6] 39,012,250
Total	39,664,250
Total, fish and wildlife, parks, and marine resources	51,418,250
Total, Department of the Interior, other than Reclamation, Power Marketing agencies and Federal Water Pollution Control Administration	[2] 112,562,879

[1] Excludes $5 million of fiscal year 1971 C.A. and $5 million of prior year C.A. temporarily released from reserve to cover firefighting costs.
[2] Excludes $8,873,000 release of reserves to Bureau of Land Management for fire suppression under section 102, Public Law 91-98, October 29, 1969, as follows:
BIA (construction account) $4,675,000.
BSF (construction account) $1,298,000.
NPS (construction account) $2,900,000.
[3] In addition $30 million of fiscal year 1971 C.A.
[4] Includes $30 million of fiscal year 1970 contract authority.
[5] Not available for obligation after September 30, 1969.
[6] In addition $41 million of fiscal year 1971 C.A.

Items in budgetary reserve for fiscal year 1970—Bureau of Land Management

List of items, by appropriation, that were in the budget	Amount
Construction and maintenance appropriation	$75,000
Unprogramed construction fund	43,000
Deferral of constructing plains recreation site, Wyoming	32,000
Public lands development roads and trails appropriation	[1] 10,051,731
Unprogramed road construction funds	8,626,431
Deferral of construction of Black Rock Road, Arizona	158,600
Deferral of construction of Squaw Leap Road, California	53,600
Deferral of construction of Squaw Leap Trail, California	65,100
Deferral of construction of Squaw Leap Bridge, California	43,100
Deferral of construction of Butte Creek Trail, California	5,300
Deferral of construction of Chaffee Gulch Road, Colorado	93,500
Deferral of construction of Shoshone Road, Idaho	69,100
Deferral of construction of Deep Creek Road, Idaho	52,500
Deferral of construction of Cottonwood Road, Montana	87,200
Deferral of construction of Red Rocks Trail, Nevada	275,100
Deferral of construction of Mescalero Sands Road, New Mexico	12,600
Deferral of construction of Baylor Pass Trail, New Mexico	32,600
Deferral of construction of Pine Tree Trail, New Mexico	26,300
Deferral of construction of Quebradas Road, New Mexico	51,500
Deferral of construction of Santa Cruz Trail, New Mexico	28,400
Deferral of construction of Owhee Access Road, Oregon	56,700
Deferral of construction of Hatch Point Road, Utah	238,400
Deferral of construction of Boulder Creek Road, Wyoming	43,100
Deferral of construction of Muddy Mountain Loop Road, Wyoming	32,600

[1] $10 million of this amount has been temporarily released from budgetary reserve to cover firefighting costs under sec. 102 of the general provisions Department of the Interior and Related Agencies Appropriation Act, 1970.

Bureau of Indian Affairs

List of items, by appropriation, that were in the budget

Construction:	Amount
Buildings and utilities:	
Colorado River jail	[1] $250,000
Major alterations and improvements	[1] 763,100
Irrigation systems:	
Michaud unit	[1] 100,000
Fort Peck	[1] 106,026
Middle Rio Grande	[1] 38,000
Miscellaneous Pueblos	[1] 7,874
Navajo project	[1] 1,410,000

List of items, by appropriation, that were congressional add-ons

Construction:	
Buildings and utilities: Crow jail	400,000
Irrigation systems: Navajo project	[1] 2,000,000
Total	5,075,000

[1] Withdrawn for temporary transfer to BLM for firefighting under section 102, general provision, Interior Act, 1970.

Items in budgetary reserve for fiscal year 1970

List of items, by appropriation, that were in the budget

Bureau of Indian Affairs:	*Amount*
Road construction: Federal-aid highway roads	[1] $55, 759, 878
Total	55, 759, 878

List of items, by appropriation, that were in the budget

Bureau of Outdoor Recreation:	
Land and water conservation:	
Biscayne National Monument	$2, 500, 000
Contract authority	30, 000, 000
Total	32, 500, 000

[1] Includes $30 million in contract authorization for fiscal year 1971.

Note: Both amounts are expected to be released for use in fiscal year 1970 as soon as outstanding questions are resolved on Biscayne, and Budget Bureau and Appropriations Committee clearances received on the use of contract authority.

OFFICE OF TERRITORIES

List of items, by appropriation, that were in the budget

The reserve of $171,215 represents fiscal year 1969 carryover balances that are being applied to the following fiscal year 1971 programs, thereby reducing the respective requests for new appropriations in fiscal year 1971 as presented in the fiscal year 1971 budget estimates:	*Amount*
Administration of territories:	
Governor's office, Virgin Islands	$20, 363
Comptroller's office, Virgin Islands	[1] 11, 362
Comptroller's office, Guam	[1] 139, 490
Total	171, 215

[1] These carryover balances of funds represent transfers to this appropriation made available to finance expenses of the Offices of the Comptrollers for the Virgin Islands and Guam as authorized by Public Law 90-496 and Public Law 497, respectively.

List of items, by appropriation, that were congressional add-ons

None	0
Total	171, 215

GEOLOGICAL SURVEY

List of items, by appropriation, that were in the budget

Surveys, investigations, and research	
Minerals discovery loan program	$171, 415
Prior year funds in excess of the amount estimated in the 1970 budget. These funds are now budgeted for use in 1971.	

List of items, by appropriation, that were congressional add-ons

None	0

NOTE.—Of the $4,100,000 appropriated for EROS, $3,000,000 was reserved and later released for increased pay costs.

BUREAU OF MINES

List of items, by appropriation, that were in the budget

Health and safety	[1] $15, 390

List of items, by appropriation, that were congressional add-ons

None	0

[1] Not available for obligation after September 30, 1969.

OFFICE OF COAL RESEARCH

List of items, by appropriation, that were congressional add-ons

1. Lignite gasification project pilot plant, Rapid City, S. Dak., Consolidation Coal Co., contract No. 14-01-0001-415	[1] $1,000,000
2. Low-Ash coal project, the Pittsburg & Midway Coal Mining Co., contract No. 14-01-0001-496	[2] 1,000,000
Total congressional add-ons	2,000,000

[1] Final appropriation add-on was for $2 million ($1 million more than fiscal year-1970 budget request). The $1 million is in budgetary reserve.

[2] Fiscal year-1970 budget did not contain a request for funds for this project. The add-on was $1 million. OCR is proposing reprograming $600,000 for use on a lower level scale of effort on this project, with the balance of $400,000 in budgetary reserve.

BUREAU OF COMMERCIAL FISHERIES

List of items, by appropriation, that were congressional add-ons

Management and investigations of resources:	
Jellyfish control, Public Law 89-720	$42,000
Menhaden research	13,000
Catfish research	152,000
Great Lakes pesticides research	200,000
Designing of fish protective devices	20,000
Research on fish migration over dams	200,000
Total	627,000
Federal aid for commercial fisheries research and development: Resource disaster aid, sec. 4(b) of Public Law 88-309	563,000
Total congressional add-ons	1,190,000

BUREAU OF SPORT FISHERIES AND WILDLIFE

List of items, by appropriation, that were in the budget (identify project)

Construction:	
National Fisheries Center and Aquarium, Washington, D.C.	$9,175,000
Eastern Gulf Marine Laboratory, Panama City, Fla	255,000
National wildlife refuge:	
Chincoteague, Va	85,000
J. C. Saylor, N. Dak	19,000
Long Lake, N. Dak	4,000
Pahranagat, Nev. (1969 appropriation)	16,000
Total, construction	9,554,000

List of items, by appropriation, that were congressional add-ons

National fish hatcheries:	
Wolf Creek, Ky	281,000
Quinault, Wash	113,000
Lahontan, Nev	155,000
Allegheny, Pa	30,000
Saratoga, Wyo	33,000
Eastern Gulf Marine Laboratory, Panama City, Fla	655,000
Western Gulf Marine Laboratory, Port Aransas, Tex	45,000
National wildlife refuges:	
Okefenokee, Ga	40,000
Wichita Mountains, Okla	130,000
Waterfowl production areas, South Dakota	26,000
Total	1,508,000
Migratory bird conservation account	800,000
Total congressional add-ons	2,308,000

NOTE.—$1,208,000 of construction funds were withdrawn for temporary transfer to BLM for firefighting under sec. 102, general provisions, Interior Act for FY 1970.

NATIONAL PARK SERVICE

List of items, by appropriation, that were in the budget

Construction—buildings, utilities, and other facilities:	
Northeast region:	
Gettysburg NMP (Pa.): Cemetery annex development	$76, 000
Independence NHP (Pa.): Rehabilitate Old City Hall (portion)	[1] 87, 000
Statue of Liberty NM (N.Y.): Sewage system	134, 000
Southeast region:	
Cape Hatteras NS (N.C.): Dune stabilization and rehabilitation	86, 000
Great Smoky Mountains NP (N.C. and Tenn.): Smokemont water system improvement	68, 000
Western Region:	
Crater Lake NP (Oreg.): Annie Springs water and sewer systems, concessioner development	[1] 182, 000
Lake Mead NRA (Ariz.): Water storage reserves, Boulder Beach	78, 000
Lassen Volcanic NP (Calif.): Manzanita Lake water and sewer extension to concessioner's cabins	16, 000
Mount Rainier NP (Wash.): Headquarters, administration building and grounds improvement	214, 000
Pinnacles NM (Calif.):	
East side development portion	60, 000
Sewer line extension, Bear Gulch	23, 000
Point Reyes NS (Calif.): Visitor Trail Head comfort stations and grounds improvement	15, 000
Sequoia-Kings Canyon NPs (Calif.): Sewage facilities	750, 000 [1] 313, 000
Yosemite NP (Calif.):	
Glacier Point, reconstruct sewage system	114, 000
Tuolumne Meadows, sewer system and comfort station	13, 000
Valley reconstruct sewage pump stations	[1] 70, 000
Midwest Region:	
Fort Union Trading Post NHS (N. Dak.): Signs, pit toilets, and utilities	17, 000
Jewel Cave NM (S. Dak.): Headquarters, visitor center	452, 000
Yellowstone NP (Wyoming):	
Bridge Bay, utility extensions, concessioner's camp service building	5, 000
Canyon, utility extensions, food service building	12, 000
National Capital Region:	
Baltimore-Washington Parkway (Md.):	
Greenbelt Park, camptender's residence	37, 000
Utilities for campground and camptender's station	37, 000
C. & O. Canal (Md. and D.C.):	
Violet's lock (Maryland), comfort station and utilities	30, 000
Park system general (District of Columbia):	
Development for visitor use of Fort Circle parks	127, 000
Development of Ellipse	221, 000
Development of Watts Branch and Fort Circle	299, 000
Ice skating rink, Lansburgh Park	189, 000
Small parks and reservations	140, 000
Total buildings, utilities, and other facilities	3, 552, 000

[1] All amounts not footnoted have been withdrawn for temporary transfer to BLM for firefighting as provided for under sec. 102, General Provisions, Interior Act for Fiscal Year 1970.

List of items, by appropriation, that were in the budget

Parkway and road construction (liquidation of contract authority):	
Southeast Region:	
Blue Ridge Parkway (N.C. and Va.):	
Parkway, general:	
Grade separation stuctures and relocation of roads (portion) (BPR)	$215,000
North Carolina:	
Sign construction and erection (portion)	5,000
Grandfather Mountain grading, drainage, base, structures; Paxton Creek to Rough Ridge (portion) (BPR)	805,000
Virginia:	
Sign construction and erection (portion)	5,000
Relocation of roads and grade separation structures	139,000
Colonial Parkway (Va.): Williamsburg: grade separation, Broadway (BPR)	366,000
Foothills Parkway (Tenn.): Pigeon River to Cosey, final surfacing, guardrails and incidentals	299,000
Natchez Trace Parkway (Ala., Miss., and Tenn.):	
Mississippi:	
Parkway general: Traffic control, striping, information signs, and erosion control and ROW stabilization	13,000
Clairborne-Jefferson County line to Mississippi Highway 552, grade, drain, base, structures and surface treatment (BPR)	483,000
National Capital region:	
Baltimore-Washington Parkway (Md.): Greenbelt, foot trails, clearing and grading	19,000
George Washington Memorial Parkway:	
Directional, traffic, entrance and interpretive signs, Vernon to circumference highway	32,000
Trail system (complete) Columbia Island	259,000
Rock Creek and Potomac Parkway (District of Columbia):	
Replace bridge, L Street on Rock Creek	238,000
Total parkways (programed)	2,878,000
Total unprogramed	14,610,000
Total in reserve	17,488,000
Parkway and road construction (liquidation of contract authority)	
Roads and Trails:	
Northeast region:	
Acadia NP (Maine): Headquarters area entrance road and parking (125 cars) walks, utility court and walls	$180,000
Assateague Island NS (Md. and Virginia): Maryland: North Beach entrance road (portion) (BPR)	489,000
Delaware Water Gp NRA (Pa. and N.J.): Pennsylvania:	
Slateford Creek:	
Entrance road (BPR)	272,000
Visitor parking, entrance facility	88,000
Park road (BPR)	173,000
Fire Island NS (New York): Park General:	
Construct vehicle dune crossing and visitor use trails	285,000
Trails and parking	330,000

Roads and Trails—Continued	
Southeast region:	
Everglades NP (Fla.); Shark Valley:	
Rehabilitate Loop Road, 14 miles	$455,000
Connecting road	217,000
Great Smoky Mountains NP (N.C. and Tenn.): North Carolina: Cataloochee Road (inside park) (BPR)	182,000
Shenandoah NP (Va.):	
Matthews Arm Campground, Paving, entrance road, and Parking Area	31,000
Grade separation and interchange, Swift Run Gap (BPR)	770,000
Vicksburg NMP (Miss.):	
Replacement Bridge over Glass Bayou (BPR)	256,000
Replacement bridge over Illinois Central RR., South Confederate Ave. (BPR)	54,000
Replacement bridge over Illinois Central RR., Southeast Union Ave. (BPR)	64,000
Virgin Islands NP (V.I.): Cinnamon Bay entrance road, parking area, and trails (portion)	22,000
Southwest region:	
Arbuckle RA (Okla.):	
The Point: Parking area at boat launching ramp	125,000
Buckhorn Rock:	
Entrance road	47,000
Entrance road and parking, I and P station	6,000
Canyon de Chelly NM (Ariz.): South Rim Road (complete)	452,000
Grand Canyon NP (Ariz.): South Rim Village Access Road, parking and walks at administration building	18,000
Mesa Verde NP (Colo.): Wetherill Mesa service roads and terminal parking, archeological museum	152,000
Petrified Forest NP (Ariz.): Access road extension, Park Route 1 to relocated U.S. 180	298,000
Sanford NRA (Tex.): Sanford-Yake boat launching ramp erosion control	43,000
Wupatki-Sunset Crater NMs (Ariz.): Final bituminous surface, Route 1, sections, C, D, and E (19.7 mi.)	361,000
Western region:	
Crater Lake NP (Oreg.): Annie Springs roads and parking, concessioner development	143,000
Death Valley NM (Calif.): Park general reconstruct Dante's View Road	326,000
Joshua Tree NM (Calif.): Park general reconstruction of Route 1 (portion)	362,000
Lassen Volcanic NP (Calif.): Park general reconstruct Sulphur Works Bridge (BPR)	102,000
Lava Beds NM (Calif.): Park general surface Indian Well Road to northwest entrance	71,000
Point Reyes NS (Calif.): Park general slope stabilization (Route 1, section A)	37,000
Whiskeytown NRA (Calif.): Brandy Creek surface parking area and launching ramp, concession area	208,000
Yosemite NP (Calif.): Tuolumne Meadows:	
Reconstruct approach road to lodge	123,000
Roads and parking New Yosemite Park and Curry County corrals	81,000
Parking area development	14,000
Valley, parking and walks, lodge development	31,000
Fort Union Trading Post NHS (N. Dak.): Grade and base parking	2,000
Jewel Cave NM (South Dakota): Headquarters surface trails and walks	30,000

Roads and Trails—Continued	
Western region—Continued	
Yellowstone NP (Mont. and Wyo.)	
Reconstruct roads, Grant Village, village to Arnica Creek (West Thumb Bypass) and Construct Parking Area (BPR)	$1, 213, 000
Reconstruct road, bridge bay to fishing bridge junction (Lake Bypass) (BPR)	720, 000
Reconstruct road; east entrance to entrance to Sylvan Pass (BPR)	543, 000
Grant Village final surface, Grant Village access road	88, 000
Old Faithful parking area expansion	655, 000
Bridge Bay roads, parking, walks, concessioner camp service building	18, 000
Canyon:	
Resurface cabin area roads	178, 000
Resurface cabin area (portion)	51, 000
Roads, parking, and walks, concessioner's office and food service building	82, 000
National Capital region:	
C&O Canal (Md. and D.C.):	
Maryland:	
Violet's Lock parking areas	45, 000
Parking, launching ramp, and reconstruct towpath	127, 000
Hiker-biker camps, various locations	23, 000
District of Columbia: Park system general pedestrian and bicycle way, Watts Branch	30, 000
Washington office: Harpers Ferry NHP (West Virginia & Maryland) Entrance Road, Parking and Walks, Interpretive Center	37, 000
Total roads and trails (program)	10, 710, 000
Total in reserve (unprogramed)	10, 814, 250
Total in reserve	21, 524, 250

POLICY ON RELEASE OF BUDGETARY RESERVE

Mrs. HANSEN. Do you expect the committee to appropriate additional funds so the Bureau of the Budget can put more items in reserve?

Mr. HITE. No; of course not.

Mrs. HANSEN. What will happen? Will they release the items held in reserve?

Mr. HITE. We have no indication that these funds will be released in fiscal 1970, Madam Chairman.

Mrs. HANSEN. What are they saving them for?

Mr. HITE. The Department isn't privy to this information.

Mrs. HANSEN. Do we want 10 percent unemployment?

Mr. HITE. These are impounded by the administration and we have no——

Mrs. HANSEN. No; it is the Bureau of the Budget. President Nixon hasn't the vaguest idea what is in that list. He wouldn't make a speech to Congress on environment if he saw what was in this list. No President on earth can cope with the bureaucracy that exists in the Bureau of the Budget. There are people there that have lasted through four administrations and they will last through four more.

I just want to say that before we make a 1971 appropriation, we want to know what is going to happen to these 1970 hold-backs. How am I going to fund phase 2 of a road when phase 1 is held back?

Mr. HITE. I appreciate that.

Mrs. HANSEN. Will you please advise BOB we have no intention of appropriating money until we see what has happened to the 1970 appropriation.

Mr. HITE. I certainly shall. I appreciate the position.

Mrs. HANSEN. Every road in the National Park Service is generating traffic to help produce Government receipts, isn't that correct?

Mr. HITE Yes.

Mrs. HANSEN. If these moneys are held up, you might as well put up a sign, "This road closed by the Bureau of the Budget." You should put a sign up that says, "You paid your taxes, you paid your fees, but the money is being impounded to pay for something else." We are going to have an accounting before we mark up the 1971 bill. I have no intention of providing more funds for the Budget Bureau to put in cold storage. I think the committee feels just like I do.

Mr. HITE. I will certainly attempt to ascertain from the Bureau of the Budget what the policy will be with respect to our funding. The two significant factors are the continuation of the construction cutback or what the fate of the construction cutback will be in 1971, and the expenditure controls.

FUNDS FOR WATER POLLUTION CONTROL

Secretary HICKEL. The way to win, you can see that in water pollution where it was difficult to get over $214 million, but when you finally come in with a new program you get what you need. That is in areas where you have concern and I have concern, I think that if we collectively can come up with new programs that are far reaching and imaginative enough to not only anticipate the problem, but solve it, I think we can get the money.

In government, what is happening is that there have been programs that go on, and on, and on, and finally they even become—I am not talking about these programs——

Mrs. HANSEN. Your programs are not that way. For example, you have a road in Yellowstone that will only accommodate so many cars with safety. If a slide comes along and that road goes out you jeopardize the lives of people traveling on that road. It isn't a new program that is necessary, but some reconstruction work.

Secretary HICKEL. In those areas where we couldn't get over the problem, such as commercial fish, I think that in that area——

Mrs. HANSEN. The Bureau of the Budget hasn't any comprehension of the necessity to maintain this resource. I can just imagine the individual that reviews that particular item of the budget. I don't have to meet him personally. I just know. He has been there for some time. This has been going on for years. The Bureau of Budget knows the problems today of the crisis generated by thermal heat in our streams.

They know very well what the impact is and ignore them.

Secretary HICKEL. I think in water pollution we can take care of some of the heat problem.

Mrs. HANSEN. That is fine.

Secretary HICKEL. Right, Carl?

Mr. KLEIN. Yes.

COMMERCIAL FISH PROBLEMS

Secretary HICKEL. I think we will be able to attack that one, which indirectly will be related to the whole fishing industry.

Mr. KLEIN. I may say there is a specific project going on in Washington State University on this location on heat.

Mrs. HANSEN. That is good.

If anybody in the Bureau of the Budget ever has been on the Columbia River, or in your State, Mr. Secretary, to see what part of the total economy and of the ecology the fish are, they would have an awareness of what this means to that entire section of our country.

Mr. HITE. We do feel this is a problem, Madam Chairman, that there is not much appreciation of the depth and importance of the programs in the various areas of the country.

Further, we would be in a much better position fiscally if our receipt posture was weighed against our outlay posture at the time our programs were——

Mrs. HANSEN. The committee tried to do this for you year after year, Mr. Hite, because we are aware of how much we contribute to the environment and to man's ability to live and survive.

OPERATIONS UNDER PERSONNEL CEILINGS

We also understand you are currently operating under certain limitations with regard to personnel. May we have your comments in this connection?

Mr. HITE. Our present employment ceiling for 1970 for the programs in the Interior and Related Agencies Appropriation bill, Madame Chairman, is 44,479 permanent positions.

Mrs. HANSEN. You are asking for 46,038 in 1971?

Mr. HITE. That is correct.

Mrs. HANSEN. How do you expect to get that, Mr. Hite?

Mr. HITE. Well, from legislation, Madam Chairman.

Secretary HICKEL. Coal mine safety takes about 800 of those and the Solicitor's Office——

Mrs. HANSEN. What ceilings will be put on this?

Mr. HITE. The answer is, Mrs. Hansen, that as of today, this is a ceiling which has been cleared by the administration for the Department. We would anticipate receiving a position allocation up to this level.

OFFICE OF TERRITORIES EMPLOYMENT

Mrs. HANSEN. I have some intriguing figures for the Office of Territories. Your ceiling for permanent positions in 1969 was 320. In 1970, it is 345. In 1971 it is 368. Yet you expect an expanded program here. It is mandatory that an expanded program be provided.

Now I am not lobbying for additional personnel. I am trying to lobby for you to have the people to do a job. I don't like to see BIA cut, for example, in the field of school teachers or in the field of health workers.

If they are going to cut, they can cut some of those accountants down in BOB.

Mr. HITE. Our present 1971 projection we fully expect to be approved and authorized by the Bureau of Budget.

Mr. LOESCH. A certain amount on territories, of course, the personnel ceiling is lowered to a degree during 1971 by the new situation in both Guam and the Virgin Islands where they will elect Governors. That changes the picture to a degree.

Mrs. HANSEN. We will get to these individual items.

In looking at the overall picture, I think the committee is interested in knowing which direction you are going. You have total positions of 66,976 in the 1971 budget. Yet your ceiling is 61,142?

Why didn't you budget for only 61,000? Do you have to have that surplus so more funds can be placed in reserve?

Mr. HITE. No, I think we are talking about actual employment versus position ceilings and there has to be a certain percentage for——

Mrs. HANSEN. Flexibility?

TURNOVER FACTOR IN EMPLOYMENT

Mr. HITE. Not necessarily, but turnover. People leave. Recruitment must take place against a higher work force, as you know. If you have 10 people in a particular unit, you probably have to recruit for 12 to get up to your 10 that is actually required. So this disparity——

Mrs. HANSEN. 5,000. This is quite a bit.

Mr. HITE. We have heavy turnover.

Mrs. HANSEN. Why?

Mr. HITE. In some areas we really do.

Mrs. HANSEN. Why?

Mr. HITE. In the Park Service, seasonal. In the field of education, the teacher force fluctuates from year to year as the semester ends. Some people don't continue in the forthcoming semester.

We have a number of problems.

Mrs. HANSEN. This is authorized permanent positions. We aren't talking about seasonal positions.

Mr. HITE. Well, teachers, for instance, and even some of these parks people are in permanent positions. They are permanent status but as the season fluctuates and when they are actually in a down period, many leave.

Mr. LOESCH. We always lose a good many teachers in June, you know, in the BIA and we have to go recruit them.

POLICY PRIORITIES SINCE BUDGET FORMULATION

Mrs. HANSEN. Although you were making revisions in your budget estimate as late as December 1969, formulation of the budget estimate commenced several months ago. Have there been any changes in

policy priorities or other situations that may have occurred during the interim which would affect the viability of the budget estimate we have before us today?

Secretary HICKEL. I am trying to analyze the question.

I don't know of any priorities that would change today. Not offhand.

Can any of the Assistant Secretaries think of any priorities? I am sure you know the priorities changed right up until the last moment. Even in January.

Mr. HITE. It is fair to say that none of the Secretary's major priorities have changed.

Mrs. HANSEN. Priorities change the greatest the minute Congress makes the appropriations.

Mr. HITE. Not so for this Department.

Mrs. HANSEN. No, you have been very good as far as you are concerned, Mr. Hite. But don't tell me priorities didn't shift in the BOB?

Mr. HITE. We speak for the Department. In this instance, the Department's priorities have not changed.

Mrs. HANSEN. I know they haven't. But you have another agency that establishes your priorities for you.

Mr. DUNN. Mr. Hite also by innuendo acknowledges what you say is true.

Mrs. HANSEN. I know he can't say it, poor soul. I'm not criticizing Interior at all. I send my message to the Bureau of the Budget.

And I always introduce a resolution each year. There is one up in the Rules Committee now.

OIL SHALE PROGRAM

An article appearing in the October 6, 1969, Washington Post carried the headline "Oil Shale Giveaway Feared—Hickel Denies Senator Hart's Charge on Aluminum Oil Lease." This involves a number of applications by mining firms to lease portions of the oil shale lands in Colorado to mine dawsonite, an aluminum-bearing ore.

Please give the committee a detailed description on what the current situation is in this connection.

Mr. DOLE. This has to do with leasing. Perhaps Mr. Loesch could respond better than I.

Mr. LOESCH. Of course, I have to defer to the Solicitor on this.

Mr. MELICH. The Solicitor is prepared to answer. I think you are entitled to an immediate answer in view of some problems we had with your committee on another matter, but I think——

Mrs. HANSEN. That is the understatement of the year.

Mr. MELICH. I think it is most unfortunate that Senator Hart and others issued this statement, because we have pending in our office the question of whether or not sodium leasing should be granted. These people, a number of years ago, applicants were granted prospecting permits for sodium, which the Department had a right to grant. The applicants since the granting of those applications have represented to us, and I think they have fairly well established, that they did find sodium.

Now, this presents a question now as to whether or not they are entitled to leases. Our Department is reviewing this entire matter. I hope that shortly we will have something to submit to the Secretary to make the decision as to whether or not the sodium leasing will be granted.

Now, involved in this, of course, is the question of a related substance or material which, in this case, is oil shale. And because oil shale is involved in this area, it is what gives rise to the question that Senator Hart gave.

Now, these people are not asking for leases for oil shale. They are asking for leases for sodium. But with the sodium is the related material of oil shale, and there is ample precedent in the Interior Department and by law that we can grant leases for a basic substance or material or mineral which does contain a related material. This is the legal problem that we are grappling with at the moment.

Mr. LOESCH. Could I add to that a little with regard to the dawsonite question, which is in the article here? That is not the same as the sodium. Recently we have had a good experience with some of the larger companies just giving up their dawsonite leases voluntarily.

Mr. MELICH. Yes. There were relinquishments of many claims filed for dawsonite by claimants. These were relinquished back to the Government. We are pursuing this rapidly, because it is the position of the Department that dawsonite is not a locatable mineral. It is a leasable mineral.

Mrs. HANSEN. Thank you very much.

Mr. MELICH. I might say this: It is most unfortunate to read articles like this, accusing the Secretary of giving something away. In the year I have known him he wouldn't give any natural resource away. He will be very careful before he gives any resource or property of the Federal Government to anyone without just compensation.

Mrs. HANSEN. I'm sure of that. May I break in at this point to say to another member of the committee, Mr. Marsh, of Virginia, it's good to welcome you back to the committee.

Mr. MARSH. It's good to be here, Madam Chairman.

IMPEDED ENVIRONMENT DRIVE

Mrs. HANSEN. Another Washington Post article, on January 31, 1970, carried the headline, "Uncertainties at Bureau of Mines Cast Doubt on Environment Drive." This article related to the conflict between the interests of mining companies involved in strip mining, subsidence and acid drainage of undeground mines, and the interests of conservationists who want to improve our environment.

May we have your comments?

Mr. DOLE. This is undoubtedly in reference to a publication that was called to our attention here back in July, I believe it was, and it was a report prepared by the Bureau of Mines and other people within the Department on the amount of subsidence from underground mine workings. At that time we put that publication on open file, and it was sent out to several Members of Congress and reviewed by many people. The publication was poorly written, had a good many errors of fact in it——

Mrs. HANSEN. Who wrote it?

Mr. DOLE. That was a kind of conglomeration of committee effort by people within the Bureau of Mines and FWPCA and others within the Department of the Interior. It was a situation at that time that inasmuch as full public disclosure had been made of this particular bulletin, that it was not of sufficient quality to be turned out as is, to delay any further work on it.

Mrs. HANSEN. The article goes on to say: "No legislation has been submitted by the Interior Department, the Bureau of Mines parent organization, to deal with the ravages of the strip miners."

Mr. DOLE. I think that we are going ahead with our control of strip mining and the recovery of the culm banks, as you mentioned earlier.

FUNDING INVESTIGATION OF CULM BANKS AND STRIP MINES

Mrs. HANSEN. I need not even remind the Department that this committee has been willing to fund the costs of investigations in the culm banks and in strip mining. I believe the record last year and the year before shows this.

This is why I think we had better set the record straight. The committee has endeavored to fund these activities at the highest possible level.

INTERIOR POLICY ON LAND RECLAMATION

Secretary HICKEL. I think what we will do as a policy matter before any lease or grant on public land, the full reclamation of that project and all those other environmental factors will be taken into account before they start. If they are of such low value that a plea that economically they can't mine if we put these stipulations in, then they just won't mine, because I think this whole thing is part of the cost of doing business, and our only real control is to go back and appropriate money to do those things and clean up where private enterprise didn't clean up. The other way is to keep them from happening. That we can do. That, I assure you, will happen.

Mrs. HANSEN. This is for now and the future. The difficulty has been in cleaning up the things that we have inherited through the years.

Secretary HICKEL. Yes.

Mr. DOLE. May I interject here that I think you will be interested in knowing that the attitude within the Department now is involved in the mining cycle—not only find it and extract it, but return the land for other uses. So this is the obective, and this is the direction toward which we are pointing. Not that mining is a one-shot deal, but it is a temporary use of the land, and mining does not cease until it has been returned for other uses.

Mrs. HANSEN. This was the focus last year of our hearings with the Bureau of Mines.

MONTANA STRIP MINING PROBLEM

Mr. LOESCH. Hollis practically said what I was going to. I might use for illustration a rather large thing we have going on in Montana now, where the companies are resisting very hard the idea that they have to separate the topsoil from the ore after strip mining, and put it back separately. But we are hanging in there on it. That's the way

it will be, or they won't mine. This, of course, in various areas of strip mining, makes a great deal of difference. If you just mix up the topsoil with the oil overburden, and put it back in a bunch, you cannot really reclaim the land properly.

So our lease provisions have been restructured to provide the topsoil will be set back separately.

Mrs. HANSEN. Why don't you place in the record one of your typical lease forms.

Mr. LOESCH. I will do that.

(The leasing form follows:)

Form 3220–1
(December 1966)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

ACQUIRED LANDS MINERAL LEASE

FORM APPROVED
BUDGET BUREAU NO. 42–R934

Land Office Serial Number

State

This lease entered into on between the United States of America,

as lessor, through the Bureau of Land Management, and

, as lessee,

pursuant to the authority set out in, and subject to, the regulations 43 CFR 3220–3227, and to all regulations of the Secretary of the Interior now or hereafter in force when not inconsistent with any provisions herein.

WITNESSETH:

Sec. 1. (a) *Rights of lessee.* In consideration of the rents and royalties to be paid and conditions and covenants to be observed as herein set forth the lessor grants to the lessee, subject to all privileges and uses heretofore duly authorized and prior valid claims, the exclusive right to mine, remove, and dispose of all the and associated minerals and any other minerals except oil, gas, oil shale, coal, phosphate, potassium, sodium, or sulphur in, upon, or under the following-described acquired lands in the United States, in the State of

containing acres, more or less, together with the right to construct and maintain thereon such structures and other facilities as may be necessary for the mining, preparation, and removal of said minerals for a period of years with a right in the lessee to renew the same for successive periods of like duration in accordance with regulation 43 CFR 3221.4(f).

(b) *Authorized Agency Representative.* The United States agency having administrative control over the surface use of the land is and its authorized agency representative to whom inquiries should be addressed is of .

Sec. 2. In consideration of the foregoing, the lessee agrees:

(a) *Operation and production.* To carry on operations under this lease with reasonable diligence and to begin operations within months and to continue production thereafter unless operations are interrupted by strikes, the elements, or casualties not attributable to the lessee. The lessor may grant reasonable extensions of time for the commencement of production and may authorize suspensions of operations and production in accordance with regulation 43 CFR 3222.6–2 for reasonable periods of time in the interest of conservation or when the lease cannot be successfully operated at a profit, or for other reasons when such action does not adversely affect the interest of the United States.

(b) *Royalty.* To pay the lessor within 30 days after the end of each period prescribed in subsection (f) of this section a royalty of percent of the gross value of the minerals mined hereunder at the point of shipment to market, such point of shipment to be the mine or preparation plant, as the case may be. The lessee agrees that the Secretary of the Interior, for the purpose of determining the royalties due hereunder, may establish reasonable minimum values for the minerals mined, due consideration being given to the highest price paid for a part or a majority of the production of minerals of like quality produced from the same general area, the price realized by the lessee, posted prices, and other relevant matters. A royalty rate will be established for each mineral or group of minerals following discovery and prior to mining.

(c) *Rentals.* To pay to the lessor annually in advance, beginning with the date of this lease, rental of $ for each acre, or fraction thereof, for each lease year until production commences, the rental payment for the year in which production commences to be credited on royalties that accrue during that lease year.

(d) *Minimum royalty.* If there is no production or if royalties under subsection (b) of this section total less than $ in any lease year, to pay the lessor a sum equal to the difference between such royalties and $, such minimum royalty obligation to become effective the first lease year commencing after production begins, and to be payable within 30 days following the end of the lease year for which due. Lessor may, in its discretion, suspend the minimum royalty requirement when production is interrupted or suspended as provided in subsection (a) in accordance with regulation 43 CFR 3222.6–2.

(e) *Bond.* To furnish and maintain a bond in the sum of $ conditioned upon compliance with the terms and conditions of this lease, and to increase the amount thereof or furnish such other bond as may be required.

(f) *Statement.* To furnish for each month or such other period as may be designated by the Regional Mining Supervisor of the Geological Survey statements in detail, in such form as may be prescribed by him, of the amount and value of output from the leasehold during such period for use in determining royalties, such statements to be furnished within 30 days from the close of the month or period so designated. Falsification of such statements shall be grounds for cancellation of the lease.

(g) *Inspection.* To permit at all reasonable times: (1) inspection by any authorized officer of the leased premises and all surface and underground improvements,

works, machinery, equipment, and all books and records pertaining to operations and surveys or investigations under this lease; and (2) the lessor to make copies of and extracts from any or all books and records pertaining to operations under this lease.

(h) *Maps—Reports.* To furnish, in *duplicate*, to the Regional Mining Supervisor, at such times as he may require, a plat in the manner and form prescribed by him showing prospecting and development work and improvements on the lease land and other related information, with a report as to all buildings, structures and other works or equipment, situated elsewhere and owned or operated in conjunction with, or as a part of the operations conducted hereunder.

(i) To comply with all regulations of the Secretary of the Interior or the Secretary of Agriculture as to the lands herein described which are under his jurisdiction; and to conduct operations in an orderly manner and in accordance with regulations 30 CFR, Part 231 and the applicable Federal and State laws; and to exercise reasonable diligence, skill, and care in the operation of the property; and to carry on all operations in accordance with approved methods and practices, having due regard for the prevention of damage to mineral deposits, water horizons and property, injury to life and health, and economic waste.

(j) *Taxes.* To pay when due all taxes lawfully assessed and levied under the laws of the State or the United States upon improvements, output of mines, and other rights, property, and assets of the lessee.

(k) *Deliver premises.* To deliver up to the lessor in good order and condition and subject to the provisions in Section 9 hereof on the termination of this lease as a result of forfeiture thereof the lands covered thereby, including all underground timbering and such other supports and structures as are necessary for the preservation of the mine.

(l) *Assignment.* Not to assign this lease, or any interest therein, whether by direct assignment, operating agreement, working or royalty interest, or otherwise, nor sublet any portion of the leased premises, except with the approval, in writing, of the lessor. All such assignments or subleases must be submitted in *triplicate* within 90 days from the date of execution and must contain all of the terms and conditions agreed upon by the parties thereto. Not to create overriding royalties in excess of those authorized by regulation 43 CFR 3226.1.

An assignment of all or part of the record title to a portion of the acreage in the lease shall separate the lease into separate leaseholds and the terms hereof shall apply separately to the segregated portions. Advance annual rental payments, if previously terminated, shall be resumed as to an undeveloped segregated portion on the next anniversary date of the lease; the minimum royalty payment herein specified shall apply separately to the segregated portions and the time allowed within which to commence operations on an undeveloped segregated portion shall be such reasonable period as shall be prescribed by the lessor at the time the assignment is approved.

(m) *Equal Opportunity clause.* During the performance of this contract the lessee agrees as follows:

(1) The lessee will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. The lessee will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The lessee agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.

(2) The lessee will, in all solicitations or advertisements for employees placed by or on behalf of the lessee, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, or national origin.

(3) The lessee will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the lessee's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The lessee will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(5) The lessee will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(6) In the event of the lessee's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated or suspended in whole or in part and the lessee may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(7) The lessee will include the provisions of Paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The lessee will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions including sanctions for noncompliance: *Provided, however,* That in the event the lessee becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the lessee may request the United States to enter into such litigation to protect the interests of the United States.

(n) *Payments.* Rentals under this lease shall be paid to the Manager of the proper Land Office, *except* that when this lease becomes productive the rentals and royalties shall be paid to the Regional Mining Supervisor of the Geological Survey, with whom all reports concerning operations under the lease shall be filed. All remittances to the Bureau of Land Management shall be made payable to the Bureau of Land Management, those to the Geological Survey shall be made payable to the United States Geological Survey. The failure to pay rental on or before the anniversary date shall automatically terminate the lease. However, if the time for payment falls on a day in which the proper office to receive payment is closed, payment shall be deemed timely if made on the next official working day.

Sec. 3. Lessee further agrees:

(a) *Protection of property.* To conduct all operations hereunder with due regard for good land manage-

ment, not to cut or destroy timber without previous permission from the authorized officer and to pay for such timber at rates prescribed by him; to avoid damage to improvements, timber, crops, or other cover; unless otherwise authorized by the authorized officer, not drill any well, carry on operations, make excavations, construct tunnels, drill, or otherwise disturb the surface of the lands within 200 feet of any building thereon and whenever required, in writing, by the authorized officer, and upon any partial or total relinquishment, cancellation, or termination of this lease as to that portion of the land to which his rights have terminated, to fence or fill all sump holes, ditches and other excavations, remove or cover all debris, and so far as reasonably possible, reseed or otherwise restore the surface of the lands to their former condition, or to a productive or other condition satisfactory to the authorized officer, including the removal of structures as and if required, and when required by such officer to bury all pipelines below plow depth.

(b) *Fire precautions.* To do all in his power to prevent and suppress fires on the land and vicinity, and to require his employees, contractors, and subcontractors to do likewise. Unless prevented by circumstances over which he has no control, to place his employees, contractors, and subcontractors at the disposal of the authorized officer for the purpose of fighting fires on or originating on the land or on adjacent areas or caused by the negligence of the lessee or his employees, contractors, and subcontractors, with the understanding that payment for such services shall be made at rates to be determined by such authorized officer but not less than the current rates of pay prevailing in the vicinity for services of a similar character: *Provided, that* if the lessee, his employees, contractors, or subcontractors, or employees of any of them, caused or could have prevented the origin or spread of said fire or fires, no payment shall be made for services so rendered. During periods of serious fire danger, as may be specified by the authorized officer, the lessee shall prohibit smoking and the building of camp and lunch fires by his employees, contractors, and subcontractors, within the leased area *except* at established camps, and shall enforce this prohibition by all means within his power: *Provided, that* the authorized officer may designate safe places where, after all inflammable material has been cleared away, campfires may be built for the purpose of heating lunches and where, at the option of the lessee, smoking may be permitted; *Provided further, that* when in the judgment of the authorized officer the fire danger is of such serious nature that fires may result from the operation, the lessee will close down operations upon request of such officer for the period of such emergency. The lessee will not burn rubbish, trash, or other inflammable materials *except* with the consent of the authorized officer and shall not use explosives during the fire season *except* as authorized to do so or on areas approved by such officer. The lessee shall build or construct such fire lines or do such clearing on the land as the authorized officer decides is essential for forest, brush, and grass fire prevention which is or may be necessitated by the exercise of the privileges authorized by this lease, and shall maintain such fire tools at his headquarters or at the appropriate location on the land as are deemed necessary by such officer.

(c) *Approval of construction.* Not to clear or use the land for development or for construction purposes of any kind until a plan of construction and development therefor has been approved by the authorized officer and that in the location, design, construction, and maintenance of all authorized works, camps, buildings, plants, waterways, roads, telegraph or telephone lines, pipelines, reservoirs, tanks, pumping stations, or other structures or clearances, lessee shall do all things reasonably necessary to prevent or reduce scarring and erosion of the land, pollution of the water resources and any damage to the watershed.

(d) *Damage to property.* To pay the lessor or its tenant, as the case may be, for any and all damage to or destruction of property caused by the leseee's operations hereunder; to save and hold the lessor or the surface owner or their tenants harmless from all damage or claims for damage to persons or property resulting from the lessee's operations under this lease; and where the surface of the leased land is owned by other than the lessor, to pay such owner, or his tenants, as the case may be, for damage or injury to livestock, crops, trees, pipelines, buildings, and other improvements on the leased lands. That where construction, operation, or maintenance of any of the facilities on or connected with this lease causes damage to the watershed or pollution of the water resources, to repair such damage and take such corrective measures as are required by the authorized officer, including the reseeding or other restoration of the vegetative cover.

(e) *Protection of livestock; access to leased lands.* To install and maintain cattle guards to prevent the passage of livestock in any openings made in fences by the lessee, his contractors, or subcontractors to provide access to the lands covered by this lease for automotive and other equipment.

(f) *Authorized Officer.* All inquiries relating to this section should be addressed to the authorized officer named in Section 1(b) of this lease.

Sec. 4. *Lessee—agent.* Prior to the beginning of operations, the lessee shall appoint and maintain at all times during the term of this lease a local agent upon whom may be served written orders or notices respecting matters contained in this lease, and shall inform the authorized officer and the Regional Mining Supervisor of the United States Geological Survey, in writing, of the name and address of such agent. If a substitute agent is appointed, the lessee shall immediately so inform the said officers.

Sec. 5. The lessor expressly reserves:

(a) *Rights reserved.* The right to permit for joint or several use easements or rights-of-way, including easements in tunnels upon, through, or in the land leased, occupied, or used as may be necessary or appropriate to the working of the same or other lands, and the preparation and shipment of the products thereof by or under authority of the Government, its lessees or permittees, and for other public purposes.

(b) *Monopoly and fair prices.* Full power and authority to promulgate and enforce all orders necessary to insure the sale of the production of the leased lands to the United States and to the public at reasonable prices, to protect the interest of the United States, to prevent monopoly, and to safeguard the public welfare.

(c) *Renewal terms.* The right to reasonably readjust and fix royalties payable hereunder at the end of the primary term of this lease and thereafter at the end of each successive renewal thereof unless otherwise provided by law at the time of the expiration of any such period, and to readjust other terms and conditions of the lease, including the revision of or imposition of stipulations for the protection of the surface of the land as may be required by the agency having jurisdiction thereover.

(d) *Waiver of conditions.* The right to waive any breach of the covenants and conditions contained herein, but any such waiver shall extend only to the particular breach so waived and shall not limit the rights of the lessor with respect to any future breach; nor shall the waiver of a particular cause of forfeiture prevent cancellation of this lease for any other cause, or for the same cause occurring at another time.

Sec. 6. It is mutually agreed:

(a) *Mining methods.* That this lease does not authorize the mining or removal of the mineral deposits by stripping, rim cutting, or open pit methods without

the prior written approval of the authorized officer and on such conditions as he may prescribe.

(b) *Reduction or smelting of ores.* That the reduction or smelting of ores on the leased land is expressly prohibited in the absence of an agreement between the lessee and the authorized officer authorizing such use of the surface of the land and providing for the necessary protection of life and property. Such agreement shall contain all of the terms and conditions under which the reduction or smelting of ores may be carried on and any violation of that agreement shall be considered a violation of the terms of this lease for the purpose of Section 9.

(c) *Uses and disposition of surface.* That the leased land shall be subject at all times to any other lawful uses or sale by the United States, its lessees, permittees, licensees, and assigns; *provided that* such uses or sale shall not prevent, obstruct, or unduly interfere with any privilege granted under this lease: *Provided, that* the lessee shall recognize existing uses and commitments in the form of grazing, timber cutting, and special use permits, water developments, ditch, road, trail, pipeline, telephone and telegraph lines, fences, rights-of-way, and other similar improvements, and to conduct his operations so as to interfere as little as possible with the rights and privileges granted by these permits or with other existing uses.

(d) *Granting leases for other minerals.* That the granting of this lease will not preclude the issuance of other leases of the same land for the purpose of mining and extracting oil, gas, oil shale, coal, phosphate, potassium, sodium, and sulphur.

Sec. 7. *Relinquishment of lease.* The lessee may surrender this lease or any legal subdivision thereof. If the lands are not described by legal subdivision, a partial relinquishment must describe definitely the lands surrendered and give the exact area thereof. A relinquishment must be filed in *triplicate* in the proper Land Office. Upon its acceptance, it will be effective as of the date it filed, subject to the continued obligation of the lessee and his surety to make payment of all accrued rentals and royalties, and to provide for the preservation of any mines or productive works or permanent improvements on the lands in accordance with the regulations and terms of the lease, and for the faithful compliance of all the terms of the lease.

Sec. 8. *Removal of equipment, etc., on termination of lease.* On termination of this lease, by surrender, forfeiture, or otherwise, the lessee shall have the privilege at any time within a period of 90 days thereafter of removing from the premises all machinery, equipment, tools, and materials, other than underground timbering placed by the lessee in or on the leased lands, which are not necessary for the preservation of the mine. Any materials, tools, appliances, machinery, structures, and equipment, subject to removal as above provided, which are allowed to remain on the leased land shall become the property of the lessor on expiration of the 90-day period or such extension thereof as may be granted by the lessor, but the lessee shall remove any or all of such property when so directed by the lessor.

Sec. 9. *Proceedings in case of default.* If the lessee does not comply with the applicable regulations made a part hereof or the terms of this lease and such default continues for a period of 30 days after service of written notice thereof by the lessor, the lease may be cancelled by the Bureau of Land Management. Furthermore, if the lessee fails to take prompt and necessary steps to prevent loss or damage to the mine, property, or premises, or danger to the employees, the lessor may enter on the premises and take such measures as may be deemed necessary to prevent such loss or damage, or to correct the dangerous or unsafe condition of the mine or works thereof, which shall be at the expense of the lessee, but the lessee shall not be held responsible for delays or casualties occasioned by causes beyond the lessee's control.

Sec. 10. *Heirs and successors-in-interest.* Each obligation hereunder shall extend to and be binding upon, and every benefit hereof shall inure to, the heirs, executors, administrators, successors, or assigns of the respective parties hereto.

Sec. 11. *Unlawful interest.* It is also further agreed that no Member of, or Delegate to, Congress, or Resident Commissioner, after his election or appointment, or either before or after he has qualified and during his continuance in office, and that no officer, agent, or employee of the Department of the Interior, *except* as provided in 43 CFR 7.4(a)(1), shall be admitted to any share or part in this lease or derive any benefit that may arise therefrom; and the provisions of Section 3741 of the Revised Statutes of the United States, (41 U.S.C., Sec 11) as amended, and Sections 431, 432, and 433, Title 18 U.S.C., relating to contracts, enter into and form a part of this lease so far as the same may be applicable.

Sec. 12. *Special stipulations.*

SIGNATURE(S) OF LESSEE(S)

THE UNITED STATES OF AMERICA

_____ By _____
(Signing Officer)

_____ _____
(Title)

_____ _____
(Date)

If this lease is executed by a corporation, it must bear the corporate seal

CONTROL OF OFFSHORE LEASING

Mrs. HANSEN. One of the more vexing problems the Department has been confronted with is the control of offshore leasing, which has been complicated by the danger of serious oil leaks. Please summarize the current situation on this.

Secretary HICKEL. You mean any specific area or overall?

Mrs. HANSEN. Overall.

Secretary HICKEL. Overall we stopped all offshore lease sales until sometime last fall and rewrote the regulations under which drilling could occur on offshore leases, excluding the absolute liability for pollution.

We might add that this absolute liability for pollution really came into effect on a voluntary basis just a few weeks ago in Louisiana where there was a spill and we didn't know where it came from. Humble Oil was contacted because they had drilling rigging in there. They collectively got together and cleaned up this spill because it was under absolute liability, although it wasn't their fault. They found out where the spill came from because they have recourse then to the person that caused the spill and finally it ended up as being refined oil, not crude oil, which wasn't their responsibility at all. All we say is clean it up. They then will try to get their third-party reconsideration for the money they spent. The oil drilling regulations that we have now imposed are acceptable and are being enforced.

GULF OF ALASKA OIL LEASE SALE

We are looking with great hesitancy on new areas where we will have these sales, where we don't really have the geological information we need. Such a situation exists in the Gulf of Alaska where we don't have the knowledge we need and I say that it is very, very doubtful whether there will be a sale in the Gulf of Alaska this year for that reason. In the gulf it is a problem of containment of pollution, the elimination of pollution, and the tightening up of regulations of existing platforms. This has been a continuing problem from years back on new leases. On new leases, we can have those regulations the way they are now imposed. As a general thing, we are trying to see to it that industry proceeds progressively but with those limitations that we see have to be put on to protect the total environmental picture and the public interest.

This is just a start. I think the real step will be when we separate those areas of value of other than resources. We haven't done that yet. We haven't had the time nor the money, but that is the direction in which we are going.

PROBLEMS CONCERNING LARGE OIL TANKERS

Mrs. HANSEN. Mr. Secretary, at present we have larger tankers, with a potential spill of a great deal more oil than ever before. You have a second problem of poorly maintained tankers. You recently had a bad spill off the coast of Florida. You have had them at various places all over the coastal areas. What is being done by your Department in connection with other Departments that are responsible for this problem.

Secretary HICKEL. I think we ought to talk off the record.
Mrs. HANSEN, All right, off the record.
(Discussion off the record.)
Mrs. HANSEN. Back on the record.

CONTROL OF VESSELS OF FOREIGN REGISTRY

Mr. MARSH. We get into an area where you have a problem of control with the vessel of foreign registry. How do you intend to address that problem?

Mr. KLEIN. That is in H.R. 4148 as amended by S. 7 where we could recover the cost from them when they come into a port. They have to get a clearance. That bill is now in conference between the House and the Senate.

Mr. MARSH. What about the situation where it is a vessel of foreign registry carrying oil from say——

Secretary HICKEL. Venezuela?

Mr. MARSH. Right. And it is off the American coast and you get tanker spill.

Secretary HICKEL. We are trying to get pollution out to the——

Mr. KLEIN. Yes, but we can't get it except in the 9- to 12-mile limit in the new bill.

Mr. MARSH. Something I think would be helpful on the record, to point out some of this in not an area where you have control.

Secretary HICKEL. We have basically taken care of the drilling problem. We will never eliminate that altogether, however. Transportation is where we really have the problem. There are people who say let's stop drilling offshore and buy our oil from foreign nations. There are many economic factors. But in the tankers alone we would have a worse pollution problem than we would in the drilling. This is a fact of life.

TIGHTENING OIL TRANSPORTATION LAWS NEEDED

I think absolutely we collectively, legislative-wise and Executive, have to move in and strengthen this whole transportation picture, whether it is on pipelines or tankers, because if you drill a well you can drill it in about 6 months but you are going to produce it for 20 or 25 years and the real pollution problem is in that. We have to tighten up the transportation of this oil. That is the problem.

Mrs. HANSEN. I think, as you are well aware, the reasons why shipping firms go to Liberia or to Greece and fly under these flags is that they want to escape the marine regulations of the United States and some of our labor costs. They are escaping but at the same time they are polluting our shores and the shores of every nation in the world.

Secretary HICKEL. I think this is a very important point and I want to emphasize it again—I know the Congressman wants to talk—the danger is in pollution from transportation. I want to emphasize that point.

Mrs. HANSEN. The committee will now adjourn and reconvene at 1:30.

AFTERNOON SESSION

Mrs. HANSEN. The committee will come to order.

NATIONAL CAPITAL SUBWAY SYSTEM

Construction of the subway has begun in the District of Columbia. In many instances the subway route impinges on land under the control of the National Park Service. The committee has received informal information that in a few instances to date the Park Service has not been quite as cooperative as it might be. Would you state for the committee what the official departmental policy is in this connection?

Secretary HICKEL. Basically we had some disagreement in the past, before my time and even during my time, with the Department of Transportation on not only routes but the method of that route, whether it was above ground or below ground or tunneling. I think that most of those problems have been ironed out. I say most of those.

Our concern is not just of the total cost. Our overall concern is how is this going to affect an area after it is completed and 20 years from now. It is that big picture that once in a while causes us to hesitate on OK'ing some project, knowing full well there is a money limitation but we don't want to destroy something that we think might be destroyed for too long a period of time. I would much rather see something postponed for a year or two or three to where we could spend the kind of money we would have to spend to do it absolutely right, and we are talking about the Nation's Capital now and—your question was basically the Nation's Capital—if that same decision had to be made somewhere else I would think that it could be made much more easily, because it wouldn't involve the natural beauty, the historical sites in such a small compact area, and possibly the depression of a road with walkways across—I can see that being acceptable from the standpoint of safety and even environment in certain areas, but in Washington it appears to me we have to lead the way, not just be average and not just to do it right. I think you have to do it a little more than right here. This is where the conflict has been.

I talked to Secretary Volpe. We don't want to obstruct anything but in that general vein is where I sort of once in a while have a problem.

Mrs. HANSEN. This is particularly true on roadways, but now more particularly as to the subway. Have there been any disagreements that are irreconcilable?

Secretary HICKEL. There are a couple of places—Lincoln Memorial is one—where they were arguing about going up or going depressed and I am not sure that plan has been specifically OK'd. As I recall the one that they were showing me, there were great depressions rather than a tunnel on account of economic reasons. The tunnel would have been the logical thing rather than the great depressions of the walkway.

Some of this is architectural in our minds, too, from the standpoint of the overall. Dr. Glasgow, do you want to add to that?

Mr. GLASGOW. There are no problems that are irreconcilable. We have taken a pretty good position to protect the integrity of the open spaces in the national parks here in Washington. After this subway is in, I think the people will still see those parks and that is what they are going to remember. Retention of the parks, in quality conditions is the important part. We are looking to the future.

Mrs. HANSEN. Will you please put in the record any details or any discussions that you have had with WMATA where you have had differences of opinion due to the possible effect on park lands.

Secretary HICKEL. We will be glad to provide it.

(The information follows:)

DISCUSSIONS AND CORRESPONDENCE BETWEEN NATIONAL PARK SERVICE AND WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

For well over a year, National Park Service staff has been meeting at monthly coordinating planning sessions to reconcile designs and plans affecting park lands in the Nation's Capital. Through this close liaison and joint planning effort, many surface facilities required by WMATA have either been removed from the surface of park lands through alternate arrangements or design changes.

The basic issue which has not been resolved, however, is the insistence by the National Park Service that all surface park lands used for long-term WMATA use, or location of facilities, be replaced by other lands and added to the total National Park lands in the Nation's Capital. In essence, the respective positions of WMATA and NPS is this:

WMATA insists that they presently do not have the authority to purchase replacement lands for transferring to NPS.

NPS takes the position that if authority is lacking, then WMATA should seek such authority joined and supported by NPS.

For your further information, we enclose copies of exchanges of correspondence between the General Manager of WMATA and the Director of NPS under the following dates:

January 2, 1969, Mr. Graham to Mr. Hartzog.
February 28, 1969, Mr. Hartzog to Mr. Graham.
December 24, 1969, Mr. Hartzog to Mr. Graham.
January 9, 1970, Mr. Graham to Mr. Hartzog.
February 17, 1970, Mr. Hartzog to Mr. Graham.

U.S. DEPARTMENT OF THE INTERIOR,
NATIONAL PARK SERVICE,
Washington, D.C., February 17, 1970.

Gen. JACKSON GRAHAM,
General Manager, Washington Metropolitan Area Transit Authority,
Washington, D.C.

DEAR GENERAL GRAHAM: I have your letter of January 9 with further reference to the replacement of parklands that may be needed in connection with the construction and operation of the Rapid Transit System. You suggest that this is "a matter for resolution by the Bureau of the Budget and the Congress."

My continuing concern, however, arises from the fact that this issue has not been resolved. Moreover, I am not advised of any initiative by you in seeking a resolution of it. I renew my expression of willingness to support you in every helpful way I can in seeking a resolution of this matter. I cannot, however, as you suggest, take the initiative.

WMATA has been advised of our position in this matter since September 1966. In this connection, the transcript of the minutes of the meeting of the National Capital Planning Commission of September 15–16, 1966, contains the following colloquy between your predecessor, Mr. McCarter, Mrs. Rowe, the Chairman of the National Capital Planning Commission, and me:

"Mr. Hartzog: I understand that you [Mr. McCarter] are proposing now to have access into Judiciary Square. And one of the points that I have made and which long has been Park Service policy in this area is that these parklands are not free lands and that they need to be replaced.

"My attention is called to the fact that this station that is proposed in Judiciary Square, that no arrangements have been made either for the replacement of the parkland and no agreements have been reached with the Park Service with respect to access into Judiciary Square.

"Now, I am not suggesting that we defer approval on Judiciary Square, because our staff tell me that they think these can be worked out.

"But I would like some very definite assurances from Mr. McCarter that these will be worked out, and furthermore that the land that is taken will be replaced in kind or in cash.

"CHAIRMAN ROWE: Mr. McCarter.

"MR. McCARTER: (Laughing) Whatever the arrangements are, we'll try to comply with them.

"MR. HARTZOG: Thank you.

"CHAIRMAN ROWE: Is that sufficient assurance, Mr. Hartzog?

"MR. HARTZOG: It's sufficient, I take everybody's word."

In the meantime, the D. C. Highway Department obtained the legislative authorization it needed to meet this requirement for the use of parklands for highway purposes.

On the contrary, notwithstanding the fact that there have been legislative amendments to your basic authorities since the 1966 Planning Commission meeting, this matter as it related to rapid transit remains unresolved.

I want to be constructive and helpful as I can in moving the transit program forward. At the same time, I must be vigilant that the parklands of our Nation's Capital are preserved and presented undiminished for public use and enjoyment.

Again, I urge you, therefore, to seek a resolution of this matter prior to it becoming a stumbling block to progress. Please let me know how I may continue to assist you.

With kindest personal regards and every good wish, I am

Sincerely yours,

GEORGE B. HARTZOG, Jr., *Director.*

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY,
Washington, D.C., January 9, 1970.

Mr. GEORGE B. HARTZOG, Jr.,
Director, National Park Service,
Department of the Interior, Washington, D.C.

DEAR GEORGE: I appreciate your letter of December 24, and I share your concern over the question of consideration for Authority use of lands administered by the Park Service. With two major construction contracts already awarded and the Authority fully prepared to proceed with design and construction throughout the region, there can be no justification for further costly delay pending resolution of what really is a technical question.

We appear to have no genuine difference over whether there should be compensation for lands, but rather in what coin. You ask for land in trade, but Authority counsel advises that we cannot acquire land for such a purpose. Our suggestion of a cash payment is not acceptable to you because, as we understand it, you do not have authority to utilize funds for the purchase of other lands. This becomes, thus, a matter for resolution by the Bureau of the Budget and the Congress.

Apparently some time may be required to reach a decision concerning the fashion in which consideration shall pass. If land purchase is decided upon, an involved legislative process must then be carried out, with uncertainty as to success or as to the time required for its completion. Your offer to join with us in seeking legislation is appreciated, though the problem appears to rest with your inability to accept cash from us with assurance of applying it in the interests of the Park Service. Thus, the legislative effort, as I see it, could be taken more expeditiously in your behalf rather than our taking the more time consuming process of pressing legislation through two State legislatures and the Congress. In either event, however, for the Park Service to withhold permits until the technical question is decided would impose extremely costly delays without purpose.

Every effort is being made here to minimize or eliminate transit requirements affecting parks. During a recent inspection tour on which I had the pleasure of escorting Park Service representatives, I believe we were able to demonstrate the unavoidable nature of Authority needs and the efforts we have made to avoid undue impact upon Park Service properties. In one or two instances affecting parks in the downtown area your own personal participation may be required in reaching a decision, but I hope that we can persuade the Park Service that Authority proposals would afford opportunity for the Park Service to render even greater service to the public.

Economic values can be established by sound appraisal techniques or by negotiation where differences may arise. Rather than suffer delay, I suggest that permits can be issued without prejudice to Park Service interests, and I urge you to authorize the issuance of permits as the need matures.

Certainly the interests of the Park Service and of the Authority will in no way be jeopardized by the course since administration and congressional responsibilities in the premises lend assurance to both. Meanwhile, we will be pleased to work with you and the Bureau of the Budget in developing an acceptable legislative proposal. I am sure that we can resolve this matter and, as indicated, I am prepared to join with you in seeking a solution.

Sincerely,

JACKSON GRAHAM.

U.S. DEPARTMENT OF THE INTERIOR,
NATIONAL PARK SERVICE,
Washington, D.C., December 24, 1969.

Gen. JACKSON GRAHAM,
Washington, D.C.

DEAR GENERAL GRAHAM: As the construction phase for the rapid transit system approaches, I wish to again express my deep concern that the issue on replacement of park lands has not been resolved. In my letter of February 28, 1969, and since then in each monthly coordination meeting of our respective staffs, my representatives have reiterated the basic position that an agreement on replacement of park lands is a prerequisite to the placement of any surface transit facility or feature in the parks.

Redesign by your staff of proposed facilities on certain park lands has provided an acceptable solution by placing the surface feature, such as a venting grate, in an adjacent District of Columbia-owned sidewalk. Other park lands have been identified for long-term surface use, in which there is apparently no longer consideration by WMATA of redesign or other alternatives to alleviate the park land replacement issue.

The proposed cooperative agreement between our two agencies has not been consumated because of the land replacement issue. As we have stated in previous communications to you, we respectfully request that you reconsider your position, and if your solicitors believe that legislation is required, we will join with you in seeking the necessary legislation. In the interim, pending this action, I reiterate my standing offer of cooperation and assistance, but, in the interest of orderly progress with your program on lands administered by this Service, urge that you again reconsider and agree in principle to provide for replacement of park lands so the cooperative agreement can be concluded.

With kind regards and every good wish,

Sincerely yours,

GEORGE B. HARTZOG, Jr., *Director.*

FEBRUARY 28, 1969.

Mr. JACKSON GRAHAM,
General Manager, Washington Metropolitan Area Transit Authority,
Washington, D.C.

DEAR MR. GRAHAM: The monthly meetings between the staffs of the Washington Metropolitan Area Transit Authority and the National Park Service mentioned in your letter of February 17, 1969, have served to keep us informed of your thinking and your desires for the use of park property in connection with the facilities of the transit system.

The principal guideline discussed in my meetings with you has been the replacement of park lands and facilities. In your letter of January 2 you advised me that you have made a decision not to agree to replacement. Lacking favorable reconsideration of this issue, we suggest that you base your final design involving Lafayette Park and Farragut Square Park on the alternatives discussed in previous meetings which would involve tunneling only and, consequently, eliminate the need for replacement in these areas.

In your letter you also referred to Judiciary Square Park and Rock Creek Park. At these locations the replacement has been agreed upon:

Judiciary Square Park.—The provision of parking space during construction, the providing of underground parking to replace the parking spaces now on the surface and the reconstruction of the park.

Rock Creek Park Stable areas.—The construction of replacement at a location near Military Road, the enlargement of the U.S. Park Police stables and the repair and rehabilitation of the area used.

Although the Authority has been progressing on the Rock Creek Park program, we have not been informed of the progress you are making to provide underground parking and restoration of Judiciary Square Park.

In addition, you mentioned two other routes: (1) the Glenmont Route along the B. & O. Railroad from Rhode Island Avenue to Silver Spring, and (2) the portions of the Ardmore and Huntington Routes extending northward from 12th Street and Independence Avenue SW., under 12th Street to Eye Street NW., thence westward under Eye Street to Rosslyn and south to the Pentagon.

With regard to the Glenmont Route, your staff has been informed that certain modifications to your proposal for the Riggs Road Station are necessary in order to reduce the adverse affect upon the Fort Circle Parks. In addition, we have received no information whatsoever concerning any facilities in the Fort Circle Parks area just north of the Riggs Road Station although such possible facilities are indicated on the System overlay you supplied.

The second route to which you refer has been discussed only in part. Certain modifications to your preliminary proposal on the Virginia portion of the Pentagon line were made known to your staff. Your staff was informed last May that your tunnel crossing the Mall at 12th Street should be located east of the 12th Street highway underpass or deep enough to be under our proposed three-level underground parking garage. We welcome a subway entrance to serve the visitor at 12th Street and Independence Avenue SW.

We emphasize again, that the replacement of park lands is a prerequisite to the use of the surface of any park for transit facilities, and it has been our hope that you would find a solution to this requirement. Until you do, I cannot envision the use of surface park lands and, therefore, I suggest your staff accordingly revise any plans which call for the use of these lands, except for Rock Creek Park Stables and Judiciary Square where we have reached agreement on the replacement.

In the present circumstances, we would expect that your submission for presentation at the April meeting of the National Capital Planning Commission would not propose any subway entrances or other facilities in McPherson Square or Franklin Park.

Sincerely yours,

/s/ GEORGE B. HARTZOG, Jr., *Director.*

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY,
Washington, D.C., January 2, 1969.

Mr. GEORGE B. HARTZOG, Jr.,
Director, National Park Service,
Department of the Interior, Washington, D.C.

DEAR MR. HARTZOG: Since our meeting of December 11 to consider a proposed cooperative agreement, representatives of our respective staffs have discussed further the one remaining question of the Authority purchasing and transferring replacement properties to the Park Service.

I have now been advised by counsel that in his opinion the power of the Authority under the terms of the Interstate Compact to acquire such property is questionable and he, therefore, recommends that such a provision not be added to the draft agreement. Under these circumstances, I obviously could not concur in its inclusion.

A great deal of effort has been expended in drafting the cooperative agreement which is now in a form upon which both parties have reached substantial agreement. I believe this agreement should afford assurance to the Service that park properties will be adequately protected during the construction of our project and while compliance with its many details will place a large burden upon the Authority, it is one within which, in my opinion, we can both live and accomplish our objectives. I would, therefore, suggest that as we are in such substantial agreement, we now proceed with the agreement as written and after obtaining the

informal concurrence of the appropriate congressional committees on the financial aspects and the approval of our Board of Directors, we provide for its execution and get on with the main task of implementing its terms on a case-by-case basis which will require substantial cooperative effort on both sides.

If such is agreeable, please let me know at your convenience.

Sincerely yours,

(s) Jackson Graham.

Mr. GLASGOW. I would like to make a general statement about highways in general in relation to parks.

We do have a committee that works with transportation. This is a new group.

We have much better cooperation in planning. This group works in the planning stage. The areas where we have the problems are those roads which have been planned some time ago and this wasn't taken into consideration so new roads are in much better shape than the old ones in this respect.

Mrs. HANSEN. This is true all over the United States.

Mr. WYATT. In connection with the subway problems, and this is irreconcilable now, last Friday morning I was visiting the various District of Columbia courts and between the two buildings that house the general sessions courts, and I observed that they had just cut down a group of hundred year old oaks to make room for a subway station.

In the first place, if anything has to be built, they should build a new building for the court of general sessions having it all together, with the pressures for 13 new judges. Right behind it is the ugly old Pension Building that ought to be torn down for a subway station or other use. We have had a little greenway, a little open space in there which is apparently going the way of the ax.

I just mention that in passing.

Secretary HICKEL. As a general plan the Department of Transportation has a limit on money again. Everything has a limit on money. We use a different yardstick in the Nation's Capitol than we would as a general thing. This is the only thing we are saying.

Mrs. HANSEN. I think we need to start using different yardsticks all over the Nation. Otherwise we will have nothing but highrises and highways.

PRESIDENT NIXON'S ENVIRONMENTAL MESSAGE

In his environmental message on February 10, 1970, the President outlined the functions and responsibility of the Department of the Interior in the overall program.

Would you give us some additional details on this, please?

Secretary HICKEL. The remarks made on the environmental and pollution problem?

Let's see, how can I—in the way of open spaces?

Mrs. HANSEN. Mr. Secretary, in your statement this morning, you covered parks and public recreation, land and water conservation, and the Council on Environmental Quality Control.

Secretary HICKEL. Water pollution, I think.

Mrs. HANSEN. If there are any other comments you wish to include please feel free to put them in the record.

Secretary HICKEL. All right. I don't have any that the President didn't cover in a very broad way and I think in my opening statement I talked about the priorities of trying to get parks close to the urban areas and the President talked about surplus lands that would be——

Mrs. HANSEN. I was going to ask about that.

Secretary HICKEL. This is a new one that I will talk to you about a little bit off the record and on the record with what I can.

On the record, he mentioned that in those areas where there are public lands that are not used to their highest value, that if they are in the location that we might want parks and recreation, that we would exchange land—for example, at Camp Pendleton, Calif. The President made the decision after the problem was pointed out—that was one of the problems pointed out to him—that this stretch of beach has a much higher value in our opinion for recreation and natural beauty than for the training of Marines.

The training of Marines is important but they can be trained someplace else. They shouldn't be trained there.

OTHER PARK AREAS PLANNED

We have some land in the Gateway National Recreation area that we are proposing. Sandy Hook, Jamaica Bay, and Breezy Point. For example, on Breezy Point there is a veterinarian station of the Department of Agriculture. They would like to keep it there. But in our opinion they could do their work just as easy somewhere else and not on this "high value" land if you put a price tag on recreation and natural beauty.

The President expressed himself very strongly on this and so—now if I might talk off the record because we don't have the specific thing yet and I don't want to lock in the President on any openings he might have.

(Decisions off the record.)

TRANSPORTATION PROBLEMS

Mrs. HANSEN. I do not believe there is any system in America that needs attention as badly as transportation. It is bogged down. They are not planning ahead to meet our Nation's future needs. They are not looking at the necessity of moving large numbers of people in this very mobile society.

Some of the problems that are attributed to the postal service are not deficiencies within the postal system. They are deficiencies within the transportation system that is handling the postal operations.

Secretary HICKEL. We will have some proposals on this whole airport question.

SAN JUAN AND VIRGIN ISLANDS AIRPORTS

Mr. RIEFEL. I want to ask the Secretary and some of the staff, in connection with airports down at San Juan—the Virgin Islands, where there was some concern on the part of fish and wildlife people, particularly with the birds and fish I guess that might be at least disturbed to the point of being destroyed by the airplanes——

Secretary HICKEL. On this new airport that they were considering building in the Virgin Islands, I went down and looked at it and I think it will be an environmental disaster. I am not against progress. I think we can solve this problem. But I don't think we should do it in a way that we are trying to approach it. I think the present airport can be expanded to where it needs to be expanded. They are not going to need a great big jet airport on every one of those islands that are 20 minutes apart.

If they really want to take care of the people, which they can, I think the whole marine complex of the Virgin Islands has broken down from the standpoint of transportation and to use a beautiful coral reef section of a bay and to destroy several miles of it and not to figure out the kind of transportation they really need is wrong.

They can land 727s at the moment where they are. I think we can upgrade that to the point of safety and taking care of the passengers. Beyond that, in really showing the people around the island—that is what they basically do if they move their airport to the other side—you could do it with a floating marine kind of complex.

I talked to Laurence Rockefeller about this. He is trying this out in one of his places. In moving them around they could use marine transportation, high-speed or otherwise. Availability of transportation now from the standpoint of jets is there.

When you have the limited amount of land on an island such as the Virgin Islands, and to take one section of a main island and eliminate one tremendous hill and fill in this great estuary, I think it is not the right way to go. I don't think we have to go that way. We said hold it.

GRAZING FEES

Mrs. HANSEN. I think you are right.

What is going to be the departmental policy on grazing fees?

Secretary HICKEL. I said and I believe that we have an obligation to wait a few months after 5 years of a study by very eminent and prominent people and see how the Public Land Law Review Commission addresses iteself to the whole problem of public lands.

We have some thoughts on it. We have some positive thoughts. We don't know whether they are exactly right but we are working at the staff level.

After we get the Public Land Law Review Commission's report and study it, we are going to take an approach to that.

Now—I will talk on the record for a moment on the standpoint of philosophy. It doesn't mean it will work in every individual case. I think the use of public lands has to be upgraded but by the same token, let's say that the rental fee increased over 5 or 10 years. If we could get the Bureau of the Budget to agree, maybe up to 50 percent should go back into range management, whether it is wildlife, fishing, or whatever it might be, to upgrade those lands so they will again produce more. But the idea of charging more without a program of upgrading them is not in the best interests of the American public lands.

If they don't address themselves to what we think is our departmental, and maybe this committee's satisfaction, you are going to have definite proposals from us.

Mrs. HANSEN. Never was anything proved more conclusively than with the rangelands in New Mexico. We saw thousands of acres of grazing land, some of them the Bureau of Land Management's and some of them belonged to the Forest Service, that had a real need for land management. They need the money returned to the land.

TRANS-ALASKA PIPELINE SYSTEM LEASES

Mrs. HANSEN. Now we will turn to the issuance of leases for TAPS. We had most interesting hearings on your supplemental request. We went into all the problems associated with the Arctic terrain, preservation of the ecology, and the repayment for those costs which the Government is forced to incur for protection.

Have the stipulations been signed to date? Have there been any leases issued? What is the overall policy at the present time?

Secretary HICKEL. No right-of-way leases or anything of that nature have been issued. Where we are today is that we have asked—do you want to go through the whole thing?

Mrs. HANSEN. I think we should have this on the record.

Secretary HICKEL. No. 1, I said, when they first came in with the application in June, to expect to get a right-of-way by July 1, that this was an application that didn't have any knowledge of the facts. We couldn't have acted on that application intelligently across that much section of known country, and I would not act without the facts.

Mrs. HANSEN. I think it might be well to have in the record the length of the pipeline, the amount of land under Government domain, and the amount of land under State domain.

Secretary HICKEL. The pipeline is 710 miles long. I don't have the exact percentage of State and Federal lands, but it is all governmental. We will put it in the record later. It is basically governmental—Federal or State.

Mr. LOESCH. The total right-of-way would encompass 8,606 acres, from one end to the other.

(Additional information follows:)

PROPOSED ALASKA TRANS-ALASKA PIPELINE

Land ownership pipeline crosses	Length of pipeline (miles)	Acreage in right-of-way
Bureau of Land Management	624	[1] 7,564
State of Alaska	54	[2] 655
Military	28	[2] 339
Private	4	[2] 48
Total	710	8,606

[1] 54 feet wide for pipeline plus 46 feet for construction access. Total width, 100 feet.
[2] Assumes 100-foot right-of-way.

Secretary HICKEL. Thank you. So, No. 1, we said that when we had the geological and the engineering information, to evaluate the areas traversed, then and then only would we evaluate it and make a decision.

Now, that has been several months ago. I have been advised that the core drillings in the Copper River Valley are from that section from the Yukon south, north from Fairbanks, down to Valdez. If

they are brought in to us by the 20th of February and, we were told those core samples will be brought in by then, then we will be able to evaluate whether they could, or how they could go through that unique permafrost area known as the Copper River Valley. Permafrost itself isn't the problem. Permafrost in gravel isn't a problem. Permafrost, when it is the kind of conglomerate that when it thaws out becomes weight supporting or has good bearing, it isn't any problem.

It is the permafrost where a high degree of the geological content is silt and water, and when this permafrost thaws out, you can pour it out of a cup.

Mrs. HANSEN. We walked on some of it when we were in Alaska.

Secretary HICKEL. Yes, and if it is disturbed, it will thaw out and basically won't support weight. So the best way I could explain that unique kind of permafrost is if you build a pipeline across a frozen lake it would be stable until the ice thawed out, and then it wouldn't have any stability.

We have about a 10-mile stretch in Copper River Valley that is really concerning us. At that point we have to decide where we go above ground, and what criteria we use to go from below ground to above ground, and what degree of stability. Do we make that decision from an engineering standpoint that we have to go above ground or below ground?

They haven't made that decision. That information isn't there, but we are getting it. When we have that decision and if there are, say, 10 miles, above ground, in 350 miles, we think we could live with that. But if there were 50 miles above ground, we would need public hearings to see whether the public would accept that kind of problem.

I would like to explain that this isn't just an ordinary pipeline. When you are above ground for great distances, you are building a China Wall. It would be about 7 feet high, as high as a normal door in your house. It would be also 5 feet in diameter, a 4-foot pipe plus the installation.

So we have to be careful of the environmental effect from the standpoint of how will it look. Would it divide up certain parts of the country? If there are, like I say, stretches that you could live within, 10 miles or so, and they had passages for animals, or there weren't any in that area, then that would be acceptable.

These are the things we asked. We have not arbitrarily held the line up. I know the country, and I know the problem. I wouldn't want to arbitrarily hold it up, nor arbitrarily say go to it. That wouldn't be the right way to do it.

When we do have this information we will decide.

Now, who will pay for—up to this point, if we have any questions on the engineering, not cost factors, but on how we are evaluating whether it should go in this area, whether it has to be rerouted—we have the authority, you know; even if we grant the pipeline permit, our stipulation says that if we run into a problem we can stop that construction at that point, and reevaluate it. They accepted that.

I think, with those stipulations and with the philosophy we are using, we are doing everything we can to see to it that there can be progress, but the progress won't hurt the environment or the land.

Mrs. HANSEN. Do you contemplate having to alter the stipulations any time after construction starts?

Secretary HICKEL. Yes, absolutely. It is written right in the stipulations. We can stop construction, absolutely. If we don't have the information we need or if we are fearful of something, we can reroute after they start construction. That is all part of the stipulations.

No one is going to do anything to hurt anybody. The main thing is we are not going to allow the public to be harmed, either.

If I might say this, I am thankful I do have the knowledge of the country under this unique situation, because to build a pipeline isn't the problem. It is to build a hot pipeline in cold country, that is the problem. They said, "Well, Russia builds many pipelines." That's true, but not hot pipelines. This is the difference.

I want to emphasize again that hot pipelines just in permafrost isn't the problem. It is the unique kind of permafrost that can cause the problem. Because I have seen it thaw out, and you can just pour it out of a cup. It has no base. This is the kind of thing that we are faced with.

Now, when we get north of the river going on up to Yukon, we don't have information on their geological information from the standpoint of core drilling as of yet. They don't have it. We don't have it.

I think that problem will be greater, although it is in a more remote area, and possibly the public could stand more above ground at that point than they could, for example, in the Copper River Valley.

I think, in my own opinion, with the knowledge that we have, that there will be much more above ground north of the river, north of Fairbanks, north of Yukon, than in the Copper River Valley, although it wouldn't be the same kind of a problem.

Mrs. HANSEN. Do you anticipate any problem with the caribou crossing the pipelines?

Secretary HICKEL. Not when you get up north of the Yukon, and far enough east. Caribou travel laterally with the problem rather than crossing the problem—the pipeline—and we have had tremendous pressure, which doesn't bother us. It's the kind of pressure you would normally expect to have from people that have to get a job done. But we have taken as professional an approach to this as is humanly possible.

When we get the information we will make the decision.

DESTRUCTION OF GAME ANIMALS

Mrs. HANSEN. There was an article in the Oregonian last week about the destruction of game animals by the crews belonging to oil companies. What is the Department doing about this?

Secretary HICKEL. Basically, the taking of game animals belongs in the jurisdiction of the State.

Mrs. HANSEN. Does this also hold true on Government land?

Secretary HICKEL. Yes. Basically—on park lands, no. Not national parks. But basically, we have the authority——

Mrs. HANSEN. Does the State work with the Bureau of Land Management to set standards.

Secretary HICKEL. We have some pretty good working arrangements with those people. For example, on a unique place like Nunivak Island—to show you we can do something—where we have the musk ox, I prohibited shooting them, though they passed a bill in the State legislature, and I vetoed it when I was there. As soon as I left, they

sent me a telegram saying, "You're not here, we'll pass it again." They did. I asked the solicitor to help me out. We stopped that hunt. That was a unique thing.

Mrs. HANSEN. These criticisms should be directed to the State of Alaska, rather than at the Government.

Secretary HICKEL. They control the hunting outside the national parks. We can legally do this, but it raises the ire of all the sportsmen in the country. It doesn't really bother me. If it gets out of hand, no problem. I think we would step in if it gets out of hand. I don't think it has been out of hand. I've been on the North Slope many times.

Mrs. HANSEN. Did you see the article?

Secretary HICKEL. No.

Mrs. HANSEN. I think it was in the "Northwest" section of the Oregonian last Sunday. It was also on television the other night over one of the Portland stations.

DRILLING CREWS

Secretary HICKEL. That's the drilling crews. All of Prudhoe Bay is on State land.

Mrs. HANSEN. That's where these crews would operate?

Secretary HICKEL. Yes. All State lands. That doesn't mean we're not watching it.

Mr. GLASGOW. I might make one comment. Most of the oil companies prohibit their employees from having firearms in the area. Now I know there are some that get by otherwise, but most of them prohibit firearms.

Mrs. HANSEN. I thought this should be brought out for the record. When accusations are leveled against a Department, it is only fair to determine the jurisdictions.

Secretary HICKEL. That is right. When I threatened to stop all hunting on Federal lands of bulls, the letters really came in. They don't want this jurisdiction taken away from the States.

All I have to do is threaten.

We are getting a bill in the Alaska Legislature on this very problem now but there are certain jurisdictions we have to be careful not to overstep. We don't mind doing it if that is the last resort. We will. But it is a very touchy thing.

FEDERAL FUNDS FOR PREDEVELOPMENT SERVICES

Mrs. HANSEN. This brings us into the second phase of the TAPS program. The expenditure of Federal money for the predevelopment environmental study, the protection after construction starts, and the maintenance after the construction is finished. The committee was concerned because it appeared Alaska would get the revenue; the oil companies would get the profits, and the Government would get the bill. We thought that there should be the opportunity to recoup these expenditures from those who were benefiting.

Secretary HICKEL. The Under Secretary and I discussed this at great length. There are two schools of philosophy. I think one way or the other the developing concern, whomever it might be, should pay the bill. How we collect it is another point.

TAPS RIGHT-OF-WAY FEES

I think, although I don't know whether we can do this now or not—the solicitor will have to check me on this—I think there should be enough fees, right-of-way fees, to recoup whatever costs we have to protect the public domain for the public.

I think we would have a better arm's length enforcement if we paid our inspectors to do this ourselves and then charged the oil companies a right-of-way fee to use the land and to recoup those costs and to take care of continuing costs.

TAPS COSTS AFTER CONSTRUCTION

As far as pollution or costs after it is built, they can be written right in the stipulations. There can be absolute liability. There can be all those things to protect the environment that are necessary.

I wouldn't want to elaborate on them now but they could be there. We plan to assess the oil companies the cost of supervision. These receipts will be deposited in the general fund of the Treasury.

SECRETARIAL AUTHORITY TO SET PIPELINE FEES

Mr. MELICH. It is our opinion the Secretary has wide discretionary authority to impose such fees as he thinks are proper. There is some question that comes to our mind as to whether some of the functions that we are performing are normal functions that the Department would perform and would not charge. This may enter.

I don't know what those are. Aside from those——

Mrs. HANSEN. We have examined the budget. We saw an effort to take funds from other programs in Alaska to fund the pipeline.

ALASKAN NEED FOR FEDERAL FUNDS

Knowing the needs of Alaska this practice could not go on long without shortchanging Alaska and the Federal lands in Alaska. You also have the problem of uncompleted surveys. You can't settle your Indian claims until this is done.

You cannot in many instances determine leasing policies until you have completed your surveys.

I think this committee would be very reluctant to see Alaska being short changed. The fee structure you adopt should reflect the cost to protect the environment.

INTERIOR POLICY NEEDED IN ALASKA

Alaska is receiving reimbursement for each and every gallon of oil produced. The Federal Government isn't going to receive any remuneration unless there is a firm policy of land-use fees adopted. This is why the committee is very concerned that you reflect in the fee structure those costs related to the pipeline, so that we do not short change Alaska or the Federal development in Alaska. I think I may point out, Mr. Solicitor, that according to the testimony of Mr. Pecora, this pipeline is going to be the forerunner of many others to come.

This could well be the beginning of many kinds of development in the Arctic. The policies that are set today are very meaningful as far as the entire area is concerned.

QUESTION OF RIGHT-OF-WAY COSTS PAID BY OIL COMPANIES

Secretary HICKEL. There isn't any doubt that the developing entity, the oil company, should pay the cost to the Government in right-of-way fees or in direct costs. I wish we had a policy set on the use of lands and this whole inventorying and cataloging, so if these were private lands they would have to pay something every year for a right-of-way. This is really the professional way to handle it.

I would like to come up with some idea of a right-of-way cost across Federal lands, whatever that might be, to ascertain and anticipate future costs and also to pay for the ongoing costs.

If we just give them a flat fee we still don't solve the problem of 10 years from now.

RECOVERY OF COSTS BY THE DEPARTMENT

Mr. HITE. In our justification, Mrs. Hansen, to the Budget Bureau, we had included a reference to extraordinary costs. We had a discussion which I may say was semantic in nature in which we finally had that word stricken.

Our current justification language breaks out the pipeline costs for each of the bureaus as a specific activity line and we say that we will—that all such costs connected with this work shall be reimbursed by the pipeline right-of-way applicants. This is suitable language to us.

Mrs. HANSEN. What was their objection to the word "extraordinary"?

Mr. HITE. I feel that they thought we were using a play to not recover all costs by saying some costs weren't extraordinary. It is our intention to recover all of the $3,750,000 we have in this.

Mrs. HANSEN. This was my understanding from the reply we had from the Department after our interrogation in the supplemental hearings.

Mr. HITE. It was the will of the committee and it is our intention—at the budget level I am chairing a committee for the Secretary with all the interested parties and a representative of the Solicitor's office to determine, to break down all reasonable costs—all costs attributable to the construction of a pipeline and we hope to have this information no later than February 27 at which time we will be able to have a package to present to the Secretary and this will clarify the picture for the Solicitor for his negotiations.

Mr. MELICH. Our opinion goes to this very point. It is our opinion the Secretary has authority to impose such a charge. It is a matter of negotiating it out with the TAPS at the time the permit is issued and I am sure the Secretary wouldn't issue that permit until he is sure——

Secretary HICKEL. I don't know what they anticipate.

Mrs. HANSEN. I think you are right. I think the policy is most important as far as public domain is concerned. It may have a more far-reaching effect than anybody could now imagine.

APPLICATION FOR PIPELINE PERMIT

Secretary HICKEL. I think one of the problems that happened here shouldn't have happened and there was nothing the State or Federal Governments could do about it. They go in and make an application for a route from here to there. Let's say from Prudhoe Bay to Valdez. It would have been more prudent on their part to have gone to the State—I was Governor at that time—they never came at that time—or to the Interior Department of the Federal Government, and say let's work on a route that is acceptable to all of us. We get an application that says we want to go from here to there. Then we have to act on that application favorably or unfavorably. It would have been of great interest to industry and Government, State and Federal, if we could have sat down and said, "Look, let's figure out what is in the best interest of all concerned, because it is public oil crossing public land."

Now, it is just as simple as that. They have a lease on public facilities. We have got to instill that more and more into those people that use public facilities, that they have to deal with the public.

Mrs. HANSEN. We wouldn't have had our environmental problems today if this concept had been in effect 100 years ago. You would have avoided some of today's problems and today's hazards. While we are on the subject of TAPS does any other member of the committee have a question?

INDIAN LAND CLAIMS IN ALASKA

Mr. REIFEL. I saw in the official paper of the Association of American Indian Affairs the headline the Indians of Alaska are happy about a decision of the appellate court in connection with its land claims.

Mr. MELICH. That is the decision that Alaska brought against Secretary Udall for the issuance of certain patents on lands that the State had applied for and the native Villages of Alaska, or some of them, intervened as parties. The case was appealed to the ninth circuit on a motion for summary judgment. The circuit court sent it back to the district court claiming that it would not rule on the motions for summary judgment, and that the court should take evidence and determine what the facts were. They also mentioned in the decision that because of the pending legislation to resolve this issue the district court could wait until Congress resolved this, which was an unusual thing to put in a decision. The court said that this is such an involved question that it hoped that Congress would resolve it and not the court. That is where it stands.

INDIAN LAND CLAIMS IN PIPELINE AREA

Mrs. HANSEN. Which brings up the subject of Indian land claims on areas traversed by the pipeline.

Secretary HICKEL. That would be all of it, basically.

Mrs. HANSEN. What do you do with the Indians in the meantime?

Secretary HICKEL. Well, I think—first, they originally granted or wired us their concurrence granting the TAPS people a permit. That went on for several months. Now, in the last month or so they wanted to withdraw their concurrence that they should get a permit. It boils

down to a legal question. Do they have a legal claim or a moral claim? I always said in my testimony as Governor and as Secretary that if there isn't a legal claim there, and the best of attorneys say there is not a legal claim, there is a moral claim. That is the reason why we are trying to settle this via the legislative route. If it is settled by legislation it is settled once and for all. If it goes into the Court of Claims, it might be there for 20 years. This is why we wanted to face this—I testified on this first in 1954 and again in 1956 about how we should face the native land problem with the statehood bill. They didn't want to face it at the time of statehood. They wanted to postpone it. I said if you postpone it it will just cost you more money. At that time they talked about $15 or $25 million. Now we are talking about $500 million. I said that is a justifiable claim. We have to face it. I would hope that Congress faced this issue because otherwise in my opinion you would have chaos.

Mr. REIFEL. Are you discussing here this item that says Transalaska Pipeline sued for $40 million by five Alaskan villages?

EMPLOYMENT OF ALASKAN NATIVES

Secretary HICKEL. Yes. They said TAPS haven't trained as many native people as they should. The real problem is TAPS hasn't started. They haven't anything to do. We haven't given them a permit. Part of our stipulation is that they have to train the native people and use the native people.

Mrs. HANSEN. Before you issue permits you have to have your Geological Survey report, Bureau of Sport Fisheries report, BLM report, and all the others. Then you can make your decision.

Secretary HICKEL. Even the right-of-way permit doesn't give them a construction permit. It just says we have agreed that we can go this way. Now we have to figure out how to design it.

Again I want to emphasize we are not dragging our feet or being arbitrary. Ten years ago that right-of-way for that pipeline would have been granted 2 weeks after they applied for it formally. I wouldn't want to say 2 weeks, but a normal length of time. We had the canal oil project in territorial days that went from Canada clear on up to—well, I think that being that this is a milestone, we are going to take the time to evaluate and anticipate everything that is possible to do. We will take the criticism that we are taking too long and that is sometimes difficult too, but I would imagine we can make this decision, for your information, one way or the other in April.

NATIVE GROUPS SEEKING INJUNCTION

Mr. MELICH. We have heard rumors that if some resolution of the matter is not made in the settlement of the native claims that the Secretary could possibly face an injunctive action for the issuance of this permit by some of the native groups. We have so many lawsuits pending now against the Secretary such as Santa Barbara—and so forth.

Secretary HICKEL. I think I am just going to move into a courthouse and live there.

Mr. MELICH. The Justice Department will spend a lot of time defending him.

Mrs. HANSEN. They do not have the usual tribal organization. They have the village organization. Then they have the Federation of Alaskan Indians. How are they operating, as individuals or collectively?

Mr. MELICH. Basically they have a group of attorneys working for organizations—organized and unorganized.

Secretary HICKEL. It is a very complex problem. We are getting the information we want and we are not overly concerned about industry wanting it tomorrow, nor are we being overly concerned about saying it will never happen. We are just getting the information to make the decision. That is about all we can do.

Mrs. HANSEN. The committee is interested in having all the facts.

Secretary HICKEL. At first they thought they might have the pipeline by September 1. Then by Thanksgiving. We thought so too, if we had had the authority. We thought then, by the end of the year. Then they thought by the end of January.

ISSUANCE OF PIPELINE PERMIT BEFORE LAND SETTLEMENT

Mr. REIFEL. If the pipeline permit is given, will it be given before legislative settlement is made with the Indians?

Secretary HICKEL. I don't think there is any doubt about that. You might get the native land claims settled this session. You might not get it settled for years.

Mr. REIFEL. If you don't, in what way will the Indians be protected in the event——

Secretary HICKEL. Only through legislation basically.

Mr. REIFEL. If there is an income from the permits——

Secretary HICKEL. Well, this is such an involved thing, it is like saying you could build a building up there and if they said that it was on native land, who would own the building? It is beyond the legal point. It must be settled legislatively. We couldn't say legally this problem wasn't addressed at the time that we bought the country from Russia. How do you get down to the point of who owns what? It goes back to the entire history of America.

Mr. REIFEL. Then if a legislative settlement hasn't been worked out by the time this other information is accumulated in the Department so you could make a decision, a permit could conceivably be issued before.

Secretary HICKEL. I don't think there is any doubt about it. If we did everything, I don't think we could have the native land claims solved in the next 90 days.

Mr. REIFEL. There would be nothing in the permit—would there be anything in the permit to protect what might later be Indian property so determined by legislative settlement?

Secretary HICKEL. I would think so if the pipeline went through a section finally deeded them in fee simple by a village. We are going to protect the natives in the stipulations in those areas wherein we have a legal right to do so, such as saying before you get the permit, you hire and train and do this kind of thing, et cetera.

RIGHT-OF-WAY AGREEMENTS WITH NATIVES

Mr. MELICH. Isn't it correct that the TAPS already has some right-of-way agreements with the natives over some of their lands?

Secretary HICKEL. Just roads, because in essence they blanketed the State of Alaska with the native land claims. Some even overlap. This is really becoming a great problem because, for example, if you were leasing land from the Government, and your lease expires and you have whatever you have invested in your ranch and cattle and so forth, we can't really renegotiate that lease. It wipes the guy out from under this land in this freeze setup. It is really quite a problem.

ALASKA LAND PATENTS DELAYED

If you had a homestead and you are living on it and you improve on it, and the most vital thing to you is that piece of land and you want title, we haven't been able to give a title since 1966. Maybe you were ready for patent at that time. It is causing an undue hardship on individuals beyond description. You are a long ways away, and it is a big country. If you were out on 160 acres and went out in 1961 or 1962 or 1964 and you were ready for patent in 1966 and you haven't even got patent today, and there is nothing you can do about it, these are real hardships.

Mr. REIFEL. Thank you.

Mrs. HANSEN. Mr. Wyatt?

Mr. WYATT. No questions.

REORGANIZATION OF BUREAU OF INDIAN AFFAIRS

Mrs. HANSEN. I understand there has been some reorganization in the Bureau of Indian Affairs. I wonder if you could outline if for the committee.

Mr. LOESCH. I have the proposal, Mrs. Hansen.

This is not a reorganization and we don't refer to it as such.

Mrs. HANSEN. That is not a bad word as far as this committee is concerned.

Mr. LOESCH. I know. There is going to be a reorganization in the Bureau but at the present time we are talking about an executive realinement of the top jobs to get more direct responsibility down to the reservations.

You are aware of the Secretary's thrust on policy for more flexibility in the Bureau and a reservation by reservation responsibility at the top levels. This is what this executive realinement is designed to do.

The realinement calls for 17 people. These are not extra people. As a matter of fact, I think there are one or two over what they have now. The realinement calls for two associate commissioners—one for education and programs and one for support services, with appropriate heads of divisions under that.

For instance——

Mrs. HANSEN. Now you translate these fancy terms of yours.

Mr. LOESCH. Gee whiz, I didn't know I was talking fancy.

Mrs. HANSEN. The committee has asked you in the past to get your educational programs organized into direct educational units.

Mr. LOESCH. Yes.

Mrs. HANSEN. And to get your resource programs as a direct resource unit.

Mr. LOESCH. This is exactly what this is designed to do. We are trying to follow the committee's prior recommendations in this executive realinement.

Mrs. HANSEN. We are not trying to be the Executive Branch. You have the core of a really good educational system if it were carried on as a direct educational program comparable to any good State department of education.

Mr. LOESCH. Right.

Here is our feeling on this. You are much better acquainted with it than I, after all, I have only been here a few months and you have devoted years to this.

It doesn't make sense for education to have somebody else setting the budget for a particular school, which in effect is what happens now.

This executive realinement will help, however, it is only a first step. It won't do everything that should be done.

What I would like to see, and I am sure what the Secretary would like to see in the way of reorganization, is a system whereby the local school boards run the schools just as in your counties. They would do this with staff guidance and support from the bureau, with line authority from the Associate Commissioner for Education and Programs right down to the superintendent of schools on the reservation. This is what we are aiming at.

Mrs. HANSEN. Good.

Mr. LOESCH. Now I wouldn't want the committee to get the idea, however, that we think this present executive realinement would go all the way on this. That is just the first step.

Secretary HICKEL. Do you have a chart to give her?

Mr. LOESCH. Yes, I do. Here is a chart of the proposal.

Now, there is another thing that we want to do however I am advised we couldn't because of civil service. We thought that it would be better from a policy standpoint, if we had some schedule C people at the top. We may get some schedule C people but I don't think we will get all we wanted.

Of course, I don't know what the committee thinks about that aspect of it.

Mrs. HANSEN. We are not going to interfere with your management. The thing that this committee is interested in is making sure that the Indian community gets the services and the opportunities which your Department is capable of producing.

Mr. LOESCH. Yes.

Mrs.HANSEN. Don't think you have to discard everything you have. You have some good schools. But I am going to serve notice on you right now that you must bring me a list of the schools and a summary of what you need. The day is long gone when you will be funded for Indian schools that aren't going to be needed when you can have a combination of schools.

Mr. LOESCH. We are aware of that.

Mrs. HANSEN. We expected a summary sheet on these last year. The committee pointed out the things we expected to be done because we think these schools are too important to have funds siphoned off into the wrong places.

Mr. LOESCH. We hope——

Mrs. HANSEN. Don't let HEW meddle with you either.

Mr. LOESCH. We hope to be fully prepared for that on the occasion of the BIA hearing. I would like to say that so far as the total program of the Indians is concerned this year, we are tolerably happy in spite of the problems on construction. It is one of the few places where we went up this year.

NAVAJO INDIAN IRRIGATION PROJECT

Mrs. HANSEN. You haven't provided funds in the 1971 budget estimate for the Navajo irrigation project.

Mr. LOESCH. Mrs. Hansen, don't ask me about that. I know it is terrible.

Mrs. HANSEN. What was the anticipated date for the completion of that project?

Mr. LOESCH. 1979.

Mrs. HANSEN. What is the anticipated completion date now?

Mr. LOESCH. If it were kept at the present funding level, I don't think it would ever be completed. There isn't any date at the present funding level.

Mrs. HANSEN. Don't you think there is something wrong?

Mr. LOESCH. Yes, I do; the same as the Secretary.

Mrs. HANSEN. I was talking to two members of the Ways and Means Committee about the welfare program. We either have the choice of giving Indians an opportunity to develop an economic viability or putting them on welfare.

I think it is unconscionable for us not to develop their economic viability and their economic potentials.

Mr. LOESCH. According to the studies, you are probably very well aware that the Navajo irrigation project would create 8,800 jobs; 6,600 of these would be Navajo jobs.

Mrs. HANSEN. How many acres will it irrigate? How much food will it produce?

Mr. LOESCH. A great deal.

Mrs. HANSEN. This is an area where the level of income and nutrition is as low as any place in this country.

We spend an awful lot of time worrying about poverty in other parts of the world. I think it is high time that we spent some time worrying about the problems of poverty in a great segment of our Nation. The Navajo Reservation is bigger than the State of West Virginia.

Mr. LOESCH. The thing we can't quite understand, and I am looking into that at the present time—we haven't discussed this with the Secretary yet—but Secretary Smith believes if there were a way for us to change that program out of BIA and right straight into Reclamation like other reclamation projects, and be under Public Works, that it would be funded at a faster rate. The problem is that——

Mrs. HANSEN. Why is that?

Mr. LOESCH. I will tell you, the trouble with it is that we must work within a departmental ceiling. Then we also have a bureau ceiling. I believe we originally asked for $12 million this year. Just from a practical standpoint, it is such a big program, such a big thing. Furthermore, BIA only acts as a conduit for this money. Reclamation is doing the work.

Somehow we just never get it funded at the levels we should be funded at. I have taken trouble to go back and look at the history of the project and it has been that way ever since it started. It is enough to drive me off my trolley, I will tell you the truth.

Mrs. HANSEN. I think the imposition of departmental ceilings is not exactly a sensible way to do business.

Mr. LOESCH. I agree.

Mrs. HANSEN. If private industry were running this program they wouldn't concentrate on the department that is doing the worst job or going the slowest to reduce required funding.

Mr. LOESCH. That is right. Of course, another thing is that when you get into a situation where you just have to take a priority, then you are likely—in other words, you yourself, if you were faced with the same problem and had to take a priority between Indian education, for instance, and the Navajo irrigation project, if you had to choose you would go on education. I think we all would.

Mrs. HANSEN. I would not allow anybody to tell me I had to take priorities between going to school with an empty stomach and going to school. That is what you are talking about.

I think the Bureau of the Budget ought to be forced to go out and spend a week on the Navajo reservation. Mr. Reifel and I can select some hogans out there for them to spend the weekend in.

Mr. HITE. At the preview prior to the budget formulation we get an allowance which is not estimated as a ceiling, though in effect it is, and theoretically, and I think practically, we——

Mrs. HANSEN. Tell them to start on guard uniforms the next time.

Mr. HITE (continuing) do have these other allowance items considered during the budget formulation process in the fall.

Mrs. HANSEN. I may tell you that as far as I am concerned I anticipate providing some funds for the Navajo irrigation project.

NAVAJO PROJECT FUNDING IN 1970

Mr. HITE. The rationale we were given on the $5.5 million appropriated in 1970 was this: $1.4 million was reserved in connection with the construction cutback and $2 million which was added on was reserved due to the expenditure constraints. It is anticipated this total of $3.4 million would be released in 1971 and——

Mrs. HANSEN. We are so concerned with the well-being of other countries, it is high time we become as concerned with our own land. I am not speaking as an isolationist but different priorities must be established.

Secretary HICKEL. I think in fairness that I can agree. I think the President realizes this and has taken a big step this first time, in all fairness. He sees that problem. He is heading in what I think is the right direction. I think it is just the speed by which he goes which could be construed as being fast enough or too fast. It depends on where you are.

Mrs. HANSEN. I am sorry for the President because he hasn't the vaguest idea of what is going on in the Bureau of the Budget. He would have to spend 365 days a year keeping up with what they are doing.

I think that the poverty, the poor land they are using, their grazing, their food production, their natural resources, and everything that is involved with the Indian people should be of major concern in the United States today.

Mr. LOESCH. The Navajo project will put approximately 110,000 acres under irrigation.

Mrs. HANSEN. That will support quite a few families down there. Do you have any other discussion on your general Indian policy?

Secretary HICKEL. None other than the possibility of the executive reorganization going through for an assistant secretary, which I think will help, and we have put on this Commissioner of Education in program support.

SECRETARIAL POLICY TO INVOLVE YOUNG INDIANS

Mr. MELICH. It is Secretary Hickel's policy in any way possible that he wants to hire young Indians and get them involved. We are making a concerted effort toward this end. That is what he does. I would like that known.

Mrs. HANSEN. We have a lot of talent and a lot of ability among our Indian people. I think some of the best programs I have seen are run by the Indian people. Mr. Reifel and I had the great privilege last year to take a tour through the Indian country.

I hope I have expressed the committee's feeling that before you drown yourself in HEW, that you take precautionary steps against it.

Secretary HICKEL. I got the message and I understand.

Mrs. HANSEN. I think those of us who sit on the Appropriations Committee know exactly where they will be lost. In the HEW appropriation bill we are to consider tomorrow there is not any Indian money included for some of the programs that we had expected would supplement funds provided in this bill.

INDIAN HEALTH ACTIVITIES

I want to know to what extent the BIA or you, Mr. Secretary, coordinates with the Indian health activities.

Mr. LOESCH. I can speak to that. We do coordinate very closely. Actually I think the Indian health services is sort of like the BIA in some ways. It is maligned once in a while more than it should be.

Mrs. HANSEN. They have done a very good job.

Mr. LOESCH. A very good job. Where we run into many problems is in the off-reservation Indian sector. That is our biggest problem in coordinating on Indian health. On the reservations we work very closely together and in my opinion it is an excellent partnership.

Mrs. HANSEN. Good. I think there has been a great deal of improvement in the last few years.

Mr. Reifel, do you have any questions on Indian policy? I will go down to answer while you ask your questions.

INDIAN PROBLEMS—ON AND OFF RESERVATION

Mr. REIFEL. I would speak to the problem of the off-reservation Indian and the reservation Indian. Most of the problems that I see surface in the newspapers is generally by off-reservation Indians and you will probably find most of them that are occupying Alcatraz from that group. It seems to me the attention they get in the news media is going to continue arising with greater intensity. I was wondering what position are you going to take about it? I have been trying to explain to the ones I have an opportunity to talk to that the Secretary of the Interior doesn't have any authority to spend a dime off the reservation and they should not blame the Secretary or Bureau of Indian Affairs. They should blame Congress who has legislative policy in that regard.

Mr. LOESCH. Unfortunately, I recently had to caution the Bureau not to get too involved in off-reservation Indian matters simply because we are neither funded nor set up for it. Before we can attack that problem as a department or as a bureau, we have to get that authority, as you are very well aware. We are, however, taking very strong steps in the Bureau to furnish what you might call coordination services. That is to say, a good part of the problem with the off-reservation Indian up to very recently, at least, has been that they did not know what services they were entitled to as citizens from other departments such as HEW, OEO, or whatever the agency may be. The Labor Department is also intimately connected there.

INDIAN AFFAIRS URBAN CENTERS

As you are aware, we have urban centers around the country. They are only supposed to handle the transition period. However, where we could do so without evading our primary mission we have set up coordination activities so that the Indian client, even though not a client of ours in those centers, can at least be directed to where he can get the service that any citizen would be entitled to from the other departments.

CONGRESSIONAL RESTATEMENT ON INDIANS

Mr. REIFEL. I would think if we could get the Congress to clearly restate its position that with respect to funding Indian programs that they are only for Indians who are resident on the reservation, we would maybe hopefully get away from a lot of the flack that has to be received by the Secretary and the Commissioner of Indian Affairs and by you, too. I think it is going more and more in this direction.

Mr. LOESCH. I had lunch a couple of days ago with a group of young Indian college students who were visiting Washington. They represented urban areas all over the country. They are a portion of a 21-member committee that is trying to get itself more or less in shape to represent all college age Indians. I doubt that that will happen. But their main complaint to me was about the scholarship program in the BIA. The program couldn't reach them because their folks were not reservation Indians. I felt for them but there is just not much we can do about that.

I do believe, unless I am greatly mistaken, we will get a leg up on this from the NCIO. The council under Vice President Agnew is devoting itself already to helping us or helping the urban Indian get full information on what services they are entitled to other than from BIA.

But as you say, if Congress would restate its position, it certainly would help us.

Mr. REIFEL. Off the record.

(Discussion off the record.)

Mrs. HANSEN. Back on the record.

OFFICE OF TERRITORIES

Give us a résumé on the current situation in the Trust Territory and Samoa?

Mr. LOESCH. Since I was before you—well, I wasn't before you on the supplemental.

Mrs. HANSEN. No; you vanished.

USE OF CIVIC ACTION TEAMS IN 1971

Mr. LOESCH. The action program is going extremely well, I think. You were kind enough to allow us to continue the civic action teams during 1971 and we have since that time made our arrangements with Defense and will be furnished with civic action teams in 1971.

MICRONESIANS IN HIGHER POSITIONS

We have, in accordance with the Secretary's policy, placed a number of Micronesians in higher jobs. We have four "distads" now, district administrators, who are Micronesians, and five deputies.

In the high commissioner's staff, he has brought aboard a goodly number of Micronesians and is getting more all the time.

I saw you, I believe, after I was out in the territory——

Mrs. HANSEN. Yes.

Mr. LOESCH. Yes, ma'am. I think the progress is fine.

USE OF SUPPLEMENTAL FUNDS

Our supplemental, of course, has provided us with funds to build schools in the eastern part where we needed them the worst. Since the supplemental came pretty late, our performance as of the 1st of January wasn't too good percentagewise for obligations. But I guarantee you are not going to be looking at me next July or August and saying we have a carryover so you will take it away from next year's appropriations.

We are getting it spent properly.

Mrs. HANSEN. I would like to see a little production before June 30.

MAJOR OBJECTIVES IN TERRITORIES

What is your major objective in these areas? How did you get along with the United Nations group?

Mr. LOESCH. We had pleasant meetings with them. The Secretary met the delegation and following a general discussion with him we moved over to the State Department and spent a day and a half of briefings with them. They appeared to be extremely interested in the action program that the Secretary has instituted and of course were also interested in the future political status talks.

We followed the lead of State on that and Secretary De Palma pretty much refused to give them information on current status of the talks on the basis it was in the middle of the things and it might gum the works.

I didn't wholly agree with his theory on that but it was more or less their bag.

STATUS OF TERRITORIAL ELECTIONS

Mrs. HANSEN. There was a highly interesting article in the Oregonian on the question of the election. I believe the suggestion was made that the quicker the elections are held, the better it would be. Do you agree?

Mr. LOESCH. Well, I am not sure about that. I really haven't made up my mind. This was the original thought. But the spirit out there seems to be—we seem to be making progress because of the successes of the action program.

Mrs. HANSEN. But you have one failure and you may——

Secretary HICKEL. I would like to talk on that a minute.

Mrs. HANSEN. Please do.

Secretary HICKEL. I think we gained one most significant point out there. That is, in my opinion—and by the way the solicitor just returned, and I will be going out in May again—I think that they believe we really sincerely want to help them achieve some sort of association. I think they have that confidence in us now. We can't allow that to drag out too far. I think in the general direction that we want to go. It is some time in the foreseeable future to be able to allow them to vote on a kind of a document that would be acceptable to us and to them that would have some sort of association in view.

SETTLEMENT OF TERRITORIAL LAND OWNERSHIP

I think the most difficult thing we have to settle is the land question. It goes back to the kind of people again. It is like the Indian or the Eskimo or Aleut or Polynesian or Asiatic. We have to understand that their highest value in reality is nature and the land. So they want to be sure, and their greatest concern is that we can't legally walk in there and just take the land away from them for no reason whatsoever.

I think that is a justifiable concern knowing and living with Eskimos and Indians and Aleuts and somewhat knowing the Pacific Basin. I think this is a real concern of theirs but I believe that when we get through with our people and our discussions on the kind of document, a kind of Act that they could vote on, that this can be resolved to the satisfaction of our Government and their people. They don't object to selling land to somebody. The Federal Government, or whomever it might be. They have asked for some pretty difficult things—for example, to deed back to them all the various Federal properties other than military that we might have constructed buildings on that they feel as if they own.

Now I think historically we will have to admit that there are two sides to that question and it is really their land historically, but I think they likewise have an obligation to the United States on what the United States is trying to do. But their real concern is that one.

If we settle that land question, I think that we are going way down the road. I believe that their attitude towards America is one that I think is just wonderful. I think it has come a long way in this time.

So in the general concept, I think their knowing that we care is a great big step for the Micronesians, and our interest in trying to solve some of the little problems—not going in there with tremendous Federal projects that overwhelm but the simple things of fixing a road, a simple water and sewer system that doesn't cost a lot of money—I learned that from living in Alaska. I know 25 years ago nothing happened and when it happened it just came boom and washed you out and didn't solve a problem.

What we are trying to do out there is do those basic things at the social-economic level that is acceptable to them, that they want done and that aren't of that magnitude that would upset.

With that general direction, and with this kind of approach I think we are going to win——

Mrs. HANSEN. Mr. Secretary, this is what this committee has been concerned about. We felt Micronesia was crisscrossed with studies and big promotional schemes. But the Department had ignored the little wells, the development of roads, the public health facilities, and so on. The simple things.

Secretary HICKEL. Like the transportation. They got surplus ships. This is more important to them than a tremendous building of some kind, that might satisfy our ego. We didn't ask for a lot of money. We can handle this. It is going in the right direction.

I will report back again when I get back out and return, which will be in May. I hope I can report as confidently as I appear now.

SEABEES WORK AT PONAPE SCHOOL

Mr. MELICH. I just returned from there, and in line with what Secretary Loesch said, I was at the school at Ponape, and the Seabees had been there for about a month with a ditchdigger, and the Father there in charge of the school said to us, "We are so grateful for that ditchdigger and that equipment and those two Seabees; they have done enough work in digging these trenches that would have taken us a year to accomplish it." That was done in a month. He said, "We only hope we could have kept them 2 more weeks." I said, "Why don't you do it?". Just then the boat was coming in to move the equipment across the bay.

So this was something that, as the Secretary says, meant so much to them. At Ponape when they dedicated the airfield, the first time they ever saw a jet, there were 5,000 people there.

BUREAU OF OUTDOOR RECREATION

Mrs. HANSEN. What is your general plan for providing outdoor recreation facilities, Mr. Secretary?

Secretary HICKEL. That is basically—I hate to say that that is still in the national recreation plan—how long will that take yet?

Mr. QUARLES. I wonder if Mrs. Hansen is asking about the nationwide plan, or the general concept?

Secretary HICKEL. I can talk about the general concept or nationwide plan, but the nationwide plan should be—where is Dr. Glasgow? Oh, that's BOR. That is why we have to get it back in one area.

Mr. LOESCH. Of course, I think Mr. Quarles knows more about that than I do, perhaps, as far as timing goes. We are presently involved——

Mrs. HANSEN. That doesn't sound like you, Mr. Loesch.

Mr. LOESCH. Because we have a few problems with it, Mrs. Hansen. There's no two ways about it. I wouldn't want to tell you how long I think it will take. I don't know.

Secretary HICKEL. It won't take 6 more months.

Mr. LOESCH. That depends on how deep we cut into the thing, whether Mr. Quarles—I hope not. I don't think it will.

Mr. QUARLES. I don't think it will take another 6 months.

Mrs. HANSEN. Please explain what you are doing, and where you are going.

EXISTING RECREATIONAL FACILITIES

Secretary HICKEL. A job was done by the Bureau of Outdoor Recreation which involved a comprehensive effort of gathering material on where recreational facilities exist now and what the desires are, and what the needs are.

Mrs. HANSEN. Does this encompass working with the States and local areas, Mr. Quarles?

Mr. QUARLES. Yes. It definitely included that. And also the recreation facilities that are available through private sources as well. We are now taking on the hard job of going through a number of particular program proposals and policy positions which were set forth, and trying to decide exactly which ones we approve and which ones we don't approve.

OVERALL RECREATIONAL GOAL

Mrs. HANSEN. Wht is your overall goal?

Mr. QUARLES. Well, the overall goal is to develop a program—perhaps the Secretary ought to speak to this, as to the general objectives—but it is to provide recreation facilities that will be closer to where people are, and this includes in the general metropolitan areas, and also specifically in the centers of industries where the huge numbers of people are, and where they have very inadequate recreation facilities.

Secretary HICKEL. The general goal is that we think that just to replace a physical structure in a ghetto; for example, with another physical structure that is new, only takes care of the physical environment of that person. In other words, he lived in an old building. Now he lives in a new building. We think in this whole space, recreational, and park program, that the greatest part of the saving of that man is the environment of how he thinks and how he can walk and really it's the mind and the soul and the heart.

URBAN PARKS AND RECREATIONAL NEEDS

I don't want to be that personal, but if we could get places or parks or recreation that people could get to on a daily basis, or get to without traveling a weekend or long distances, then you really satisfy part of the problem of the urban population, in the heart of a city. You can have all the national parks in the world. If they are a thousand miles away, they won't mean a thing to those kids in the ghettos.

I think we have been so concerned about those who could spend the 2 weeks' vacation, and haven't been concerned enough about the children and those people, and even the middle-class people, to get to something relatively easy.

In the city of Washington we have many places—we are in pretty good shape in the Nation's Capital. But when you get to the crowded cities of the East or South or Midwest, especially the East, where

public land isn't readily available, we should go in and buy those open spaces to create recreational or park recreational type of facilities. And that's the kind of thing——

Mrs. HANSEN. That is why I hate to lose our Columbia River Island to an airport.

Secretary HICKEL. This is the kind of thing we talked to the President about in our parks for the people, outdoor recreational program. It will take a lot of money. We are facing it. It doesn't mean that we won't be concerned about national parks such as Yellowstone, or wilderness areas. That is not that way at all. But we are going to watch that. But we are more concerned now about how to get these recreational areas in this kind of environment.

SUMMER IN THE PARKS PROGRAM

Mr. HANSEN. This, Mr. Secretary, is the reason the committee urged the first program of Summer in the Parks.

Secretary HICKEL. It's a great program.

Mrs. HANSEN. This was the beginning of something very creative for every urban area in the United States. I would like to express my appreciation to you, Mr. Secretary, for implementing this program; I would particularly like to express my appreciation to Mrs. Nixon and the Nixon girls for their participation last summer. I think this was a tremendous example of followthrough on a national program.

Secretary HICKEL. One more thing on recreation. Part of the thing I talked about earlier, about the availability of Federal land, will fit in with these recreation areas. Because many are close to metropolitan areas.

LAND AND WATER CONSERVATION PRIORITIES

Mrs. HANSEN. You have made some comments on land and water conservation. I trust you will send us a list of your priorities?

Secretary HICKEL. Yes. We sent it over to the Bureau yesterday.

Mrs. HANSEN. You mean it is reposing down at the Bureau of the Budget.

Mr. HITE. In less than 24 hours we met several times with Bureau representatives, and we think we worked out a mutual agreement on order of priorities.

Mrs. HANSEN. Are you coordinating your activities with respect to outdoor recreation. The Department of Agriculture has one program and HUD has another program. Is there an interagency coordinating group, so that HUD, the Department of Agriculture, and yourselves are not competitive?

Mr. QUARLES. I wonder if I could speak to that? This is a very important part of the answer which we gave earlier, as to the time required in the nationwide plan. We are meeting with the other Federal agencies, trying to work toward better coordination mechanisms, which is an extremely important job, one that has a lot of work to be done on it. And it is something we are trying to do in conjunction with completion of the nationwide plan itself.

Mrs. HANSEN. When you prevent overlaps you spend your money far wiser.

LAND AND WATER CONSERVATION FUND SPENDING IN URBAN AREAS

What percentage of the land and water conservation fund will be devoted to urban areas?

Mr. HITE. About 63 percent, under this present plan.

Mrs. HANSEN. About 63 percent?

Mr. HITE. Yes. Mrs. Hansen, I am speaking now of a separate transmittal item. The $189 million.

GEOLOGICAL SURVEY

Mrs. HANSEN. There is an increase of $2.1 million for the water data program. Do you have any comments on this?

WATER DATA PROGRAM

Mr. DOLE. We had our fourth meeting on the collection of water data last week. I don't believe there was ever a time when the availability of data has been so great as it is at the present time, because of the need for cleaning up of our streams. Coordination of the water data seems to be coming along real well. We had a very lively session. This was last Friday. And I think that we can report to you that this is progressing very satisfactorily.

UNDERGROUND WASTE DISPOSAL

Mrs. HANSEN. There is an increase of $903,000 for research on underground storage and disposal of waste, acquiring water use data, and coordination of water data acquisition. Please comment on this for the committee.

Mr. DOLE. I feel it should be because there is beginning to be more and more disposal of polluting material or if you wish holding of polluting material underground. Just exactly what this is doing to our water resources and perhaps our mineral resources is most important.

URBAN PILOT AREA STUDIES AND GEOLOGIC HAZARDS

Mrs. HANSEN. There are increases of $900,000 for urban pilot area studies and $400,000 for work on geologic hazards. Do you have any comment there?

Mr. DOLE. Yes, I do. I think that there has not been a program initiated within the Geological Survey for a long time that could have the importance as these urban geological studies.

Right at the present time we have initiated them in a nine-county area in San Francisco. We have about seven other areas under consideration. This is bringing geology—I like to refer to this as people geology because this has reference to what can the land best be used for, how does it affect septic tank disposal, where are the sources of building materials, what is the strength of the soils, and so forth. It gives a much better idea to the people who are developing urban communities what they could best plan for and how they could best direct themselves.

Geology—being a geologist I consider, and I think it can go without much argument, that it is one of the most basic of sciences. I feel that this is where your planning should begin.

Now, one of the big problems has been that geologists, being scientific people, tend to write for scientific organizations and scientific periodicals and have never learned to write so other people can use them.

Mrs. HANSEN. Or to speak so they reach the people.

Mr. DOLE. What I have——

Mrs. HANSEN. May I say that Dr. Pecora and his staff are very, very good in this field. I attended last year a briefing in Olympia on EROS and it was very well done. It was one of the best informative sessions I have ever seen.

Mr. DOLE. Thank you. I think the Geological Survey is certainly one of the really outstanding scientific organizations in the Federal Government.

Mrs. HANSEN. I do, too.

IDENTIFICATION OF GEOLOGIC HAZARDS

Mr. DOLE. And I think it has a very fine record. May I add on to this? The geologic hazards and the urban geology program. The urban geology program is largely for planning, for direction of growing population. Geologic hazards are becoming more and more evident with the great natural disasters we are having. These would include such things as out in our country of western Oregon, western Washington, landsliding. They had some terrible landslides if you will recall during this past winter. The identification and management of hazardous areas such as landslides, such as fault areas, such as high ground water, salt water encroachment; these things, I think, go a long way in protecting the citizen, the individual investment in his home. I think they are most important.

Mrs. HANSEN. Thank you very much.

BUREAU OF MINES

HEALTH AND SAFETY PROGRAM

Mrs. HANSEN. The Bureau of Mines has budgeted a $28 million increase for Health and Safety. Have you any specific plans for implementing this program?

Secretary HICKEL. That is basically the number of positions, 800-some—go ahead, Hollis.

Mr. DOLE. We have, Mrs. Hansen, right from the very instant that the Health and Safety Act was being considered in the Congress we started our planning on this, and we are going to be hard put to meet all our deadlines, but we are pushing. We have our recruiting going. We have our plans laid for the carrying our of this very important Health and Safety Act. We have not only the recruitment for the inspectors but we have our plans going forward on our research for health and safety measures.

Mrs. HANSEN. Good. I believe the time has come for the problems of the coal mining areas to be met.

Mr. DOLE. Unfortunately, Madam Chairman, it is these large explosions, these one-time disasters, that call attention to something that is going on very insiduously, the killing of one or two people a day, that kill many more people than do the explosions. Unfortunately I guess it takes a train wreck to put up a crossing sign.

Mrs. HANSEN. It does to spend money.

Mr. DOLE. And we have not only looked at the disaster-type health and safety but on the everyday—the roof fall, the one or two man accidents, the carelessness under ground. This is where we think we can do the greatest good.

MINE METHANE DRAINAGE PROGRAM

Then, in addition, is this methane drainage program that we have, that this should have been instigated many, many years ago. To drain the mine of dangerous explosive gases prior to the cutting machines going ahead into it.

Then, of course, there is the emphasis brought about recently due to the fast cutting machines of pneumoconiosis and, in hardrock mines, silicosis.

STUDY OF HELIUM PROGRAM

Mrs. HANSEN. No funds are requested for Helium. It is indicated that a supplemental will be submitted for 1970 and also 1971. What is the Department's policy on Helium going to be?

Mr. DOLE. Mrs. Hansen, this has been reviewed within the Department and now it is being reviewed at the White House level. I had hoped that this would have been done before now. Due to illness of myself and others it has been delayed, but hopefully we will have this completed by this week.

Mrs. HANSEN. Good. You know what the committee's opinion has been on this program.

Mr. DOLE. I don't know what the committee's views are but I would rather not have you go into it.

MAGNETO HYDRODYNAMIC POWER RESEARCH

Mrs. HANSEN. In the Office of Coal Research the department is asking for $400,000 for research on power generation. Have you any comments on that?

Mr. DOLE. Yes. We are not only going into research on MHD in the Office of Coal Research, but we also have very small funding on MHD in the Bureau of Mines. As you and your committee are well aware, the Office of Science and Technology and the President's Office completed a report on MHD this past summer in which it brings out that there has to be a great deal of basic research done on certain elements of MHD before it can be determined whether this will be a successful and efficient way for generation of power.

The $400,000 that we have in the Office of Coal Research, which, incidentally, is the only new project we are instigating at this time in OCR, will help to bring out some of these basic facts, develop some of the basic material that will be needed to determine whether or not MHD will be a worthwhile project.

OCR PILOT PLANT IN TACOMA

Mrs. HANSEN. You are requesting funds for the Pittsburg-Midway project to change the scope of the work. Does this mean you have given up the pilot plant which was supposed to be constructed in Tacoma?

Mr. DOLE. Absolutely not.

Mrs. HANSEN. All right.

Mr. DOLE. The $1 million the committee put in for the Pittsburg-Midway project for fiscal 1970 was not considered sufficiently large to begin a pilot plant program; $600,000 of that was utilized on bench scale work and it will be funded to the extent of $1.4 million in 1971 and hopefully we will obtain the basic information to make this pilot plant more successful than it otherwise would have been.

INTERIOR RESEARCH—COAL AND ATOMIC ENERGY

Mrs. HANSEN. What is the amount of money being spent by Interior in coal research compared with the amount of money being spent on nuclear energy research?

Mr. DOLE. May I expand on this? The amount of money Interior is spending on research in atomic energy?

Mrs. HANSEN. Yes.

Mr. DOLE. In atomic energy? Not the AEC? Interior?

Mrs. HANSEN. Interior.

Mr. DOLE. Thank you. I will see to that.

(Information follows.)

There is no research, as such, underway in the Department of the Interior on atomic power although both the Bureau of Mines and Geologic Survey have work in related fields, such as resource information on nuclear fuels. Coal research in the Department was funded at approximately $25 million in fiscal year 1970.

FEDERAL RESEARCH—FOSSIL FUELS AND ATOMIC ENERGY

Mrs. HANSEN. What are the figures for the Federal Government in the use of fossil fuels as compared with nuclear energy?

Mr. DOLE. I would be delighted to furnish the information.

(Information follows.)

R. & D. expenditures by primary energy source—Fiscal year 1970

	In millions
Uranium and thorium	$276
Coal	26
Petroleum, oil shale, and natural gas	5
Thermonuclear fusion	34
Air pollution control (stationary sources)	19
Other	8
Total	368

OIL IMPORT PROGRAM

Mrs. HANSEN. The President has an advisory committee studying the oil import program. Has the report been issued?

Secretary HICKEL. Yes. The President has it.

Mrs. HANSEN. When will it be available for the committee?

Secretary HICKEL. I saw a release today and he expects to release it possibly by the end of the month or the first of next month.

Mrs. HANSEN. Have you any idea what direction it will take?

Mr. DOLE. May I intercede for my secretary? Let him put it off the record.

Mrs. HANSEN. I understand the protocol and we won't press you on it. I hope that during the hearings for the Office of Oil and Gas that they will have the material available so we can have a good discussion.

BUREAU OF COMMERCIAL FISHERIES BUDGET CUTS

May I reiterate that I am not happy about the reduction of $5 million in the Bureau of Commercial Fisheries. No construction funds whatsoever are provided in 1971.

Mr. DOLE. For the Bureau of Commercial Fisheries?

Mrs. HANSEN. That is right.

INCREASES FOR OFFICE OF THE SECRETARY

Funds for the Office of the Secretary are increased from $9.9 million in 1970 to $11.9 million in fiscal year 1971, an increase of $2 million or a little over 20 percent. Why is this such a large increase?

Mr. HITE. May I answer that, Madam Chairman?

MINE HEALTH AND SAFETY HEARING BOARD

The primary—let me say the focal point of the increase is the establishment of a hearing board for implementation of the Coal Mine Health and Safety Act in the Office of the Secretary.

We are requesting only $275,000 for an increase of 14 positions aside from the increase attendant to the Coal Mine Health and Safety Board of Appeals and Review.

BETTER INFORMATION NEEDED FROM DEPARTMENT

Mrs. HANSEN. We have had a little difficulty in getting information from the Department of Interior. It has always been very important that the committee relationship with the Department be a two-way street. The more information we have, the better your Department fares and I may say the better job Congress is able to do.

I do hope that we can have as much cooperation as possible from the Department on the matter of information. We want information in order to make sure that the committee is well informed.

Secretary HICKEL. I would say that we have been slow. It is going to speed up in this reorganization we have brought forth, as I explained earlier, in bringing programs and program analysis up to the top floor. We are going to have that staffed so regardless of what bureau in our Department that you want information from, if we can expedite it and also flag it from the Secretary's level, we hope this is——

LEGISLATION PENDING

Mrs. HANSEN. I have here a list of 138 bills in the Interior and Insular Affairs Committee which are now awaiting reports. One of them is my own.

Everybody is curious about why it has taken so long. I have a note here that the Legislative Counsel is responsible for these. We don't know whether he reports to the Solicitor or Under Secretary or what.

Secretary HICKEL. He is in the Solicitor's Office.

One of the difficulties that he tells me is the clearing of a number of these bills with your friends at the Bureau of the Budget.

Mrs. HANSEN. Why is there such a backlog?

Secretary HICKEL. Have these bills been ones that you want to report out?

Mrs. HANSEN. They are bills before the legislative committee for which reports have been requested from Interior but have not been received.

Secretary HICKEL. We will take the bills that the committee will report out first and get them to BOB, and BOB will act on those that have to be reported out within a matter of days.

So it is really which one should we work on first? If we worked on No. 196 and then you wanted No. 5, we really have a problem. It is a priority problem.

Mrs. HANSEN. The committee establishes the priority.

Secretary HICKEL. It really does in our estimation.

Mrs. HANSEN. This is most enlightening.

Secretary HICKEL. They are the ones we have to try to satisfy. Otherwise it is nearly a physical impossibility if we get 500 bills, to report them all.

Mrs. HANSEN. They have been there since March 24, 1969.

Secretary HICKEL. We at one time had 500 some that I recall. We finally just got the ones the committee wants a hearing on and would zero in on those. I have asked and we are going to get two more attorneys. In fact we met on that yesterday. This is just to work with legislation and——

Mrs. HANSEN. Hopefully this session won't last until December this year.

Secretary HICKEL. I said 3 hours ago I want them in 2 weeks.

LIST OF LEGISLATION REQUIRING ACTION

Mr. MELICH. Would you send me a copy of that list?

Mrs. HANSEN. I would be delighted to.

Mr. MELICH. I will see if we can expedite some of this for you.

DEDICATION OF FPC PLANT

Mrs. HANSEN. I would like to express my appreciation today, Mr. Secretary, to you and your Assistant Secretaries for your frankness, your courtesy, and your cooperation. I would also like to express my deepest appreciation for the presence of Assistant Secretary Dunn and Commissioner Meacham at the FPC plant. In these days of spending money for many items of destruction around the world, when we dedicate one of the few construction jobs that has something to do with better relationship and understanding of people, I think it is an occasion that deserves attention.

Once again, let me say I enjoyed the hearings today and the committee thanks you for your cooperation.

Secretary HICKEL. I enjoyed it and I know our Department benefited by this meeting and we likewise think your questions are intelligent and give us guidelines on which to go, and direction, and we want to cooperate with this committee.

As I said, starting right now, this Department is going to become a very important Department in Government, considering the whole environmental picture. I do want to thank you.

Mrs. HANSEN. Mr. Flynt?

Mr. FLYNT. I too, Mr. Secretary, want to join with my chairman and my colleagues in expressing our appreciation for your appearance here today. I regret that I have had to shuttle between this committee and another subcommittee of the Appropriations Committee, and also the Rules Committee, where the Appropriations Committee is requesting a special rule for bringing up a major appropriation bill tomorrow.

POSSIBLE ENLARGEMENT OF INTERIOR FUNCTIONS

All of us are very much interested in the discussion of the possibility, and even the proposal, that additional functions of Government not now presently under the Department of the Interior, be reassigned to the Department which you head, and that that Department possibly undergo a change of name from the Department of the Interior to the Department of Natural Resources and Environment.

TRANSFER OF FOREST SERVICE TO INTERIOR DEPARTMENT

You may recall that earlier today I raised the question on the transfer of the Forest Service from another department of Government to either Department of the Interior or to a newly organized Department.

I made that suggestion, and I think that I detected a general concurrence among my colleagues who were here.

From your standpoint, can you think of any objection to the transfer of the functions of the Forest Service to the Department which you now head?

Secretary HICKEL. It is a difficult one to comment on, on the record. I wouldn't want to say that my colleague in the Cabinet would or wouldn't want to give up the Forest Service.

Mr. FLYNT. I would assume he would not want to give it up.

Secretary HICKEL. I would assume that is true.

Mr. FLYNT. I was thinking about it on the overall functions of your Department, not only as it is now, but as we think it may be expanded to become.

Secretary HICKEL. As I stated for the record earlier, I think for the benefit of the Federal Government from this time forward, it would be better to place jurisdiction of natural resources and environment in one department, whatever it may be called, and whatever its total jurisdictions may be. I think I would just be repeating what I said earlier, if I gave reasons why. I don't think you should separate natural resources from the environment, and you shouldn't separate natural resources in various departments of the Government. That is my philosophy.

CONSERVATION ACTIVITIES

Mr. FLYNT. Going one step further, to another service of another department of government, I have always felt that the officials of the Department of the Interior, have always been more conservation minded than any other department of which I have any knowledge.

I want to discuss not only about water conservation, but soil conservation as well.

I view an adequate program in soil conservation as necessary to the maintenance and strengthening of a proper environment, just as I do the question of air and water pollution.

During our very lifetimes, we have seen not only how water is polluted, which could have been saved if we had become sufficiently interested in the pollution control much sooner. In the part of the country from which I come, we have seen one of our most valuable resources, our topsoil, almost washed away. Even though there has been a soil conservation service in another department of government. There have been times when it seems that even the SCS, Soil Conservation Service, of which that other department is extremely proud, but they may not have utilized to the utmost the resources which are available to that department to really improve the soil conservation practices, and water conservation practices, throughout our country.

Again, I know this is a difficult question, and I am not trying to put you on the spot. I want to assure you of that.

Do you think a coordinated effort of conservation could be better conducted in one department of the executive branch of Government, rather than scattered out over many?

Secretary HICKEL. I think agricultural land, as such, is different from BLM land, or forest land, in that its use is an entirely different thing. One is basically private and the other is public.

I think in those areas where we can set guidelines for public concern—that is, on public lands, or forest lands—I think they could be better coordinated in one department. But that is not soil conservation as such, because one is private and requires a different kind of approach and different kinds of legislation, and different kinds of appropriations than public lands, which would be Forest Service lands and BLM lands.

I think those could possibly be better coordinated in one department, in differentiation from agricultural lands which are private lands, basically.

Mr. FLYNT. Even though most agricultural lands are in private ownership, I don't think you would quarrel with my statement that they constitute one of our most valuable natural resources.

Secretary HICKEL. I agree with you. I think it has been a difficult problem. I think there have been great strides. I was born and raised in the Dust Bowl country, and I saw lands literally disappear. I think they have done a great job in conservation of those lands.

LANDS WITH WATERSHED RUNOFF PROBLEMS

In lands with watershed runoff problems, especially in that great delta basin, we have lost a tremendous amount of natural resources. I would say that is a natural resource, one of the basic natural resources that is not renewable, such as a tree or a fish. And so it is highly desirable that we have a great conservation program when we are talking about topsoil as such.

I haven't given it a lot of thought beyond the public sector, and beyond those renewable and depletable resources that we call basic natural resources, other than those lands you're talking about.

Mr. FLYNT. I don't suppose there is a stronger champion of private enterprise system in the House of Representatives than I am, and yet I could never agree with anyone who would have a philosophy that an owner of a piece of land can do anything he wants to do with it. He cannot use it in a manner which is clearly against public interest. I think that the general public has an interest in privately owned land, to see that that land is retained for productive purposes for future generations, if we are going to be able to provide for those future generations. And if they can provide for themselves.

ALCOVEY RIVER PROJECT

Down in my home State right recently, quite a quarrel developed between the Soil Conservation Service, and both public officials and private citizens over the channelization of a certain watershed stream down there, the Alcovey River.

Secretary HICKEL. I know exactly what you are talking about.

Mr. FLYNT. There has been a tremendous amount of interest generated in that project, not only in my own district, but in three adjoining districts. When I began to get into this, I recognized the possibility that it might be well to transfer—to certainly consider the transfer of conservation activities to agencies of the Government which are primarily dedicated to the concept of conservation and conservation practices into the one department of the Federal Government which I think is more conservation minded than all the others. Divided authority over those types of projects is the answer. The answer may lie in the transfer some or many of those functions to the Department of the Interior. I think that the subject matter and jurisdiction over natural resources and their conservation and preservation is so closely tied in with this overall question of environment that they are part of the same piece of cloth and should not be separated.

JURISDICTION OVER TERRITORIES

In the event that the jurisdiction over trust and other territories should be the subject of discussion of transfer out of the Department of the Interior or certainly out of the new Department of Natural Resources and Environment, have you given any thought as the agency to which they might—those functions might properly be transferred?

Secretary HICKEL. I have thought about it. I don't have an answer. The President has asked us to bring in a report by April. It is a difficult question. It was suggested at one point that the Department of HEW take it. I objected for reasons that their whole direction is different than, say, the peoples of the American territories. We did think that maybe it belonged in a natural resources and environment department. I do not have his specific answer to that one.

Mr. FLYNT. I would give my views on it in this direction: I have done some study on this as to whether such jurisdiction should be transferred and each time I have come back to the conclusion that it is properly located in the Interior Department and should remain there or be kept in a newly constituted Department of Natural Resources and Environment, because of the special relationship which exists between the continental United States and each of our island territories.

So I have come up with the conclusion, and I throw this out to you for your further thinking on it—not for an immediate answer—that if you are called upon to make a suggestion that you might suggest that because of that special relationship that the jurisdiction over the island territories remain in Interior or a newly created and newly organized department.

NONVOTING DELEGATE FROM VIRGIN ISLANDS

Have you, during the more than 1 year that you have been the Secretary of the Interior, given any thought to legislation which would authorize a nonvoting delegate in the House of Representatives from the Virgin Islands?

Secretary HICKEL. As you know, they are electing their Governor this year. So does Guam. We have not held any hearings on it. We have thought about it, however. I can see the benefits because that was our only contact for many years when I grew up prior to statehood. I think this is something Congress would have to act on.

Mr. FLYNT. Of course.

Secretary HICKEL. It is something I personally could be for because I understand the problem. I am not saying the administration would or would not be for it at this point, but it would give better representation to peoples that are of distant lands, such as Micronesia, Guam, and the Virgin Islands. I think it is a great step in that direction

Mr. FLYNT. In view of the combined factors of the rapidly expanding economy and population of the U.S. Virgin Islands, together with the fact that soon the Virgin Islanders will be electing their own Governor instead of the Governor of the Virgin Islands being a Presidential appointee, that those factors indicate that it might be desirable and I hope that you will give some thought to it in the event legislation should be introduced to accomplish that.

Secretary HICKEL. We will not take a negative approach to that for the simple reason that we have a feeling for people who are not contiguous and who do have this distance problem. Personally I would lean toward that.

REPORTS TO CONGRESS

Mr. FLYNT. Frequently private legislation is introduced for a specific individual such as the retransfer of mineral rights to the owner of the surface rights of certain property which is now under the jurisdiction of the Department of Interior. Sometimes these bills go over from one Congress to another and it is extremely difficult to get prompt reports from the Office of the Secretary and the Office of the Solicitor to the legislative committee which has jurisdiction over these private bills.

I realize that you are short-handed. I realize that perhaps as you said the need for two additional attorneys in that section exists. And I realize that generally such a report must take its normal course unless there is an urgent reason for it. But when the same bill involving the identical land is reintroduced at a subsequent Congress, I cannot understand why it takes from 9 to 18 months to get an identical report on what is an identical bill except for the number. I wonder if you would comment on that.

Secretary HICKEL. I think you answered the whole question. It probably got in the pipeline and it came, although it was in before and went out and was reintroduced with another number, and came in with another number. Unless it were flagged, it probably took its place with 400 other bills. This is generally what happens.

Mr. FLYNT. If that is what happened, it seems to be absolutely inexcusable. Both the committee chairman and I as the author of one of these bills specified, in asking for a prompt report, that it was an identical piece of land involving the same property owner as a previous bill. I just wondered if it would be possible for you to give some executive direction, and if necessary, we can put a flag of some kind on letters that go over from one Congress to another requesting that particular kind of report.

Secretary HICKEL. We have what we call a cabinet meeting once a week in our Department where all Assistant Secretaries and staff are there and I bring it up every week and say I am tired of talking about answering mail. If you do not get that mail out I will get some new guys. It is a continuous thing. It is a real continuous thing.

We had one item that took about 45 days and it was brought to my attention. We are now flagging them when they get so old. There really was not any excuse for it. It is a continuing problem and we are getting better at it. I have to say that, because I know we are getting better at it.

Mr. FLYNT. It occurs to me that such would not involve any great amount of legal or geological research. All it would appear to involve would be the mechanical process of retyping an identical report.

MAIL VOLUME

Secretary HICKEL. That is right. Let me make a point that really causes a problem in thinking about this reorganization. It started the end of 1969 but in January of 1970 the Department received more mail than it did in all of 1968. This is due to the environmental and pollution problems that are coming to the forefront in America, and they are coming in to our Department. If you can imagine getting the same amount of mail in 1 month that the Department got in 1 year, then you will see this tremendous problem.

We reorganized the Congressional Liaison Staff in the Department. We have taken all congressional mail and put it in one spot. And then we reconstituted our phone system.

I have a record starting the first of the year that shows how many phone calls we received from Members of Congress. We are averaging on a 5-day week about 235 to 250 per day. Some days they get up to 350.

They all want to talk to me generally. Ninety-eight percent I cannot handle. Now we have a rotary telephone system. Three girls up there. This is in the last 2 weeks. We are trying to cope with this communications problem which is really growing by leaps and bounds. I made my report to the White House on this. The problem of the notions of the American people on environment and pollution has really centered in our Department and we are trying to handle it. We do not have all the answers yet.

We did take that problem you brought to us and put it in one category. All the congressional mail and calls—those are the ones that bother me.

COMMITTEE-DEPARTMENT COOPERATION

Mr. FLYNT. Mr. Secretary, we have enjoyed having you here with us and I thank you. I think your associates in your Department will verify the fact that this committee has always cooperated with the Department of the Interior, the Secretary of the Interior, and as far as I know with every function of that great Department of the executive branch of Government, and we have generally—I know sometimes you think the committee could have cooperated with you a little bit more—but generally I think we have been extremely cooperative——

Mrs. HANSEN. The committee is more cooperative than the Bureau of the Budget.

Mrs. HANSEN. Mr. Marsh.

Mr. MARSH. Three questions. Two on the record, one off the record.

It is a pleasure having you here. I think it has been a worthwhile presentation.

INTERIOR INPUT RE DEVELOPING COUNTRIES

In the past year what extent, if any, has your Department's advice, counsel, and guidance been solicited, in light of your experience in developing countries such as Guam and Samoa, on the prosecution of American effort in South Vietnam?

Secretary HICKEL. It is hardly any, to speak of. I would have to leave it like that. Very little input and very little request.

Mr. MARSH. Thank you.

The second question, one that is off the record.

(Discussion off the record.)

FLAG DISPLAY AT NATIONAL SHRINES

Mr. MARSH. The last question, on or about the 17th or 18th of November, I wrote you a letter in reference to the policy of the Department of Interior with respect to the display of national colors at national shrines.

Case in point, November 15, Washington Monument where the colors had been taken down after being hoisted on the standards.

What policy does your Department have in the future in re this?

Secretary HICKEL. They were put up for obvious reasons. They were taken down because one flag was torn down and desecrated. We thought it would be better to take them all down than try to put 150 or 200 policemen there and fight the battle of keeping them up.

The White House asked the same question. Due to the number of people involved—you are talking about the time——

Mr. MARSH. November 15.

Secretary HICKEL. Yes. The decision was made rather than create a scene, it would be better to take the flag down and protect it and keep them from being desecrated. One had driven off in the vehicle of the flag detail and the policeman saw it. That decision was made.

It could have been made that we could have called out the troops and said we will protect the national flag at that point and the superintendent who made the decision I thought made the right decision at that time.

Mr. MARSH. Of course I don't agree with that decision. It seems to me that you are really not giving the people who organize the demonstration the benefit of the doubt. They said that they were there to assemble peaceably and I think you would have to say in looking at their sojourn in Washington that they were generally well ordered, even though you may not have agreed with the purpose of the demonstration, and I didn't, but it would seem to me that the proper response would be that efforts would be taken to protect the national colors because we see the danger of precedence of this kind where other institutions are faced with demand they either fly the flag at half-mast or not fly it at all. I would hope that in the future your Department will reach a policy decision on this that will insure that people who use our national shrines use them in the condition in which they find the shrine and with its normal appointments, including the customary display of the American flag.

Secretary HICKEL. We had to make the decision quickly, whether to call in x number of enforcement officers or run the risk of letting them possibly desecrate it.

We had the choice of protecting them, or taking them down. That was the question. I looked into that personally.

Mr. MARSH. Were the individuals arrested who took the vehicle?

Secretary HICKEL. We arrested him—I checked on that.

Mr. MARSH. Let me know whether or not they were arrested and prosecuted and penalized, if convicted.

Secretary HICKEL. I will check on that. As I recall, there were seven involved. We will get that.

Mr. MARSH. You can fill that in in the record later. But I hope you will review the whole policy as to what you are going to do on this in the future.

Secretary HICKEL. That was a decision we had to make in a hurry because they strated in.

(Additional statement for the record follows:)

STATEMENT ON DESECRATION OF FLAG

The incident involving the tearing down and desecration of the flag occurred at the Department of Justice rather than the Washington Monument. Inasmuch as the jurisdiction of the Washington Metropolitan Police was involved rather than the U.S. Park Police, information concerning the arrest and prosecution of the perpetrators of the incident is not available in the Department of the Interior.

The matter of lowering the flags at the Washington Monument and the policy of the Department of the Interior with respect to display of the flag is contained in a letter of December 16, 1969, as follows:

Hon. JOHN O. MARSH, Jr.,
House of Representatives,
Washington, D.C.

DEAR MR. MARSH: Secretary Hickel has asked me to reply to your letter of November 20. He and I appreciate very much your courtesy in sending us copies of the remarks you made on the floor of the House of Representatives concerning display of the American flag at the Washington Monument on November 15. I am pleased to respond to your letters to us by giving you the circumstances surrounding this matter.

The planning for the National Vietnam Moratorium on November 15 was coordinated by an intergovernmental group under the leadership of the Department of Justice. As part of the planning it was decided that the Washington Monument would be closed since the grounds around it were destined to be the site of the principal concentration of demonstrators estimated at 250,000.

On the morning of November 15, National Park Service employees proceeded to raise the 50 flags around the base of the monument. At 8:30 a.m., when the last flag was being raised, an attempt was made by one of the demonstrators to drive off with the Government vehicle used by the flag detail. The offender was arrested and taken to Park Police headquarters.

Unlike flags that usually fly over Federal property from the tops of buildings, the 50 flags which fly at the base of the monument are located at ground level where they may be easily reached.

In view of the attempted theft of the vehicle used by the flag detail and numerous incidents involving militant groups on November 14, together with the disruptive activity expected to continue on November 15, it was decided that the flags at the base of the monument should be lowered. They were lowered between 9:30 and 10 a.m. This decision was also prompted by the improbability of simultaneously protecting 50 flags against possible attempts of desecration in the midst of a milling crown estimated at 250,000 persons, some of whom were known to be inclined toward disruptive activities.

You also inquired as to our policy with respect to the display of the flag. The applicable policy of this Department is contained in chapter 5 of its departmental manual. The pertinent part, 310.5.1, provides as follows:

UNITED STATES OF AMERICA FLAG

A. *Policy:* The display and use of the flag of the United States of America by the Department of the Interior will be in accordance with the joint resolution of June 1942 (Public Law 623) as amended by the joint resolution of December 22, 1942 (Public Law 829) and Presidential Proclamation No. 3044 dated March 1, 1954 (36 U.S.C. 175).

* * * * * * *

C. *Outside Use:* (1) The flag should be displayed daily, weather permitting, on or near the main administration building of every Interior activity.

* * * * * * *

Please be assured that consistent with the resources available to this Department, every effort will be made by it to comply with the foregoing policy which embodies the applicable congressional enactments.

Thank you for the opportunity to provide our comments on this facet of the recent moratorium observances.

Sincerely yours,

GEORGE B. HARTZOG, Jr., *Director.*

Mr. MARSH. Thank you, Mr. Secretary.

Mrs. HANSEN. Mr. Reifel?

Mr. REIFEL. I yield to Mr. Wyatt.

Mr. WYATT. I will try to take about 2 minutes in view of the late hour and be through.

I would first like to express my appreciation for the opportunity of serving with Mrs. Hansen as chairman and with Ben Reifel as the ranking minority member for the second year and I hope what I learned last year will help me make a contribution to the committee this year.

Mrs. HANSEN. You made a fine contribution last year.

Mr. WYATT. Thank you, Madam Chairman. Mr. Secretary, I would commend you for a very excellent appearance, both what you have presented and also for the contributions of your very able staff. I am particularly happy to see my countryman, Hollis Dole here, from the great State of Oregon.

SALINE WATER DESALTING PLANT

I am interested where this new water desalting module is going to be built. Is this going to be at Wrightsville Beach?

Mr. KLEIN. I don't think so

Mr. WYATT. Has that been determined?

Mr. KLEIN. It has not as yet been determined.

Mrs. HANSEN. I thought it was San Diego.

Mr. KLEIN. It is a question where we have difficulties with Pacific Gas & Light there.

Mr. WYATT. All right.

I would like to say—I think the shortest way for me to do it is just to make this statement.

O. & C. GRANT LANDS REVENUES

Mr. Secretary, I am sure that you know about the O. & C. lands and I would like to compliment you for the cooperation that you have given us in the past in helping to see that the appropriations process, that is the Bureau of the Budget, didn't repeal the congressional statute, which was attempted last year and the chairman of this committee and in fact all members of this committee and of the Senate committee were unanimous, in this regard. I was simply appalled to find that the same effort was made again this year after the beating that the President of the United States took, among others, in publicity for the effort made last year. I must say that I think there are some people in the Bureau of the Land Management, and I know Mr. Rasmussen is not one of them but I think there are some people in your Department who are pressing this thing and I am looking for them and I hope you do the same thing but I am most grateful for the help you have given us in the past on this matter.

STUDY OF THE OREGON CASCADES

I would like to also say that there is a very touchy matter which I am sure you are aware of, whether you are aware of the full consequences of it or not I don't know. It is the request that has been made by one of our two Senators for a study of the park potential of the Oregon Cascades. Senator Hatfield, then made a modified request asking that it be studied for all land use purposes.

Now I am fearful that if this study is undertaken, the same kind of pressures will be brought on the Government as were exhibited in the Redwood fight so that all of that land will be tied up pending the study for timber production and I would point out to you only——

Secretary HICKEL. About 8 million acres.

Mr. WYATT. Fifty-nine percent of the timber in the national forests in Oregon and about 10 percent in the country are involved and if you think the price crisis we had last spring was bad, just wait until we really start building houses.

Let me just say I am certain and I think you will find out that price crisis is just temporarily over and once the housing boom breaks loose it will really break loose. What we had last spring will be a very, very small example of the problem. Adding to that a potential reduction in timber supply would make a desperate situation very much worse.

FUNDS FOR FISHING VESSEL SUBSIDY

Finally, Mr. Secretary, I would hope that there will be more money in the supplemental request for the vessel subsidy program when it is finally authorized by the authorizing committee. Also I would like to say that the $200,000 fishery research money that was frozen by the Bureau of the Budget necessitated laying off in mid-December, four or five professional biologists on 4 or 5 days notice shortly before Christmas.

One of these men had six children. I find this absolutely indefensible and I think the President of the United States would too if he knew about it and I am fighting to get this money restored because this is a vital program.

Thank you, Madam Chairman, and thank you, Mr. Reifel.

Mrs. HANSEN. Thank you, Mr. Secretary, we are sorry you have been delayed.

FILLING OF POLICY POSITIONS IN INDIAN BUREAU

I understand that with the exception of the Commissioner and the Bureau of Indian Affairs most of the policy positions in BIA are filled with persons who are acting, is this true?

Mr. BRUCE. That is true.

Mrs. HANSEN. When will these positions be filled by permanent appointees?

Mr. LOESCH. May I answer that? Just as quickly as we get the thing cleared through civil service. This is what is holding us up right now and our information, it is just scuttlebutt, is that this will come very quickly.

I look for it within a week or 10 days, something like that.

NAVAJO INDIAN IRRIGATION PROJECT

Mrs. HANSEN. Regarding the Navajo irrigation project, how much of the money appropriated for 1970 is going to be spent?

Mr. LOESCH. If I can advise that you let Mr. Hite answer that—we are going to spend every dime we can get our hands on.

Mr. HITE. Madam Chairman, we will spend $2.1 million in 1970. The balance of the appropriation, the congressional add-on of $2 million, is in reserve due to the expenditure controls and $1.4 million was impounded pursuant to the construction cutback. These funds we are told will be released in 1971 and this is the only funding that is programed for the Navajo irrigation project at this time in this request.

Mrs. HANSEN. You are going to get further behind all the time. I think there were other funds that could have been impounded easier than those of the Navajos.

Mr. HITE. Over the years, the history, as we reviewed it——

Mrs. HANSEN. This is ridiculous.

Mr. HITE. Where we seem to be hung up is on the economics of the cost-benefit ratios, which we don't really feel are a valid criterion.

Mr. LOESCH. We don't think they are pertinent for this particular project at all.

Mrs. HANSEN. No, they aren't. You would have a different cost-ratio benefit if you would consider the hunger, poverty, and lack of jobs for the Navajo people.

Mr. LOESCH. You certainly would.

Mrs. HANSEN. Don't you think it is time the Bureau of the Budget looked at humanity?

Mr. HITE. I do.

Mr. LOESCH. Could I comment one more thing on that?

Mrs. HANSEN. It would seem to me this is unconscionable. The poorest people in the Nation.

Mr. LOESCH. One thing that concerns me as much as anything is the fact that where we don't progress as rapidly as we ought to on that project, the total cost of the project keeps going up.

Mrs. HANSEN. Of course.

Mr. LOESCH. And going up substantially. You are aware we have a new authorization—at least there is a bill——

Mrs. HANSEN. I am aware of it and I think this is absolutely silly. I fail to understand it.

Mr. LOESCH. The Commissioner doesn't either.

Mrs. HANSEN. I know. The Commissioner was in my office and I had a thorough discussion with him on these problems.

Off the record.

(Discussion off the record)

CONSTRUCTION OF QUINAULT HATCHERY

Mrs. HANSEN. I would like to compliment the Bureau of Sports Fisheries and Wildlife for the Construction funds included in the 1971 budget estimate for the Quinault Hatchery. Please deliver the message that freezing the 1970 funds isn't going to help the fish or the economy of the Quinaults.

Mr. HITE. Yes, Madam Chairman.

GENERAL POLICY ON PARK SERVICE OPERATIONS

MIS. HANSEN. I trust somebody in the Budget Bureau fishes.

I have two items about the National Park Service. There is a 16-percent increase for the Park Service. I think perhaps you should put in the record a statement of general policies with regard to operation of the national parks.

Mr. GLASGOW. I will see that that is done.

(Additional information follows:)

U.S. DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D.C., June 18, 1969.

MEMORANDUM

To: Director, National Park Service.
From: Secretary of the Interior.
Subject: Management of the national park system.

I have now had the opportunity to review with you the administrative policies, management principles, and long-range objectives for the operation of the national park system. During this review, I have considered the letter of May 13, 1918, sometimes referred to as the "Magna Carta" of the national parks, from former Secretary Franklin K. Lane to Mr. Stephen T. Mather, the first Director of the

National Park Service; the memorandum to Mr. Mather of March 11, 1925, from former Secretary Hubert Work; and the memorandums of July 10, 1964, and January 15, 1969, to you from former Secretary Stewart L. Udall.

The broad guidelines established by Secretary Lane still undergird the management philosophy of the Service. Each successive policy statement has reconfirmed this philosophy, adding new guidelines and new program emphasis to reflect the changing role of the national park system in response to the needs of our society.

For the information of the public and for your guidance in the management of the national park system, it is appropriate that I should outline my views on this important area of departmental responsibility.

1. I wish to make it clear that, except in one minor instance, I support the administrative policies, management principles, and long-range objectives of my predecessors. The exception relates to the operation of campgrounds by concessioners. I believe that the camping experience, even though more sophisticated equipment is being used, is still a meaningful part of the Government-operated visitor services program. Therefore, as a general policy, the National Park Service should operate campgrounds and not lease them to concessioners. Appropriate charges should be made for camping, except for backpack camping. Backpack camping is an historic program of the National Park Service and it should be encouraged. You should also emphasize a program of providing low-cost and rustic back-country facilities such as the chalets in Glacier National Park and the high Sierra camps in Yosemite National Park. At these facilities the visitor can obtain a hot meal, a bunk, or throw his sleeping bag on the floor. Such operations are small—usually a man and wife management team—and are accessible only on foot or by horseback. They enable an urban society—growing numbers of which are not prepared to cope with wilderness camping—to enjoy the scenic grandeur and re-creative values of a quality park experience at minimum cost and with minimum intrusion in the physical environment.

I am especially interested in your seeing that, to the greatest extent feasible, camping opportunities are made available to the youth of our Nation. To this end, I wish you to give emphasis in your management to an expanded program of hostels and group camps, especially in those areas near urban centers.

Also, I wish you would explore further the potential that might exist for the development of hostel facilities and organized camping on public and private lands surrounding park areas.

In connection with the camping program of the Service, I suggest that there might be considerable benefit in having the long-range objectives of this program considered by a joint task force of outside citizens and National Park Service personnel.

2. Well before the birth of this Nation's system of national parks, the belief that parks are vital to the physical and mental health of the people was eloquently expressed by Frederick Law Olmsted. In an 1865 report to the California Legislature, recommending the policy which should govern the Yosemite Valley and the neighboring Mariposa Big Tree Grove, Olmsted wrote:

It is a scientific fact that the occasional contemplation of natural scenes of an impressive character, particularly if this contemplation occurs in connection with relief from ordinary cares, change of air and change of habits, is favorable to the health and vigor of men; and especially to the health and vigor of their intellect * * * it not only gives pleasure for the time being, but increases the subsequent capacity for happiness and the means of securing happiness."

To secure these values and benefits in our predominantly urban society, we must bring parks to people.

I wish you to initiate, in cooperation with the Bureau of Outdoor Recreation, a study of what opportunities exist for an expanded program of Federal acquisition and federally assisted acquisition of park and recreation lands in the large urban centers of our Nation. Specifically, I have in mind such studies as the one now underway by the National Park Service and the Bureau of Outdoor Recreation of the proposed Gateway National Recreation Area in New York and New Jersey. In your study, emphasis should be placed upon the strategic location and quality of the lands involved and not simply on the quantity.

Your study should also include proposals for financing such a program.

Time is of the essence in formulating an action program. Opportunities are being lost daily to acquire such lands. Once lost these opportunities can seldom be retrieved. The environmental health of our Nation and the well-being of our society, consequently, will suffer.

3. The National Park Service now manages more significant parklands in and near large urban centers than any other agency of Government at any level. It is imperative that you inaugurate programs that will make these areas a more vital and meaningful part of the total environment of these urban centers.

I have reviewed with you the living history programs now underway and the summer-in-the-parks program initiated for the urban parks in the National Capital region. I am pleased and encouraged that the Congress has authorized the busing of youngsters from the District of Columbia to participate in educational and recreational programs in our Nation's parklands in this metropolitan area.

Program innovation such as this is a desirable—indeed, an essential—part of making our parks more meaningful to people. Accordingly, I ask you to experiment further with methods and programs of enhancing the educational, inspirational, and recreational values of all parks, especially for our youth.

4. I wish you to develop in cooperation with neighboring school districts a positive program for the use of park facilities, such as visitor centers and museums. You should work closely with school districts to encourage them to use these facilities as a part of their on-going school curriculum. In this connection, I am pleased to learn of your program to designate environmental study areas as "outdoor laboratories" within the national park system for the use of educational groups. As rapidly as funding permits and public demand exists, you should expand this program. The development of cultural centers to perpetuate native crafts, and artists-in-residence programs, for example, should be encouraged. A vigorous, creative program of environmental education is essential if we are to build environmental awareness into our society.

5. The national park idea was first articulated in the Yellowstone National Park legislation of 1872. The Congress set aside this national treasure for preservation in perpetuity as a "public park or pleasuring ground." During the intervening decades it has become clear that the natural areas of the system (national parks and national monuments of scientific significance) are valuable to the Nation, additionally, for their inspirational and educational benefits. True, they still offer and should provide special experiences in quality outdoor recreation. However, to protect the fragile resources of these areas, recreational opportunities must be planned with due regard for their natural values and beauty.

It has become increasingly obvious in many parks, especially in Yosemite National Park during the height of the summer season, that the private automobile is impairing the quality of the park experience. As our population continues to increase in the decades ahead, accompanied by the growth in private automobile ownership, this condition will worsen unless we begin to deal with it now. Mass transportation facilities, such as shuttle buses, tramways, etc., will not only transport more people—they will also better protect the resources of the park. Moreover, mass transportation facilities in many instances will enhance the quality of the park experience.

In this connection, before major park road construction is initiated in the future in any natural area, I wish a thorough study to be made of alternative methods of access and transportation.

I am encouraged by the steps you have taken to plan jointly with other Federal land managing agencies, the States and the private sector to share the recreation load in the vicinity of the areas of the National Park System. I would like to see you, however, increase the emphasis on joint regional planning because in the long run the total environment in which the park is located depends on vigorous and coordinated action. The recent grant by the Department of Housing and Urban Development to the State of Pennsylvania to aid in planning the area related to Gettysburg National Military Park is an example of what can be done. I would hope that you would work closely with HUD to assure that similar grants are made available to help plan communities in the vicinity of other park units.

You should take steps to broaden citizen participation, especially of our youth, in planning for the National Park System.

6. New partnership relations involving Federal, State and local governments and private organizations should be explored and encouraged. For example, the national landmarks program recognizes those natural areas, historic places, and environmental education sites that possess national significance. They offer incomparable opportunities for research and environmental education. Many, especially the national historic landmarks, provide opportunities for communicating the significance of our cultural inheritance. At these places, one can learn of the courage, ingenuity, personal sacrifice and perseverance of hard-working and creative ancestors who built the foundations of our way of life.

Most of these areas are in private ownership and management. In far too many cases, private enterprise is finding it increasingly difficult to maintain these landmarks. In some cases, land values escalate by reason of urban growth or the restoration of historic treasures, resulting in assessment valuation increases and mounting taxes. When private citizens can no longer shoulder the burden, the property is lost to an incompatible development or the whole burden is transferred to the taxpayers.

You should explore programs, including legislation if necessary, that will encourage the continued participation of private citizens, the business community, and organizations involved with natural and historic preservation.

7. While I wish to move rapidly to bring parks to people and to innovate programs in parks for people, I am also deeply interested in preserving the wilderness of our national park system. In this connection, I note that you are behind schedule in your wilderness studies of roadless areas of the national park system. It is important that we get this program on track.

8. The national park system should protect and exhibit the best examples of our great national landscapes, riverscapes and shores, and undersea environments; the processes which formed them; the life communities that grow and dwell therein; and the important landmarks of our history. There are serious gaps and inadequacies which must be remedied while opportunities still exist if the system is to fulfill the people's need always to see and understand their heritage of history and the natural world.

You should continue your studies to identify gaps in the system and recommend to me areas that would fill them. It is my hope that we can make a significant contribution to rounding out more of the national park system in these next few years.

9. With accelerating leisure time for recreational pursuits by our highly mobile society, there is a growing shortage of trained park and recreational personnel. As rapidly as funding permits, you should work with colleges and universities to develop joint training opportunities for State and local park and recreation staffs. You should, also, in cooperation with the Bureau of Outdoor Recreation, work with technical and professional institutions to broaden training and educational opportunities to encourage young people to seek careers in park and recreation programs. The training facilities of the National Park Service should be made available for these purposes as opportunities permit.

10. The National park idea is a unique contribution of this Nation to world culture. More than 90 nations have been inspired by this idea to establish National parks and similar preserves. You should initiate studies as to ways and means of improving our cooperation and assistance with these nations.

I would like to see, for example, a park and recreation plan for the North American Continent developed by this country and our neighbors by 1972, the 100th anniversary of the establishment of Yellowstone—the world's first national park. Also, you should plan for a Second World Conference on National Parks to be held at Yellowstone and Grand Teton National Parks in 1972 and for other appropriate activities to commemorate the centennial of national parks.

A quality environment knows no national boundary. National parks will become increasingly important keystones for building environmental awareness into the hearts and minds of the world community.

11. You know of my great interest in improving the economy of the Indians. In this respect, lands on many of the Indian Reservations comprise outstanding recreational outlets for the people of this country as well as potential means of improving the Indian economy in that particular area. Neither the Indian people nor the Bureau of Indian Affairs has sufficient expertise for planning and developing recreation areas and parks. I wish you would take the lead in working cooperatively with the Bureau of Indian Affairs and the Bureau of Outdoor Recreation in developing a joint proposal, including proposed legislation if necessary, for utilizing the expertise of the National Park Service in furthering the economy of the Indian reservations by developing their recreational and cultural resources.

In summary, the National Park System represents those precious and irreplaceable remnants of our natural world and the landmarks of our cultural inheritance. To understand the strands of our heritage is to have pride in, and love for, our country. Recognition and appreciation of these roots of our society will generate a sense of stability and continuity among our citizens, increasing millions of whom are isolated by asphalt and concrete in our metropolitan centers.

Through program innovation in response to the changing needs of our society and by sensitive management, the National Park System can contribute enormously to our national goals of enhancing the life of every American and supporting the effort to articulate an environmental ethic as a rule of human conduct. Let this be your constant guide as we approach the decade of the seventies.

PRESERVATION OF HISTORIC PROPERTIES

Mrs. HANSEN. I notice the Preservation of Historic Properties increases from $1.6 million in 1970, to $6.9 million in 1971, an increase of $5.3 million. Priority-wise how does this compare with the Navajo irrigation project, or the importance of commercial fisheries?

Mr. LOESCH. We will have to get together and fight that out.

Mrs. HANSEN. I am not antihistorical at all. I am a strong lover of historical properties. I own an old house myself. But I have a dim view of the Bureau of the Budget's approval of a $5.3 million increase for historic properties and no money to raise crops for Indians.

Mr. LOESCH. I couldn't agree more.

Mr. HITE. To answer your question, the Department places high priority on the Navajo irrigation project and high priority on the commercial fisheries effort.

Mrs. HANSEN. I know the Department does. But obviously you have another Secretary down there in the fourth branch of Government.

Mr. HITE. Yes, Madam Chairman.

Mrs. HANSEN. We have the Legislative, the Executive, the Judiciary, and then there is the overall, omnipotent budgeteers.

Mr. GLASGOW. This also comes under my jurisdiction in the National Park Service, and may I say a word in support of what has been done here?

Mrs. HANSEN. Yes, please.

Mr. GLASGOW. This is a program which has been funded so low that it has not really been effective. This program would give the States and the Federal Government an opportunity to preserve part of the cultural heritage of this country, and this is——

Mrs. HANSEN. I agree. I am not opposed. Not at all. I am for historical preservation. The only thing that comes to my mind is how can I justify this when I go on the Floor of the House and say to the Members: "People weren't important; it wasn't necessary to supply food. It isn't necessary to provide education; but it is necessary to make sure that historical culture is saved, above people."

I agree they both have high priorities. They both are entitled to consideration.

Mr. GLASGOW. I would agree with you.

Mrs. HANSEN. I think it's a shame that we have to evaluate one against the other, because the history of our land is magnificent. But also the well-being of our people is of immense consequence, particularly in view of the social revolution that is taking place.

Thank you very much, all of you.

PERMANENT APPROPRIATIONS

Mrs. HANSEN. Please insert in the record the justifications for the permanent appropriations.

(The information follows:)

BUREAU OF LAND MANAGEMENT

Miscellaneous permanent appropriations

Appropriated, 1970 (estimate)	$88,844,506
Estimate, 1971	92,959,000
Increase	4,114,494

JUSTIFICATION

1. Expenses, sale of timber, etc., on reclamation lands, $ -0-. The cost of making and administering timber sales by the Bureau on Reclamation withdrawn lands is refunded to the Bureau from timber sale receipts (41 Stat. 202; 53 Stat. 1196).

2. Leasing of grazing lands, $ -0-. The Act of June 23, 1938 (52 Stat. 1033; 43 U.S.C. 315m 1-4)authorized the Secretary of the Interior to enter into leases for the rental of grazing lands with states, counties, or private parties when the leasing of such lands will promote the orderly use of grazing district lands and aid in conserving the forage resources of the public lands therein. Under the Act, rentals paid the lessors may not exceed the grazing fees paid the United States for grazing privileges on the land.

3. Payments to Oklahoma (royalties) (receipt limitation), $ -0-. The joint resolution of Congress approved June 12, 1926, provides for payment to the State of Oklahoma of 37½ percent of oil and gas royalties received from the south half of the Red River, Oklahoma. The payment is in lieu of all State and local taxes upon Kiowa, Comanche, and Apache tribal funds received from such lands under the Act of March 4, 1923 (42 Stat. 1448), and is to be used by the State for the construction and maintenance of public roads, or for the support of public roads, or for the support of public schools, or other institutions of learning (44 Stat. 740). The estimate is a decrease of $1,000 from FY 1970.

4. Payments to Coos and Douglas Counties, Oregon, from receipts, Coos Bay Wagon Road grant lands, $525,000. Not to exceed 75 percent of the receipts in any one year from the Coos Bay Wagon Road grant lands in Oregon are for payment annually, in lieu of taxes, to Coos and Douglas Counties, as provided in the Act of February 26, 1919 (40 Stat. 1179), and the Act of May 24, 1939 (53 Stat. 753-754).

5. Payments to Counties, Oregon and California grant lands, $32,000,000. In accordance with Title II of the Act of August 28, 1937 (50 Stat. 874, 43 U.S.C. 1181f), 75 percent of the moneys deposited in the Oregon and California land-grant fund is to be paid to the counties in which the revested lands are situated. However, the "Oregon and California Grant Lands" appropriation of the Bureau of Land Management provides that 25% of the receipts collected from sale of timber and other products on the O&C lands are available for construction, operation, maintenance of access roads, reforestation, and other improvements on the O&C lands and other Federal lands in the Oregon and California land-grant counties of Oregon. The amount appropriated will be a reimbursable charge against the Oregon and California land grant fund and be reimbursed to the general fund of the Treasury from amounts otherwise payable to the counties.

6. Payments to States (grazing fees on ceded Indian land), $2,000. The States are paid 33-1/3% of the fees from each grazing district on Indian lands ceded to the United States for disposition under the public land laws within the State's boundaries (43 U.S.C. 315j).

7. Payments to States (proceeds of sales) (receipt limitation), $300,000. Under various Acts of Congress including 31 U.S.C. 711, States receive for education, roads and improvements, 5% of the proceeds of sales of public lands and of various materials from the public land after deducting all the expenses incident to sale. The estimate is an increase of $88,000 over FY 1970; reflecting an anticipated increase in receipts.

8. Payments to States from grazing receipts, etc., public lands outside grazing districts, $307,000. States are paid 50 percent of moneys received as grazing fees from public lands outside grazing districts, under the provisions of section 10 of the Act of June 28, 1934, as amended (43 U.S.C. 315i, 315m). The estimate is an increase of $10,000 over FY 1970.

9. Payments to States from grazing receipts, etc., public lands within grazing districts, $396,000. Under the provisions of section 10 of the Act of June 28, 1934, (43 U.S.C. 315b, 315i), 12½% of receipts from grazing fees from public lands within grazing districts is paid to States in which the lands are situated. The estimate is an increase of $11,000 over FY 1970.

10. Payments to States from grazing receipts, etc., public lands within grazing districts, miscellaneous, $5,000. The States are paid such amounts from grazing fees on miscellaneous lands within grazing districts when fees are not susceptable to a standardized and uniform distribution on a percentage basis (43 U.S.C. 315). The estimate is an increase of $1,000 over FY 1970.

11. Payments to States from receipts under Mineral Leasing Act, $57,991,000. Alaska is paid 90% and other States are paid 37½% of receipts from bonuses, royalties, and rentals under the provision of the Mineral Leasing Act (30 U.S.C. 191), and 37½% of receipts from bonuses, royalties, and rentals from leases of potash deposits under the Act of February 7, 1927, (30 U.S.C. 285).

The estimate is an increase of $4,120,000 resulting from the anticipated increase in mineral leasing activity in Alaska and the western States during FY 1971.

12. Payments to counties, national grasslands, $231,000. Counties in which submarginal lands, under the Bankhead-Jones Farm Tenant Act of July 22, 1937 (50 Stat. 525, 7 U.S.C. 1010) transferred to the jurisdiction of the Department by Executive Order 10787, dated November 6, 1958, are located, are paid 25 percent of net revenues received during each calendar year from the use of such lands; such funds to be used for school or road purposes or both (7 U.S.C. 1012). The estimate is an increase of $2,000 over FY 1970.

13. Expenses, Public Land Administration Act, $1,202,000. Public Law 86-649 of July 14, 1960 (43 U.S.C. 1381-1383) permanently appropriated to the Secretary of the Interior moneys received as a result of forfeitures by timber sale contractors for failure to restore areas damaged by cutting operations and other amounts received in settlement of damage to timber lands and moneys received from road users for road maintenance. The amounts appropriated remain available until expended. Any amounts in excess of the cost of doing the work authorized are transferred to miscellaneous receipts (74 Stat. 507-508). The same amount as appropriated in FY 1970 is estimated for FY 1971.

DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS
MISCELLANEOUS PERMANENT APPROPRIATIONS

Statement Relating 1969, 1970, and 1971 Programs

1969 appropriation	$8,013,058
1970 appropriation - estimate	7,681,000
1971 appropriation - estimate	7,581,000

JUSTIFICATION

1. Acquisition of lands and loans to Indians in Oklahoma, Act of June 26, 1936 - $10,000.

It is estimated that $10,000 will be derived from mineral deposits underlying certain lands purchased in Oklahoma and will be used for the acquisition of lands and for loans to individual Indians, associations, or corporate groups of Indians residing in Oklahoma (25 U.S.C. 507).

2. Operation and maintenance, Indian irrigation systems - $4,130,000.

All funds requested under this appropriation are obtained from the collection of assessments against waterusers on the various projects and are deposited in the Treasury to the credit of the respective projects. By the expenditure of these funds, the various projects located on Indian reservations are maintained in good operating condition, thus permitting the facilities constructed by the Government to be utilized by the Indian and non-Indian landowners within the project who depend upon proper operations and maintenance of the projects for irrigation farming and subsistence.

The funds are used for operation of the irrigation systems to provide adequate water deliveries; for the annual cleaning of canals and laterals to remove silt, moss, and weed growth; for the repair and replacement of water control structures; for the operation and maintenance of reservoirs, dams; and pumping plants, including the purchase of electrical energy; for the purchase of materials and supplies and equipment used in operating and maintaining the irrigation system; for the maintenance, heating, and lighting of offices used for project administration and quarters occupied by project employees; for payment to the United States Geological Survey for steam gaging and water recording services; for payment to other government agencies and irrigation districts for operation and maintenance of irrigation systems on Indian lands included and benefited; for the repair of flood damage and for all incidental and necessary expenses for the proper operation, maintenance, and administration of Indian irrigation projects. The policy in administration of Indian irrigation projects is to make the assessment rate for the various projects on a basis of actual costs.

3. Power systems, Indian irrigation projects, Bureau of Indian Affairs - $2,280,000.

All funds under this permanent indefinite appropriation are from earned revenue deposited in the Treasury to the credit of the respective projects. This appropriation provides funds for the operation and maintenance of two hydrogenerating plants; a diesel power generating plant; transmission lines; distribution systems and pumping plants for the use of the project irrigation systems; the purchase of power for resale and for all necessary expenses for operation of power systems. The project power systems not only serve their primary purpose of furnishing electrical energy to the projects for irrigation and drainage pumping, but also furnish energy to mining and milling properties, public utilities and domestic consumers on the project proper, in nearby towns and villages, and in outlying farming areas. The energy supplied by these projects in many instances is the only source of electrical energy available to the customers. At present, there are approximately 9,600 domestic and commercial customers being served. A large number of potential customers have applied for electrical service.

The activities under the appropriation consist of operation, maintenance, and improvement of power systems built in connection with irrigation projects on the Gila River, Colorado River, and Flathead Indian Reservations. The facilities under these power projects consist in the aggregate of four generating plants of 17,650 KW capacity; over 1,767 miles of transmission system; 113 project pumping plants; and approximately 116 buildings used as quarters, power houses, and warehouses for both power and irrigation activities. Funds are used for payment of the salaries of power superintendents; power and pumping plant operators; line repair and maintenance crews; meter reading and reporting and a clerical force for billing and accounting for revenues; for the purchase of energy; and for the purchase and repair of equipment used on the power systems. Approximately 115 million kilowatt-hours are transmitted over all project transmission and distributary systems annually.

4. Claims and treaty obligations - $161,000.

A. Fulfilling treaties with Senecas of New York - $6,000.

This is a permanent annuity made pursuant to a provision in the Act of February 19, 1831, which reads as follows:

> "That the proceeds of the sum of $100,000 being the amount placed in the hand of the President of the United States in trust for the Seneca Tribe of Indians situated in the State of New York, be hereafter passed to the credit of the Indian appropriation fund, and that the Secretary of War be authorized to receive and pay over to the Seneca Tribe of Indians the sum of $6,000 annually in the way and manner as heretofore practiced, to be paid out of any money in the Treasury not otherwise appropriated."

This money is paid in equal share to about 5,361 members of the Seneca Nation, and any small balance is deposited to the credit of the tribe.

B. Fulfilling treaties with Six Nations of New York - $4,500.

The Six Nations comprise the Senecas, Tonawanda Band of Senecas, Tuscarora, Onondago, Oneida, and Cayuga Tribes. This appropriation is made annually in fulfillment of treaty obligations for permanent annuity in accordance with the Act of November 11, 1794, which reads in part as follows:

> "In consideration of the peace and friendship hereby established *** and with a view to promote the future welfare of the Six Nations and of their Indian friends aforesaid, the United States will add the sum of $3,000 to the $1,500 heretofore allowed them by an article ratified by the President on the 23rd day of April, 1792, making in whole $4,500, which shall be expended yearly forever in purchasing clothing, domestic animals, implements of husbandry and other utensils suited to their circumstances, and in compensating useful artificers who shall reside with or near them and be employed for their benefit."

Approximately $2,700 is allocated annually to the New York Indians and is utilized for the purchase of dress goods; the remainder, approximately $1,800 is distributed per capita to the Oneida Indians under the jurisdiction of the Great Lakes Agency, Wisconsin.

C. Fulfilling treaties with Pawnees, Oklahoma - $30,000.

This sum is to pay the permanent annuity to the Pawnees, as required by Article 2 as amended, of the treaty of September 24, 1857. As amended, this article provides:

> "The United States agrees to pay to the Pawnees the sum of $30,000 per annum, as a perpetual annuity to be distributed annually among them per capita, in coin unless the President of the United States shall from time to time otherwise direct. But it is further agreed that the President may, at any time in his direction, discontinue said perpetuity by causing a value of a fair computation thereof to be paid to or expended for the benefit of said Indians in such manner as to him shall seem proper."

D. Payments to Indians of Sioux Reservations - $120,500.

This is an annual charge against the general fund of the Treasury, the amount being indefinite until applications are made and approved.

The Act of March 2, 1889, provided for the issue of certain articles necessary to aid individual Sioux Indians in industrial pursuits, particularly on their own allotments. Later, by the Act of June 10,1896, authority was granted to compute the value of the articles named and to pay these Indians cash in lieu thereof. Payments made under this appropriation are commonly referred to as "Sioux Benefits" and can be made only upon application of the individuals entitled thereto. When cash payments are made, funds are used for purposes of direct benefit to the individual involved, including the purchase of farm equipment or livestock, and home improvement.

The legal authority for these payments is found in the Act of March 2, 1889, section 17 (25 Stat. 894); Act of June 10, 1896 (29 Stat. 334); and the Act of June 21, 1906 (34 Stat. 326).

OFFICE OF TERRITORIES

Internal Revenue Collections for the Virgin Islands

Appropriated, 1969	$ 12,867,871 1/
Appropriated, 1970	$ 11,517,538 1/
Estimate, 1971	12,500,000 1/
Increase 1971 compared with 1970	982,462

JUSTIFICATION

Under the provisions of Section 28(b) of the Revised Organic Act of the Virgin Islands, Public Law 517, 83rd Congress, approved July 22, 1954, the Treasury Department is authorized to transfer customs duties and certain taxes into the Treasury of the Virgin Islands, to be available for expenditure as prescribed therein.

The Internal Revenue collections available to the Virgin Islands for the fiscal year 1970 under the provisions of the Revised Organic Act amount to $11,517,538. It is estimated that $12,500,000 will be available in the fiscal year 1971. Any balance of Internal Revenue collections remaining after the amount equal to the revenue collected in the Virgin Islands has been transferred will be deposited into the Treasury as miscellaneous receipts.

1/ P.L. 90-496 approved August 23, 1968 provided that the salaries and expenses of the Government Comptroller of the Virgin Islands shall be paid from this account, effective as of the date of the Act. Prior to the enactment of P.L. 90-496 these expenses were financed from the Administration of Territories appropriation. Government Comptroller expenses financed from this permanent account are estimated at $292,700 for FY 1970 and $330,000 for FY 1971.

Administration of Territories

Appropriated, 1969	$ ----
Appropriated, 1970	239,400
Estimate, 1971	118,000
Decrease 1971 compared with 1970	-121,400

JUSTIFICATION

Public Law 90-497, approved September 11, 1968, established a Comptroller's Office for Guam and provided for the payment of estimated expenses from funds otherwise covered into the Treasury of Guam, pursuant to Section 30 of the Organic Act of Guam (64 Stat. 384, 386; 48 U.S.C. 1422).

GEOLOGICAL SURVEY

Permanent Appropriation

Appropriated, 1969 ----------	$665
Estimate, 1970 ----------	--
Estimate, 1971 ----------	--

JUSTIFICATION

Payments from Proceeds, Sale of Water, Mineral Leasing Act of 1920, Sec. 40(d), Geological Survey

When lessees or operators drilling for oil and gas on public lands strike water, water wells may be developed by the Department from proceeds from the sale of water from existing wells (30 U.S.C. 221-229). No obligations are anticipated in 1971.

BUREAU OF COMMERCIAL FISHERIES

PROMOTE AND DEVELOP FISHERY PRODUCTS AND RESEARCH PERTAINING TO AMERICAN FISHERIES

Statement relating appropriation estimate to current appropriation

1969	appropriation (receipts for calendar year, 1967).....	$7,412,775
1970	appropriation (receipts for calendar year, 1968).....	7,636,413
1971	appropriation (estimated receipts for calendar year 1969)..	7,636,413

Pursuant to the provisions of the Act of July 1, 1954 (68 Stat. 376), as amended by the Fish and Wildlife Act of 1956 (70 Stat. 1119), an amount equal to 30 percent of the gross receipts from customs receipts on fishery products is maintained in a separate fund and used by the Secretary of the Interior (1) to promote the free flow of domestically produced fishery products in commerce; (2) to develop and increase markets for fishery products of domestic origin; and (3) to conduct any biological, technological, or other research pertaining to American fisheries. The work under this appropriation falls under four activities: (1) Marketing and Technology-which includes commercial fishery economics, exploratory fishing and gear development, fishery market news service, commercial fishery statistics, fishery technological studies, and fishery eductaion and market development; (2) Research-which consists of coastal, offshore, and inland fishery research and commercial shellfishery research; (3) Research on Fish Migration over Dams and (4) General Administrative Services--which cover such expenses incident to this program, including expenses of the American Fisheries Advisory Committee.

PAYMENT TO ALASKA FROM PRIBILOF ISLANDS RECEIPTS

Statement relating appropriation estimate to current appropriation.

Appropriated, 1969.....	$309,508
Appropriated, 1970.....	306,663
Appropriated, 1971.....	145,000

Section 6(e) of the Alaska Statehood Act of July 7, 1958 (72 Stat. 339), provides that "Commencing with the year during which Alaska is admitted into the Union, the Secretary of the Treasury, at the close of each fiscal year, shall pay to the State of Alaska 70 per centum of the net proceeds, as determined by the Secretary of the Interior, derived during such fiscal year from all sales of sealskins or sea-otter skins made in accordance with the provisions of the Act of February 28, 1944 ("Stat. 100; 16 U.S.C. secs. 631a-631q). as supplement and amended * * * Payment is to be made from the Pribilof Islands Fund."

BUREAU OF SPORT FISHERIES AND WILDLIFE

MIGRATORY BIRD CONSERVATION ACCOUNT

1970 appropriation (estimated receipts for F.Y. 1970)..... $5,000,000
1971 appropriation (estimated receipts for F.Y. 1971)..... $5,000,000

Receipts from the sale of Federal migratory bird hunting stamps under the Migratory Bird Hunting Stamp Act of March 16, 1934 (16 U.S.C. 718) are available exclusively for payment of Post Office Department expenses of printing and selling stamps; the location, ascertainment, and acquisition of suitable areas for migratory bird refuges under the provisions of the Migratory Bird Conservation Act; and the acquisition of waterfowl production areas under the Migratory Bird Hunting Stamp Act. Estimated receipts to the Migratory Bird Conservation Account in 1970 are $5,000,000, to be derived from sales of 1,666,666 migratory bird hunting stamps at $3. Estimated receipts from sales of these hunting stamps are $5,000,000 for 1971.

Obligations for acquisition of waterfowl habitat in fiscal year 1969 from hunting stamp receipts of $5,562,303 and the $7,500,000 advance covered 51,578 acres in fee, 61,354 acres of wetlands in easements, and the lease of 30,203 acres. The appropriation for 1970 of $10,800,000 ($5,000,000 estimated stamp receipts and a $5,800,000 advance) will acquire an estimated 63,000 acres in fee, and 91,000 acres of wetlands will be placed under easements. The estimate for 1971 of $12,500,000 ($5,000,000 estimated stamp receipts and a $7,500,000 advance) will provide for acquisition of an estimated 139,000 acres, of which 71,000 acres will be purchased in fee and 68,000 acres will be placed under easements. The total program is distributed as follows:

	1970 Estimate	Increase or Decrease(-)	1971 Estimate	Advance to M.B.C.A.	Total 1971 Estimate
1. Printing and sale of hunting stamps.....	$185,000	0	$185,000	....	$185,000
2. Acquisition of refuges and other areas:					
a. Realty costs.....	950,000	+13,000	963,000	$1,118,000	2,081,000
b. Engineering costs...	375,000	-49,000	326,000	474,000	800,000
c. Biological work.....	57,000	-16,000	41,000	3,000	44,000
d. Administrative costs	83,000	+2,000	85,000	5,000	90,000
e. Land acquisition costs.....	3,350,000	+50,000	3,400,000	5,900,000	9,300,000
Total.....	5,000,000	....	5,000,000	7,500,000	12,500,000

The functions of the above activities follow:

1. Printing and sale of hunting stamps - $185,000. Payment to Post Office Department.
2. Acquisition of refuges and other areas - $12,315,000. (a) Realty costs - $2,081,000. Includes location, ascertainment, appraisal of areas; presentation to Migratory Bird Conservation Commission; negotiation; title verification and clearance, and other expenses incident to vesting title in U. S. (b) Engineering costs - $800,000. Includes preparation of preliminary development plans; outline specifications, estimates, topographic maps; engineering studies, water rights investigations and surveys incident to vesting title in U. S. (c) Biological work costs - $44,000. Includes location and ascertainment of suitable areas; preperation of preliminary management plans and estimates; and costs incident to preparation of cases to Migratory Bird Conservation Commission. (d) Administrative costs - $90,000. Includes executive direction and general administrative services attributable to the program. (e) Land acquisition costs - $9,300,000. Includes rental of areas, water rights, rights-of-way, easements, relocation expenses of owners, and other direct costs of acquiring areas or rights and interests therein.

DEPARTMENT OF THE INTERIOR
BUREAU OF SPORT FISHERIES AND WILDLIFE
FEDERAL AID IN FISH RESTORATION AND MANAGEMENT

Statement Relating Appropriation Estimate to Current Appropriation

1970 appropriation (receipts for fiscal year 1969)	$11,903,719
1971 estimate (estimated receipts for fiscal year 1970)	13,128,000

JUSTIFICATION

The Act of August 9, 1950, commonly known as the Dingell-Johnson Act (16 U.S.C. 777 a-k) authorizes the Secretary of the Interior to cooperate with the States through their respective fish and game departments in fish restoration and management projects. The Act authorizes appropriation of an amount equal to collections of the 10% manufacturers' excise tax on fishing rods, creels, reels, artificial lures, etc. There is authorized to be deducted from amounts so appropriated not to exceed 8% for expenses of administration of the Act. The remainder is apportioned to the States on the basis of a formula which takes into account the land area and number of persons holding paid fishing licenses. The Act provides for 1% minimum and 5% maximum apportionments to the States and fixed apportionments of $10,000 each to the Commonwealth of Puerto Rico, and the territories of Guam and the Virgin Islands. The States, the Commonwealth of Puerto Rico and the territories of Guam and the Virgin Islands have two years in which to obligate the apportionments. Any funds not obligated revert to the Bureau and are used for the sport fish research program. The 1971 program is at a slightly higher level in 1971 as follows:

	F.Y. 1970 Estimate	F.Y. 1971 Estimate	Increase or Decrease (-)
1. Payments to States.--States are reimbursed up to 75% of the cost of approved fish restoration and management projects, including research into fish culture; formulation of restocking plans; and acquisition and improvement of fish habitat. The Commonwealth of Puerto Rico and the territories of Guam and the Virgin Islands are reimbursed 100% of the cost of such projects. The program is at a slightly higher level in 1971	$12,641,000	$12,961,000	$320,000
2. Administration.--Administration of the Act includes apportionment of funds; examination and approval of fish restoration and management plans; processing of project agreement after approval of State plans, inspection of projects; making payments to States and auditing State expenditures; and coordinating research effort of the various States. With the rapid increase in receipts, an increase in program will be necessary.	649,300	829,900	180,600

	F.Y. 1970 Estimate	F.Y. 1971 Estimate	Increase of Decrease (-)
3. Sport fish research.-- Reverted funds are available for the sport fishery research program of the Bureau. The program in 1971 is at approximately the same level as 1970	$209,700	$209,100	-600
Total program ...	13,500,000	14,000,000	500,000

DEPARTMENT OF THE INTERIOR
BUREAU OF SPORT FISHERIES AND WILDLIFE

FEDERAL AID IN WILDLIFE RESTORATION

Statement Relating Appropriation Estimate to Current Appropriations

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1970 appropriation (receipts for fiscal year 1969) $33,081,322
1971 estimate (estimated receipts for fiscal year 1970) $36,272,000

JUSTIFICATION

The Act of September 2, 1937, commonly known as the Pittman-Robertson Act (16 U.S.C. 669-669i) authorizes the Secretary of the Interior to cooperate with the States through their respective fish and game departments in wildlife restoration projects. The Act authorizes the setting aside in a special Federal Aid to Wildlife Restoration fund an appropriation of amounts equal to revenues received from the 11% manufacturer's excise tax on sporting firearms, shells and cartridges. An amount not to exceed 8% is authorized to be deducted for expenses of administration of the Act. The remainder is apportioned to the States on the basis of a formula which takes equally into account the land area and the number of persons holding paid hunting licenses. The Act provides for ½ of 1% minimum and 5% maximum apportionments to the States and fixed apportionments of $10,000 each to the Commonwealth of Puerto Rico and the territories of Guam and the Virgin Islands. The States and the Commonwealth of Puerto Rico and the territories of Guam and the Virgin Islands have two years in which to obligate the apportionments. Any funds not obligated revert to the Bureau and are used for carrying out the purposes of the Migratory Bird Conservation Act. The 1971 program is at a $1 million level greater than 1970 as follows:

	F.Y. 1970 Estimate	F.Y. 1971 Estimate	Increase or Decrease (-)
1. Payments to States.--States are reimbursed up to 75% of the cost of approved wildlife restoration projects, including the acquisition and development of land and water areas, and for wildlife management research and for maintenance of completed projects not to exceed 25% of the total amount apportioned. The Commonwealth of Puerto Rico and the territories of Guam and the Virgin Islands are reimbursed 100% of the cost of such projects. Because of the rapid increase in receipts the program is higher in 1971.....	$36,876,100	$37,570,200	$694,100
2. Administration.--Administration of the Act includes apportioning funds; examining and approving State wildlife restoration projects plans, specifications and estimates; processing project agreements;			

	F.Y. 1970 Estimate	F.Y. 1971 Estimate	Increase or Decrease (-)
inspecting projects; making payments to States and auditing State expenditures; and coordinating research efforts of the various States. With the rapid increase in receipts, an increase in program will be necessary.....	$1,820,300	$2,042,400	$222,100
3. Carrying out Migratory Bird Conservation Act.--Reverted funds are available to carry out the provisions of the Migratory Bird Conservation Act and supplement amounts available for wildlife research program of the Bureau. With the rapid increase in receipts, reversions are expected to rise, thus the program is slightly higher in 1971.....	303,600	387,400	83,800
Total Program.....	39,000,000	40,000,000	1,000,000

DEPARTMENT OF THE INTERIOR
BUREAU OF SPORT FISHERIES AND WILDLIFE
NATIONAL WILDLIFE REFUGE FUND

Statement Relating Appropriation Estimate to Current Appropriation

1970 appropriation	$4,735,000
1971 appropriation	4,500,000

JUSTIFICATION

The Migratory Bird Conservation Act (16 U.S.C. 715s) authorizes the expenditure of revenues from the National Wildlife Refuge System. Revenues consist of receipts from the sale or other disposition of animals, timber, hay, grass or other products of the soil, minerals, shells, sand or gravel, from other privileges, or from leases for public accommodations or facilities on refuges. The Act authorizes deduction of necessary expenses incurred in connection with the revenue-producing measures and payment to participating counties of the larger of either 25% of net revenues of each refuge or 0.75% of the value of lands acquired in fee. The remainder of the receipts revenue is available for management of the National Wildlife Refuge System and for Enforcement of the Migratory Bird Treaty Act.

The following table shows the program for F.Y. 1969 through F.Y. 1971.

	1969	1970	1971
Total receipts....	$4,225,133	$4,735,000	$4,500,000
Deductions			
Expenses for sales.....	495,945	500,000	500,000
Payments to counties..	1,942,770	2,021,046	2,614,000
Total Deductions ...	2,438,715	2,521,046	3,114,000
Net Receipts Available - Current Year	1,786,418	2,213,954	1,386,000
Unobligated Balance from Prior Year	3,866,243	3,832,084	4,000,038
Total Funds - Current Year	5,652,661	6,046,038	5,386,038
Program - Current Year	1,820,577	2,046,000	1,386,000
Balance Forwarded	3,832,084	4,000,038	4,000,038

The program for 1971 is as follows:

Expenses for sales - $500,000. The Act provides for payment of expenses incurred in connection with revenue-producing measures prior to distribution of the revenues. Examples of such expenses are salaries of foresters to cruise and mark timber for sale, auctioneer's fees, transportation of furs to auction houses, and labor and supplies for butchering and shipping buffalo. The program for 1971 is the same as in 1970.

Payments to counties - $2,614,000. The Act provides for participation of counties in net revenues. The distribution is 25% of net revenues or 0.75% of the value of lands acquired in fee in case of each refuge to be expended by the county for the benefit of the public schools and roads. When a refuge consists of reserved public lands and is situated in more than one county, the net receipts are prorated to each county in proportion to the area of the refuge in

the particular county. The Act provides every five years for a re-examination of land values in order to reflect the current land cost levels. It is expected that land values will increase about 1/3 over applied levels. Thus there is an increase of $592,954 in 1971. To offset the loss of refuge revenues in Bureau programs, an increase of $600,000 is provided under the Management and Investigations of Resources appropriation for wildlife refuges.

Development and maintenance to wildlife refuges - $967,200. The receipts remaining after payments of expenses and distribution to counties are available to supplement funds provided for management of wildlife refuges in the appropriation Management and Investigations of Resources. The 1971 program reflects a decrease of $653,800 from 1970.

Enforcement activities - $418,800. Net receipts are also available to supplement funds provided in Management and Investigations of Resources appropriation for enforcement of the Migratory Bird Treaty Act. The 1971 program reflects a decrease of $6,200 from 1970.

NATIONAL PARK SERVICE

Miscellaneous Permanent Appropriations

Analysis by Activities

Activity	Amount Available 1970	Fiscal Year 1971 Budget Estimate
1. Educational expenses, children of employees, Yellowstone National Park	$113,700	$113,700
2. Payment for tax losses on land acquired for Grand Teton National Park	12,000	12,000
Total	125,700	125,700

JUSTIFICATION

1. Educational expenses, children of employees, Yellowstone National Park: Fiscal year 1970, $113,700; fiscal year 1971, $113,700; no change

Program of work. The Act of June 4, 1948 (62 Stat. 338) authorizes the Secretary of the Interior to make payments in advance or otherwise from any revenues received from the collection of visitor fees to the Park, for providing educational facilities to pupils who are dependents of persons engaged in the administration, operation, and maintenance of Yellowstone National Park. The program provides free public school education for children of employees comparable to that provided at other locations. Agreements have been executed with the elementary and high school districts serving the Park under which payments are made to them for tuition, transportation, and related costs, based primarily on the number of students involved in the various grade levels and participating schools.

(a) Personnel compensation and benefits. The estimate of $13,400 will provide, during the school year, for the services of janitors, firemen, and maintenancemen who operate and maintain the elementary school facilities located at the Park Headquarters (Mammoth).

(b) Operating expenses. The estimate of $7,000 is needed to provide upkeep and maintenance of the school at Park Headquarters. In addition to building maintenance and repair, the item provides for janitor supplies, heating fuel, utilities, etc.

(c) Tuition and transportation. The estimate of $93,300 is needed to cover the pro rata costs to the Government of children of Park employees who attend various public schools. It includes an amount for estimated tuition payments to the Yellowstone National Park School District for hire of teachers, substitute teachers' services, and for school supplies for the elementary school at Park Headquarters and for reimbursing school districts in communities adjacent to the Park for tuition and transportation and related expenses.

2. Payment for tax losses on land acquired for Grand Teton National Park: Fiscal year 1970, $12,000; fiscal year 1971, $12,000; no change.

Program of work. Pursuant to the Act of September 14, 1950 (64 Stat. 851) the Secretary of the Interior is authorized to use visitor fees collected at

Grand Teton and Yellowstone National Parks to compensate the State of Wyoming for tax losses on lands acquired for Grand Teton National Park.

The amounts paid by the Service vary from year to year, due in part to the change in the tax rate and assessed valuation, the withdrawal of additional lands from the tax rolls for addition to the Park, and the gradual reduction (5 percent per year after a 10-year period) in the computed amount due. The amount of $12,000 will be required to compensate the State for 1969 calendar year tax losses.

MONDAY, FEBRUARY 23, 1970.

BUREAU OF LAND MANAGEMENT

WITNESSES

BOYD L. RASMUSSEN, DIRECTOR
JOHN O. CROW, ASSOCIATE DIRECTOR
JAMES P. BEIRNE, ASSISTANT DIRECTOR, ADMINISTRATION
DR. EUGENE V. ZUMWALT, ASSISTANT DIRECTOR, RESOURCES
HARRISON LOESCH, ASSISTANT SECRETARY, PUBLIC LAND MANAGEMENT
RICHARD R. HITE, DIRECTOR OF BUDGET

Mrs. HANSEN. The committee will come to order. This morning we have Mr. Rasmussen, the Director of the Bureau of Land Management as the principal witness. It is a pleasure to welcome you back with us after a strenuous session on the supplemental last December.

Please introduce the assistants you have brought with you today.

Mr. RASMUSSEN. First we have Assistant Secretary Loesch with us today. Associate Director John Crow. Assistant Director for Administration, Jim Beirne. Assistant Director for Resources, Dr. Gene Zumwalt. Deputy Assistant Director for Resources, Dale Andrus and Ed Hastey, our Chief, Division of Budget.

GENERAL STATEMENT OF DIRECTOR RASMUSSEN

Mrs. HANSEN. Mr. Rasmussen, now if you will, insert your general statement in the record and summarize it for us.

(The statement follows:)

National concern over the environment has generated unprecedented public interest in the status of our surroundings. The decade of the 1970's is being described as the era in which man must solve his environmental problems or be engulfed by them. Newspapers, periodicals, and public broadcasts have helped to make household terms of environment, ecosystems, and quality of life. The attention of young, old, and middle generations has focused on the degradation of our national surroundings caused by past abuse and mismanagement. As a people, we are learning that nature, when abused, can be most unforgiving and revengeful.

The Bureau of Land Management has a major role to play in the future condition of our environment. It has direct responsibility for over 20 percent of this Nation's land base. Within the 11 Western States, BLM manages over 40 percent of the total regional environment. These lands have served the Nation well for over a century, yielding timber, minerals, water, soil, and forage, as well as space upon which to build for the welfare of Americans, past and present. Because these lands were the last Federal estate to be put under management, many of the benefits realized for 100 or more years have been costly in abuse, undue destruction, and degradation. As the principal steward for 80 percent of America's federally owned lands, we feel that the debts against these lands must be paid and that these lands must be used more wisely in the future so as to enhance the quality of our national life, both for today and tomorrow.

MULTIPLE USE OF LAND AND RESOURCES

Multiple use of land and resources is the basis for intelligent protection and utilization of the public lands. Although each acre cannot meet all demands, all legitimate uses must and will be recognized in the Bureau's management programs so that, in serving the needs of people, the best uses will be made of the whole estate. The demands for products such as timber for construction, fuel for energy, minerals for industry, and forage for food must be balanced with the

needs for open space, for clean water and pure air, for natural scenery beauty and other intangibles, all of which affect the quality of our lives. This is the environmental challenge we must take up now and in the years ahead.

PROGRAM EMPHASIS

This challenge is no better demonstrated than by the situation created by the recent oil discoveries in northern Alaska. A pipeline 800 miles in length is planned to move the oil from its source in Prudhoe Bay to the port of Valdez on the Gulf of Alaska. The oil will serve a growing national need for energy and petrochemicals. But despite the significance of this oil supply, the public lands and the resources that lie in the path of the right-of-way must not be sacrificed for the benefit of a single purpose. In order to protect the Arctic environment, an increase of $750,000 is needed in fiscal year 1971 to properly administer the monumental task of building the Trans-Alaska Pipeline. The additional costs will be reimbursed to the Treasury.

MINERALS DEVELOPMENT IN UPLAND REGIONS

Minerals development in upland regions can exert a tremendous impact upon the quality of our surroundings. To insure orderly development of mineral resources in upland areas, $95,000 is requested in this year's budget.

Land is one of our most basic resources. Orderly land transactions are an important function of the Bureau, for land tenure can establish an environmental pattern for generations to come. Applications must be evaluated to determine that legal requirements are met and to consider the effects that potential land transactions may have upon multiple-use management of the public land. Due to the increasingly complex nature of transactions, a large casework backlog has developed. In order to reduce this backlog and to better serve the public, $465,000 is requested to provide additional capability in field examination and classification.

BOISE INTERAGENCY FIRE CENTER

Wildfire has a devastating effect on the public land. It can destroy highly valued surface resources, pollute air and water, and leave a landscape blackened for many years. For the Boise Interagency Fire Center, our principal fire support facility, we need $120,000 to supply, equip, and operate facilities scheduled for completion by fiscal year 1971, and $300,000 to partially complete the final construction phase.

INCREASING VISITORS ON RECREATION LANDS

The Bureau's inability to accommodate the ever-growing number of visitors to the public lands is resulting in serious litter, sanitation, site destruction, and health problems. These undesirable conditions detract from the quality of recreation and encourage further degradation of the outdoors. To improve the Bureau's capability to handle visitors, an increase of $188,000 is requested to conduct comprehensive recreation planning; $640,000 is needed to construct recreation facilities and to conduct preliminary survey and design for future sites. An additional $381,000 is requested to provide cleanup of undeveloped sites, roadsides, and unauthorized dumps, and to continue the progress made in the first highly successful years of the public service Johnny Horizon national cleanup program. These efforts in recreation planning, site construction, and cleanup are directed to those areas experiencing the worst sort of overuse and abuse and can be important steps in achieving a more wholesome environment.

LUMBER MARKET PROJECTIONS

Optimistic lumber market projections in the spring of 1969 coupled with limited timber supplies, resulted in peak timber sale prices. This will provide additional revenues as the timber is cut and is expected to produce a corresponding rise in the O. & C. grant land fund. A substantial part of the fiscal year 1971 increase is planned to intensify the Bureau's forest management programs in prime timber producing areas of western Oregon. This includes $500,000 to accelerate Bureau work in precommercial thinning, site preparation and reforestation, genetic forest tree improvement, and stand conversion. These practices provide the main basis for intensified forestry and help insure maximum productivity of forest lands in meeting the softwood demands of a growing nation.

These programs, necessary to insure a better life for Americans, are part of our fiscal year 1971 budget request which amounts to $65,655,000, plus $18 million in Oregon and California grant land funds and $1,841,000 in range improvement funds. When measured against the acreage of land under Bureau administration, this amounts to less than $0.19 per acre. It represents only a small fraction of the estimated $1.2 billion in receipts anticipated for fiscal year 1971. By any measure, funds allocated to the public lands must be considered nominal in view of their continuing contributions to this Nation—its progress, its wealth, and its environment.

THE PUBLIC LAND—ITS MANAGEMENT AND ENVIRONMENT

Mr. RASMUSSEN. We welcome this opportunity to present our fiscal year 1971 programs. In my prepared statement, I have emphasized the relationship of public land management to our national environment. Because of its size, the public lands can exert a marked influence on our national surroundings.

To illustrate, the Bureau administers approximately 453 million acres of land and over 515 million acres of the Outer Continental Shelf. This represents 20 percent of the entire national land base and 40 percent of the total land area in our 11 Western States.

BLM GOALS—PRESENT AND FUTURE

Our goals are to increase the production of public land goods and services to meet present and future demands, and to preserve and enhance the less tangible, but equally important values, embodied in our public lands, through a multiple-use system of management.

PROGRAM EMPHASIS

Our program emphasis covers a wide range of multiple use activities which relate to the future quality of our surroundings. For example:

TRANS-ALASKA PIPELINE

An increased program level is required to insure protection of the Alaskan environment which lies in the path of the proposed North Brooks Range to Gulf of Alaska oil pipeline.

MINERALS DEVELOPMENT

To help insure the orderly development of the upland mineral and energy deposits, the Bureau seeks a modest expansion of its analytical capability.

IMPROVED LAND SERVICES

Land tenure can establish an environmental pattern for generations to come. An increase in the Bureau's ability to process casework is necessary to evaluate land transfer applications, help reduce an accumulated backlog, and to improve services to the public.

FIRE PROTECTION

Last year we had a bad fire in Alaska, this year it looks like it might be even worse. And we are not too much better prepared than we were last year.

INCREASE IN FIRE SUPPRESSION COSTS

Mrs. HANSEN. Are your firefighting costs increasing?

Mr. RASMUSSEN. Yes, ma'am.

Mrs. HANSEN. By what percent and how many dollars?

Mr. RASMUSSEN. Our firefighting costs doubled last year. They went from about $11 million in fiscal year 1969 to an estimated $24 million this fiscal year.

Mrs. HANSEN. What is the cause of this?

Mr. RASMUSSEN. Most of our fires were in Alaska where we had the largest acreage burned. Part of this is due to the lack of money to be prepared before fires actually start.

PROGRAM TO IMPROVE FIRE SUPPRESSION ACTIVITIES

Mrs. HANSEN. What is the Department doing to improve your fire suppression activities?

Mr. RASMUSSEN. We are looking at new means of fire suppression in Alaska which has vast acreages that are without roads and without aircraft.

WEATHER MODIFICATION USED TO FIGHT FIRES

Last year we tried a method of suppression by weather modification on a small scale with some success. This year we hope to have a larger program on fire suppression to try to modify the weather conditions in those areas. This is one example.

VALUE OF TIMBERLAND DESTROYED BY FIRE

Mrs. HANSEN. When fire destroys an acre of timberland in Alaska or any other part of the country, how much of the national wealth has been destroyed.

Mr. RASMUSSEN. It depends upon where it is located.

Mrs. HANSEN. I understand.

Will you put in the record a statement showing what this Nation loses every time a fire destroys an acre of timberland? We may see that another $50,000 invested in forest fire prevention may save the Nation several million dollars.

Is this not true?

Mr. RASMUSSEN. This is correct.

(Information supplied follows:)

VALUE OF TIMBER DESTROYED BY FIRE

The value of timber on an acre of the timberland in Alaska is worth from $5 to $13 per acre depending upon its suitability and appraisal for saw timber or pulpwood.

The value of timber on an average acre of commercial timberland in western Oregon is worth approximately $2,500 based upon current bid prices of about $50 per thousand board feet.

The value of timber on an average acre of commercial land in the public domain is worth approximately $200 per acre based on our current bid prices of about $20 per thousand board feet.

In Alaska, fire generally destroys the entire value of the timber or renders it uneconomical to harvest. In western Oregon, about 10 percent of the value is lost to a major wildfire such as the Oxbow fire of 1966, whereas our estimate for public domain timber losses amount to 50 percent. Their lost values do not take into account future growth losses which results from a wildfire in stands which have not yet reached an overmature age.

Mrs. HANSEN. Isn't it true that unless designated recreation areas are set aside, man-made fires become more prevalent.

Mr. RASMUSSEN. This is correct.

RECREATION VISITORS

We have an increasing influx of recreation visitors. They are all wanting to camp and build fires and have a place to park their trailers. At the present time our facilities can handle only about 2.5 percent of the visitors.

Even in Alaska where there is only a short period when recreation is possible in the summer, recreationists flock out of the towns and cities to the outdoors, and we have very few recreation improvements there that will handle the demand.

MAN-CAUSED FIRES VERSUS NATURAL FIRES IN ALASKA

Mr. LOESCH. Might I interject here. I think I am correct in saying for the first time in history, we had more man-made fires in Alaska this last year than nature-caused fires. Is that correct?

Mr. RASMUSSEN. That is correct. About 75 percent of the fires in Alaska last year were man caused, ranging from camp fires to debris fires.

Mrs. HANSEN. I think the position of the Department of the Interior is probably the same as the Forest Service.

You either have to spend the funds to prevent forest fires or you are going to have a catastrophic situation develop.

Mr. RASMUSSEN. This is correct, Madam Chairman.

Mrs. HANSEN. You may proceed.

RECREATION CONSTRUCTION PROGRAM

Mr. RASMUSSEN. Our recreation programs seek to put increased emphasis on some facility construction.

Mrs. HANSEN. Such as?

Mr. RASMUSSEN. We plan to construct several campgrounds and do some comprehensive planning on the lower Colorado and California desert, and continuation of the very successful Johnny Horizon program.

WESTERN OREGON FORESTRY PROGRAM

Our western Oregon forestry program, due to increased anticipated receipts, will provide us with additional budget authority that will permit intensified forest management practice.

All of our programs amount to $65,665,000 plus $18 million for the O. & C. grant land funds and $1.841 million in Range Improvement funds.

ESTIMATED RECEIPTS AND PAYMENTS TO COUNTIES

These programs will help generate $1.2 billion in estimated fiscal 1971 receipts and provide about $92 million to States and counties.

SERVICE TO THE PUBLIC

Apart from the environmental considerations, the BLM programs serve the public. Thousands of inquiries are received each year on gas and oil leases, requests for information on where to hunt, fish, and camp, requests for timber, the servicing of grazing use, and so forth. All of these add up to making us a public agency for millions of people.

CHALLENGE FACING THE BUREAU

This is our challenge—to balance the goods and services against the intangible values within an adequate multiple-use management framework, to protect and enhance our national environment, and to serve the public who entrust us with their estate.

With the continued cooperation and understanding on the part of this committee, we will meet these challenges.

REVENUES AND DISTRIBUTION OF RECEIPTS

Mrs. HANSEN. While you have mentioned it in your statement, I think it should be emphasized that BLM is a principal revenue producer in the Department of the Interior.

REVENUES FOR 1969–71 AND DISTRIBUTION TO STATES AND COUNTIES

Please insert in the record a tabulation indicating revenue income for fiscal years 1969, 1970, and 1971, indicating the amount of revenue derived from each type of activity.

Following that tabulation, I think it would be well to insert additional tables showing the actual distribution of revenue to the various States and to the Treasury for fiscal years 1967, 1968, and 1969.

(The information follows:)

RECEIPTS OF THE BUREAU OF LAND MANAGEMENT

[Dollars in thousands]

	Actual 1969	Estimate 1970	Estimate 1971
Sales, public lands and materials	1,802	3,000	3,200
Fees and commissions	4,888	4,500	4,000
Mineral leasing	138,539	140,500	149,000
Mineral leasing, Outer Continental Shelf	428,278	292,000	970,000
Grazing fees	5,623	5,800	6,800
Right-of-way leases	325	240	250
Timber sales	69,679	70,600	78,100
Miscellaneous receipts	562	2,700	4,300
Total	649,696	519,340	1,215,650

Note: Does not include Public Land Administration Act funds.

DISTRIBUTION OF RECEIPTS TO STATES, BY STATE, FISCAL YEARS 1967-69

	Fiscal year 1967	Fiscal year 1968	Fiscal year 1969
Alabama	$3,657	$11,193	$11,700
Alaska	7,705,106	7,513,617	7,780,341
Arizona	148,894	120,399	156,768
Arkansas	25,472	16,851	17,421
California	3,274,602	3,256,561	3,346,596
Colorado	3,366,638	3,589,593	3,446,603
Florida	351	273	1,205
Idaho	308,733	237,723	212,869
Illinois	15	15	
Kansas	135,151	144,545	148,424
Louisiana	505,107	217,537	276,379
Michigan	1,627	1,487	14,265
Minnesota	17		1
Mississippi		35,085	18,421
Missouri	8	2	6
Montana	2,294,555	2,404,090	3,660,136
Nebraska	1,087	663	7,313
Nevada	503,858	502,597	643,469
New Mexico	11,952,083	11,706,584	11,423,145
North Dakota	220,141	221,792	207,108
Oklahoma	136,456	187,205	164,360
Oregon	21,342,025	22,164,662	26,019,207
South Dakota	66,757	50,865	243,015
Utah	3,443,658	3,104,434	3,156,550
Washington	45,273	9,136	8,381
Wisconsin	20	6	
Wyoming	15,051,890	15,673,752	17,307,538
Total	70,533,181	71,170,667	78,271,221

UNEARMARKED RECEIPTS DEPOSITED TO GENERAL FUND OF TREASURY, FISCAL YEARS 1967-69

Total	669,545,000	995,637,000	[1] 470,439,000

[1] Includes amounts estimated to be transferred to Land and Water Conservation Fund from Outer Continental Shelf revenues.

PUBLIC, RECREATION AND FOREST LANDS UNDER EXCLUSIVE JURISDICTION OF BLM

Mrs. HANSEN. In order to have a proper perspective of your activities, I think it would also be well to place in the record at this point a tabulation, by State, of the public lands under exclusive jurisdiction of the Bureau of Land Management in 1969; a listing of the recreation lands administered by the Bureau of Land Management, showing the acreage by State; and also, a table indicating the commercial forest lands administered by the Bureau of Land Management by State.

(The information follows:)

Public lands under exclusive jurisdiction of the Bureau of Land Management, 1969 (in acres)

State:	Grand total
Alabama	363
Alaska	277,314,772
Arizona	12,995,613
Arkansas	1,277
California	15,592,313
Colorado	8,465,124
Florida	367
Idaho	12,113,149
Kansas	954
Louisiana	2,023
Michigan	549
Minnesota	43,923
Mississippi	1,137
Montana	8,162,530
Nebraska	7,884
Nevada	48,231,204
New Mexico	13,185,219
North Dakota	74,835
Oklahoma	7,565
Oregon	15,686,725
South Dakota	276,571
Utah	22,752,224
Washington	293,067
Wisconsin	91
Wyoming	17,459,934
Total	452,669,413

RECREATION LANDS ADMINISTERED BY THE BLM, 1969—TOTAL TO DATE

	Total BLM administered lands (acres) [1]	Potential recreation lands [2]		Undeveloped recreation sites [3]	
		Number	Acres	Number	Acres
Alaska	277,314,772			194	573,426
Arizona	12,995,613	15	316,165	94	14,948
California	15,592,313	36	3,486,245	703	207,416
Colorado	8,465,124	7	31,484	267	63,949
Idaho	12,113,149	15	213,656	354	42,872
Montana	8,162,530	46	1,167,590	245	66,569
Nevada	48,231,204	9	149,342	363	153,845
New Mexico	13,185,219	20	205,129	273	42,430
Oregon	15,686,725	20	940,974	730	71,000
Utah	22,752,224	38	834,190	579	60,904
Washington	293,067	1	1,510	49	11,487
Wyoming	17,459,934	19	333,000	283	35,091
Other States	417,539				
Total	452,669,413	226	7,679,285	4,134	1,343,937

[1] Represents total acreage administered by the Bureau. This land has total recreation use including hunters, fishermen, bird watchers, motorcyclists, rock hounds, etc.

[2] Lands identified as having primary outdoor recreation potential. Inventory not complete. (Recreation lands—A tract of public land (usually several thousand acres in size) on which outdoor recreation or wildlife has been determined to be the primary use. Recreation lands may have facilities for intensive recreation use or they may remain in a relatively undeveloped condition for extensive forms of use.)

[3] Sites identified as having potential for facility development for outdoor recreation activities such as campgrounds, picnic areas, etc. Inventory not complete. (Recreation site—A tract of public land, generally less than 500 acres, on which concentrated recreation use is the primary value. A recreation site may be administered by the Bureau of Land Management, or by BLM and another agency; or it may be suitable for lease or sale to State or local government or nonprofit organizations.)

Source: Public Land Statistics, 1969, unpublished.

Commercial forest land administered by BLM

State:	Acres
Alaska	19,500,000
Arizona	7,800
California	250,000
Colorado	223,200
Idaho	280,600
Montana	349,600
Nevada	620
New Mexico	82,400
Oregon	2,301,524
South Dakota	5,800
Utah	5,400
Washington	52,600
Wyoming	238,900
Total	23,298,444

IMPORTANCE OF MINERAL RESOURCES OF THE PUBLIC LANDS

Mrs. HANSEN. On page 1 of your justifications you say in paragraph 3:

"Minerals are increasingly important resources of the public lands.
"Mineral production in 1969 included 200 million barrels of petroleum; 942 billion cubic feet of natural gas; 470 million gallons of gasoline and liquid petroleum gas; and 24 million short tons of coal, potash, sodium and other minerals."

We cannot underestimate the importance of minerals today.

POLICY GUIDELINES FOLLOWED IN ALLOCATION OF PROGRAM PRIORITIES

Describe for the committee the general policy guidelines you followed in allocating priorities in your 1971 budget estimate.

Mr. RASMUSSEN. In our 1971 budget estimate, we reviewed the entire array of activities that we are engaged in. We found out that we were falling behind in our mineral leasing service, and in our field examination of land cases.

CASE BACKLOG AND EFFECT ON REVENUES

Mrs. HANSEN. You state on page 1 of your justifications: "The result is a 12,000 case backlog, with about 30 percent of the applicants having waited 5 years or more."

Mr. RASMUSSEN. This is correct.

Mrs. HANSEN. What does this backlog do to revenue?

Mr. RASMUSSEN. This has an adverse effect on revenue in the fact that we do not meet applications for leases of various types.

Mrs. HANSEN. So by receiving more funds in the appropriation, to catch up on this backlog, you would produce enough revenue to pay for the increased appropriation.

Mr. RASMUSSEN. That is right.

Mrs. HANSEN. Do you have anything more on the priority of allocations?

Mr. RASMUSSEN. We also reviewed our recreation planning and recreation needs.

VISITOR OVERCROWDING IN LOWER COLORADO AND CALIFORNIA DESERT AREAS

There are two areas where we have a great number of visitors that are seriously overcrowded at the present time in the Lower Colorado River area and the California desert.

We found particularly in these two areas that we needed to do some recreation planning and construction to meet minimum sanitation needs. We also needed to do some cleanup work on all of the public lands that are being used by the public.

In our recreation work, we plan to initiate work on the most pressing recreation problems first in the areas where we have increasing numbers and are very crowded.

COORDINATION WITH BUREAU OF OUTDOOR RECREATION

Mrs. HANSEN. Do you coordinate your recreation programs with the Bureau of Outdoor Recreation?

Mr. RASMUSSEN. We work very closely with the Bureau of Outdoor Recreation and they help us in our general overall planning. They review our general programs with us, and recently Assistant Secretary Loesch asked us to prepare for him a recreation study in conjunction with BOR for his overall evaluation. This is now about ready.

Mrs. HANSEN. On page 2 of your justifications, you say:

"In 1970, 32 million visitor days are expected, including 5.3 million visitor days intensive use. In 1971, this is expected to exceed 36 million visitor days, including over 6 million days of intensive use."

You then go on to say:

"Bureau facilities are usually non-existent. Where they do exist, they cannot accommodate the growing number of public land visitors. Adequate and properly maintained facilities can channel use into appropriate areas designed to withstand recreational use."

ADEQUACY OF BUDGET FOR RECREATION PURPOSES

Do you think the budget you propose this year will take care of the 36 million visitor days?

Mr. RASMUSSEN. No, ma'am, it will not.

Mrs. HANSEN. What percentage will it take care of?

Mr. RASMUSSEN. I think it will take care of between maybe 2 to 3 percent in developed sites.

Mrs. HANSEN. Then you are going to have to come in with a crash cleanup program. Is this not correct?

Mr. RASMUSSEN. This is correct.

Mrs. HANSEN. Isn't this an expensive way of doing business?

Mr. RASMUSSEN. Yes.

PRIOR PROVISION FOR VISITORS

Mrs. HANSEN. Is it not better to provide recreation facilities before the recreation area comes into use, rather than wait to do the crash cleanup job?

Mr. RASMUSSEN. This has been one of our problems all along. That many people are using the public lands without any improved facility or sanitation facilities. Our programs have been minimal, they have been directed toward the sanitation aspect. Two of our areas now that are receiving the greatest use are in the Lower Colorado River area and in the desert country of southern California and we are asking minimal increases to handle some of it.

Mrs. HANSEN. But it will not handle all?

Mr. RASMUSSEN. No, ma'am.

RESEARCH ACTIVITIES

Mrs. HANSEN. You had total research costs of $675,000 in 1966; $677,000 in 1967; and $711,000 in 1968. Most of these research projects related to wildlife, watershed, range, and fire protection. Who does this research for you?

Mr. RASMUSSEN. Ordinarily this is a cooperative program with a university or with the State fish and wildlife service or another State agency. We do not do a large amount of research on our own. We work very closely with the Forest Service and use their research results.

However, sometimes it is necessary for us to take their results and put them into effect. For instance, we have a continuing study on lumber recovery from log grades. In our appraisal system, we need to determine the lumber grade that may be recovered from a log. We have a mill scale study that goes into one of the western Oregon mills, and tallies the lumber that comes from the various log grades. We then use this in our appraisal system in determining the value of the timber that is sold.

LUMBER STUDIES MADE

Mrs. HANSEN. Let's take an example from Oregon.

You had 11 forestry and watershed projects in 1966 amounting to $188,000. In 1967 you had 11 forestry and watershed projects amounting to $208,000. In 1968 you had 10 forestry and watershed projects amounting to $197,000.

Will you place in the record a breakdown of what these studies were and who did them?

Mr. RASMUSSEN. I will be glad to.

(The information follows:)

OREGON RESEARCH STUDIES, FISCAL YEARS 1966, 1967, 1968

Project title	Principal investigator	Funding		
		Fiscal year 1966	Fiscal year 1967	Fiscal year 1968
Log measure study	Pacific NW. Forest and Range Experiment Station, U.S. Forest Service.	.....	$10,000	$10,000
Blister rust resistant pine study	do	$8,700	8,700	8,750
Study of the influence of habitat factors on germination.	Washington State University	15,000	15,000	15,000
Development of a model resource analysis for multiple-use management.	Oregon State University	36,600	36,600	35,600
Douglas fir log grade and end-product recovery study.	Pacific NW. Forest and Range Experiment Station, U.S. Forest Service.	25,000	38,000	45,000
Control of medusahead rye	Oregon State University	17,500	17,500	.....
Planting methods and techniques	do	4,000	4,000	4,000
Animal damage control in the reforestation of forest lands.	do	13,000	13,000	13,000
Brush and hardwood control on forest lands.	do	3,500	3,500	3,500
Tillamook young growth management study	Pacific NW. Forest and Range Experiment Station, U.S. Forest Service.	60,000	60,000	60,000
Animal damage control in the reforestation of forest lands.	Oregon State University	3,200	.....	.....
Flower induction on interspecific hybrids of Douglas-fir.	do	2,000	2,000	2,000
Total		188,500	208,300	196,850

ANNUAL SURVEY OF FEDERAL FUNDS FOR RESEARCH & DEVELOPMENT AND OTHER SCIENTIFIC ACTIVITIES

Mr. HANSEN. Will you also place in the record a listing of federal funds expended for R. & D. and other scientific activities for 1966, 1967 and 1968.

(The information follows:)

ANNUAL SURVEY OF FEDERAL FUNDS FOR R. & D. AND OTHER SCIENTIFIC ACTIVITIES

OBLIGATIONS FOR BASIC, APPLIED, AND TOTAL RESEARCH—TABLES III, IV, AND V—TOTAL RESEARCH, 1966 ACTUAL

State	Subject	Number of studies	Cost
Alaska	Reindeer range	1	$9,000
Arizona	Watershed	1	50,000
California	do	3	11,000
Colorado	Watershed, recreation, and oil shale	8	65,000
Idaho	Watershed, range	5	31,000
Montana	Watershed	5	46,000
Nevada	Wildlife and watershed	6	64,000
New Mexico	do	5	78,000
Oregon	Forestry, watershed	11	188,000
Utah	Range, recreation, and watershed	9	128,000
Wyoming	Range	1	5,000
Total		55	675,000

TOTAL RESEARCH—1967 ESTIMATE

Alaska	Reindeer range	1	$9,000
Arizona	Watershed	1	48,000
California	Watershed, wildlife	4	10,000
Colorado	Watershed, recreation	5	66,000
Idaho	Watershed, range	3	31,000
Montana	Watershed	3	98,000
Nevada	Wildlife, watershed	6	67,000
New Mexico	do	5	84,000
Oregon	Forestry, watershed	11	208,000
Utah	Range, watershed	6	48,000
Wyoming	Range	1	8,000
Total		46	677,000

TOTAL RESEARCH—1968 ESTIMATE

Alaska	Reindeer range	1	$9,000
Arizona	Watershed	2	45,000
California	Wildlife, watershed	2	6,000
Colorado	Watershed	3	44,000
Idaho	Watershed, range	3	32,000
Montana	Watershed	3	81,000
Nevada	Wildlife, watershed	6	50,000
New Mexico	do	6	95,000
Oregon	Forestry, watershed	10	197,000
Utah	Range, watershed	5	48,000
Wyoming	Range	2	24,000
Boise Fire Center	Fire protection	2	14,000
Washington	Watershed	3	66,000
Total		48	711,000

UNIVERSITIES INVOLVED IN STUDIES FOR BLM

Mrs. HANSEN. Will you place in the record how many universities participated in your studies for 1966, 1967, and 1968? Also how many are there currently?

(The information follows:)

Number of universities participating in research studies, fiscal years 1966, 1967, 1968, and 1970

Fiscal year:	*Number of universities participating*
1966	14
1967	13
1968	13
1970	14

Mr. ZUMWALT. This includes practically all of the western universities of one project or more.

Mr. RASMUSSEN. It could be 10 or 15.

Mrs. HANSEN. Can you give us a summary of the type of research they are doing?

Mr. RASMUSSEN. To answer your question on Alaska, we have one project with the University of Alaska on the nutritive quality of range forage for reindeer and caribou.

Mr. LOESCH. If I could interject here one moment, I would like to point out that some of this research is not in my opinion what is ordinarily thought of by that term, it is more in-house studies to improve the performance of a particular aspect of the program.

Mrs. HANSEN. I understand that.

Mr. LOESCH. It is not basic research.

Mrs. HANSEN. I understand that.

Mr. ZUMWALT. The dry land experiment in range improvement in California is carried out with the forage and range program of the Crops Research Division of the Agricultural Research Service.

Mrs. HANSEN. You have listed $24,000 for research in Wyoming. Is that the University of Wyoming?

Mr. ZUMWALT. There is one project on the arid land ecology and environment studies carried out by the University of Wyoming.

RESEARCH PROJECTS CURRENTLY IN EFFECT

Mrs. HANSEN. Will you place in the record for each university a listing of 1970 research projects that are currently operating.

(The information follows:)

Cooperative research projects with colleges, fiscal year 1970

Project title and Investigating university	*Funding*
Nutritive quality of range forage, reindeer and caribou, University of Alaska	$8,600
Use of moisture, San Simon, University of Arizona	25,000
Improvements of range watersheds and wildlife habitats, University of Arizona	10,000
Financial guides to management, University of California	10,200
Production potential of sagebrush sites, Colorado State University	5,000
Grazing management, Point Springs seeded areas, University of Idaho	10,000
Fencing reservoirs for waterfowl, Montana State University	4,000
Procedures for condition and trend, University of Nevada	7,200
Mountain meadow restoration, University of Nevada	1,000
Analysis of range watersheds, University of Nevada	5,000
Infiltration studies, University of Nevada	17,000
Eastgate Basin studies, University of Nevada	4,000
Evaluation of big game habitat, University of Nevada	9,500
Economics of big game resource, University of Nevada	6,000
Fort Stanton studies, New Mexico State University	11,000
Rehabilitation of creosotebush-mesquite infested ranges, New Mexico State University	27,800
Mexican duck habitat study, New Mexico State University	7,200
Effects of mesquite control on scaled quail, New Mexico State University	8,400
Habitat factors on germination, Washington State University	15,000
Resource analysis methodology, Oregon State University	20,000
Economics of big game, Oregon State University	6,000
Effects of herbicides used in reforestation, Oregon State University	2,500
Animal damage control in reforestation, Oregon State University	12,000
Forest fertilization studies, University of Washington	4,000
Principles of chemical silviculture, Oregon State University	3,500
Hybridization of the Genus Pseudotsuga, Oregon State University	2,000
Phenology and physiology studies, Utah State University	10,000
Juniper watershed study, Utah State University	32,000
Sager wash, Utah State University	7,500
Arid land ecology and environmental studies, University of Wyoming	8,100
Evaluation of grazing management systems and wildlife, University of Wyoming	12,000
Modeling the timber system, New York State College of Forestry	21,400
Total	332,900

(Off the record.)

RESULTS OF RESEARCH PROJECTS

Mrs. HANSEN. Will you please give the committee some specific examples of productive results obtained by this research during the past few years?

Mr. RASMUSSEN. Would you like us to provide some examples?

Mrs. HANSEN. Will you please insert them in the record.

Mr. ZUMWALT. We have quite a number.

(The information follows:)

EXAMPLES OF THE APPLICATION OF RESEARCH AND DEVELOPMENT FINDINGS FROM COOPERATIVE STUDIES IN WHICH THE BUREAU PROVIDED FUNDS, LABOR, LAND, AND/OR MATERIALS

FORESTRY RESEARCH

Findings from brush and hardwood control studies are enabling rehabilitation personnel to approach brush problems of several types with greater assurance

of regeneration success of desirable tree species. Resultant thinning and stand improvement programs provide much more acreage of useful treatments designed to increase timber yields. Significant progress has been made in cooperative studies on the development and propagation of blister rust resistant strains of Western white pine and sugar pine. Current plans call for production of rust-resistant pine seedlings in BLM seed orchards in western Oregon. Log-grade and end-product studies are providing information needed for developing log grades that provide better estimates of timber quality in standing trees.

RANGE RESEARCH

Our range adjudication program is based, in part, on a knowledge of vegetation response to grazing, and determination of forage production potentials. Grazing management studies have, and are providing information on systems of deferred and/or rotational use, and on the use of "seedings" and native ranges in such a manner as to secure natural reproduction. Plant phenology data is being used to design grazing management systems in connection with the allotment management planning system.

WATERSHED RESEARCH

The management of Bureau lands has become more effective as the result of knowledge gained on range rehabilitation practices including noxious plant control and revegetation with species proven adapted to certain regions. Research has demonstrated that certain practices such as pelletizing seed, and chemical control of halogeton, medusahead wildrye, downy brome and other annuals, are either ineffective or too costly when applied on arid Western rangelands. Research has resulted in a more effective way to chemically control mesquite with studies continuing on this problem.

Brush control and revegetation studies on arid lands have improved brush control methods; improved seedbed preparation resulting in reduced competition, more soil moistures, and so forth; identified a time of seeding in which seeds have more chance of establishment; and type of plant species most adaptable to arid conditions.

Recommended use of water tillage practices based on soil-vegetation relationships (ripping, contour furrowing, pitting) have resulted in more effective rehabilitation. Further, the relationship between soil and vegetation has improved the design of earth work structures for controlling surface runoff. Decisions for determining major structures to control sedimentation vs. land treatment practices to control sedimentation have been improved through studies involving sedimentation over time.

WILDLIFE HABITAT RESEARCH

Although our financial participation in wildlife habitat research is relatively recent, improved multiple use management practices utilizing the knowledge gained have been implemented. Three examples are provided:

A 4-year study of the habitat requirements of the Mexican duck, a rare and endangered species, was initiated in 1966 on the San Simon Cienega of Arizona and New Mexico. For proper management, it was necessary to determine and evaluate nesting cover, brooding areas, populations, seasonal movements, water management and other factors as they related to domestic livestock grazing. Most of the significant findings have been used in continued management of the area. Brooding waters have been adjusted, fences constructed for adequate protection of pot holes, and grazing plans compatible with the migration season are being instituted. Although the local Mexican duck population is still small, there has been some increase and the program, to date, can be considered successful.

Data derived from a cooperative study on mountain meadow restoration in Nevada is being applied in a management program just starting in the Winnemucca and Susanville Districts. The relatively small meadows are fenced, and grazing by domestic livestock is deferred until the end of the sage grouse nesting season with a resultant four times increase in bird production as well as proper utilization of the livestock forage production. This type of project has implications for all grass-sagebrush ecotypes regardless of administrative jurisdiction.

A cooperative study with the Montana Fish and Game Department on the ecological effects of mechanical and chemical sagebrush control is just beyond

the calibration or pretreatment phase. Within the constraints of limited funding, data are being assembled on an ecosystem approach. Job segments involve soil, climate and vegetation, sage grouse, antelope, mule deer, livestock, nongame birds, small mammals, and rangeland insects. To date, we have determined variations in the sagebrush type used by productive and nonproductive elements of an antelope herd. As such, our thinking has been completely revised on antelope habitat requirements in relation to herd production. We have also assembled detailed habitat requirements and life histories of the sage grouse and nongame birds of the area. This information is being used by the Bureau through incorporation in manual releases and through advice to field offices.

DEVELOPMENT

Our investments in this area resulted in reduced equipment downtime, and adequate seed bed or erosion control structure preparation. One outstanding example is the rangeland drill.

Field experience had shown that commercial available grain drills, designed for agricultural use, were not structurally suited to adverse conditions normally associated with wildlife seeding operations. In 1952, the Arcadia Equipment Development Center designed and constructed a new model. Since then, certain modifications and refinements such as size, grass seed attachment, fertilizer attachment, steel wheel brush guard and press wheels have been made to increase the drill's efficiency and versatility.

As of 1969, some 250 of these drills are being used by Federal land management agencies for range and watershed improvement and rehabilitation. Several also have been purchased by ranchers and a few have found their way to foreign countries through U.S. air programs.

Other successfully modified or custom-designed equipment includes: Brushland plow, baby brushland plow, rockland tiller, alpine equipment, equipment for steep slopes, pipe harrow, sagebrush rails, contour furrower terracing and dike building equipment, seed broadcasters, browse seeder, browse seed collector, and herbicide spraying equipment.

Mrs. HANSEN. The allegation has been made to this committee that your research activity has been slanted to a certain degree to substantiate the departmental position on various activities of your Bureau. May we have your comments on this?

Mr. RASMUSSEN. I do not think this is particularly true. The studies as we develop them are to help us with a particular program.

For example, we have a rather large number of studies on range, we have a number of studies on forestry, and the studies that we have are necessary for us to properly conduct the business that the Bureau is charged with and not particularly to develop any theory or preconceived notion.

CURRENT SITUATION REGARDING LOG EXPORTS ACTIVITY

Mrs. HANSEN. Last year we had extensive discussions on log exports.

Will you please summarize the current situation of this activity as far as your Bureau is concerned?

I might say there have been charges that certain ports have been favored over others.

Mr. RASMUSSEN. The log exports, as our records show in 1966 were 1.131 billion board feet of timber; in 1967, 1.654 billion board feet; in 1968, 2.233 billion board feet, and in 1969, which is projected from 11 months data basis, 2.1 billion board feet, which is about a 4 percent reduction under 1968.

Mrs. HANSEN. Will you equate the number of board feet with the number of houses that could be constructed in the United States?

Mr. RASMUSSEN. I would say that this is roughly in the vicinity of 200,000 homes.

Mrs. HANSEN. Two hundred thousand homes that are going out of the U.S. market?

Mr. RASMUSSEN. Correct.

Mrs. HANSEN. Going into the Japanese market?

Mr. RASMUSSEN. That is correct.

JAPANESE PRODUCTS RETURNING TO THE UNITED STATES

Mrs. HANSEN. What percent of the products manufactured in Japan are returning to the United States?

Mr. RASMUSSEN. As far as we can determine, very few. The logs that are being exported to Japan are manufactured into lumber and pulp and other things that are used directly by the Japanese people.

JAPANESE HOUSING PROGRAM INCREASING

Mrs. HANSEN. In their housing program?

Mr. RASMUSSEN. Yes.

Mrs. HANSEN. In other words, their housing program is going ahead and ours is not?

Mr. RASMUSSEN. Their housing program is continuing to increase.

Mrs. HANSEN. And ours continues to deteriorate?

Mr. RASMUSSEN. At the present time it is deteriorating.

COMPARISON OF UNITED STATES VERSUS JAPANESE INTEREST RATES

Mrs. HANSEN. Will you insert in the record what the interest rates in Japan are? I think this might be interesting.

Mr. RASMUSSEN. I will try.

(The information follows:)

INTEREST RATES IN JAPAN

The housing mortgage interest rates in Japan as compared to rates in the United States are as follows: they currently run from 8–9 percent, which is very similar to current U.S. rates which average 8½–9½ percent (U.S. rates include conventional, FHA, and VA, with "point" cost adjustments added in the FHA and VA cases). Virtually all home financing in Japan is done through Government-owned finance corporations. The 8–9 percent Japanese rates are set by law and are somewhat lower than private loan rates to other sectors of the economy.

JAPANESE HOME DEVELOPMENT TECHNIQUES

Mr. MARSH. Will the gentlewoman yield?

Mrs. HANSEN. Surely.

Mr. MARSH. Do not respond to this unless you know, but if you can address it in some general way, you might do that and then furnish it for the record.

Actually, I think this question ought to be asked down at HUD. What is the Japanese home construction technique from the standpoint of financing and sale of homes? Are they Government-built and then the individual buys it? Does private enterprise build Japanese homes? Do they have real estate development?

Is there a Japanese edition of Levittown, or does the Government

develop the areas and then sell it to the Japanese citizen, or does private industry do it?

Mr. RASMUSSEN. I think private industry does in general. The homes that I saw being constructed in Japan were more individual homes—at least in the area I was in—and not the large Levittown type.

Mr. MARSH. Is it Japanese industry or some American overseas industry?

Mr. RASMUSSEN. Japanese industry.

U.S. COMPARSION OF UNITED STATES AND JAPANESE HOUSING PROGRAMS

Mrs. HANSEN. I think it would be interesting to compare the development of the Japanese housing program with the number of people in the United States that are able to secure housing.

Mr. MARSH. That is right.

Mrs. HANSEN. I think it might be well to see which government is doing the most in this field.

LOG EXPORT CONTROLS PROGRAM

Mr. WYATT. Would you yield?

Mrs. HANSEN. Surely.

Mr. WYATT. Mr. Rasmussen, do you have any opinion as to whether or not the amendments to the foreign aid authorization bill in 1968 have had any effect as far as the slight 4 percent decline in exports from 1968 to 1969 is concerned? Have the effects of the amendment begun to be felt yet?

Mr. RASMUSSEN. I think they have, according to the estimate we have of Federal logs going into the export business. In 1966 the estimate was 350 million; in 1967, it was 550 million; in 1968, it was 900 million, and in 1969 it dropped to 700 million. So I would think that the effects are beginning to show.

FORESTRY

TIMBER SALE CONTRACT RENEWALS

Mr. WYATT. I have one other question, if I may.

The Forest Service has gradually applied a restriction on the renewals. They have heretofore almost automatically granted renewals on their cutting contracts and all of a sudden they administratively granted a renewal only on the condition that the logs in that contract would not be exported. this despite the fact there was no restriction in the original contract. This has caused a great deal of chaos.

BLM POLICY ON CONTRACT RENEWALS

Has the Bureau of Land Management adopted any such policy or are they considering adopting any such policy?

Mr. RAMUSSEN. No; we have not adopted any such policy, although we do have a policy of looking very carefully at the extension.

Mr. WYATT. I understand your extension policy is much different from the Forest Service, but I would just say as an individual member of the committee, I certainly do not think it is fair to change the

rules in the middle of the game once the contract is bid with the anticipation it would be firm; the rules of renewal are pretty well understood I think both in the Forest Service, and as far as the BLM is concerned. I think it is grossly unfair to change the rules, desirable as the outcome might be, in the middle of the game.

Thank you.

Mrs. HANSEN. I have one further question.

If a company bids on certain timber owned by the Forest Service they have to get it out within a certain length of time. This is great except, in instances where there is a combination of weather and market, difficulties are encountered.

Do you have the same restrictions?

SALVAGE OF TIMBER IN OREGON

Mr. RASMUSSEN. We examine each application for an extension very carefully. During the salvage of the fire-killed timber in Oregon we granted extensions to operators with contracts for green logs. We extended their sales when they had sales of the fire-killed timber. So we did not put pressure on them to cut their green sales so they could move the fire-killed timber.

Mrs. HANSEN. Are your guidelines identical with the U.S. Forest Service?

Mr. RASMUSSEN. Pretty close.

Mr. CROW. As Mr. Rasmussen said, we are aware of these things and there is an almost constant interchange between the Bureau and the industry people. I think this is helpful. Certainly it is to us.

Mrs. HANSEN. My remarks are not to be construed that this committee is interested in providing means for timber market manipulation. But when timber operators are faced with bankruptcy because of the pressure of both the market and the weather the situation becomes serious. There are many timber operators, small ones particularly, that find themselves simply forced out of business.

I agree that the applications have to be carefully processed.

Mr. WYATT. I certainly agree with what you are saying. I would like to be on the record as commending the Bureau of Land Management for its policy on renewals. You are not sticking in this restriction on exports.

CONDITION OF FOREST PRODUCTS INDUSTRY

Also I would like to agree with the chairman that the forest products industry is in very, very bad condition, because some of them are stuck with some very high cost logs now. They are going broke. They are closed. They are shortening their shifts. I for one think it is going to get much worse before it gets better. So I would just urge that you use as much compassion as possible in connection with these renewals.

FLOODING IN WASHINGTON AND OREGON

Mrs. HANSEN. Oregon and Washington have had repeated high water situations this year. They have had repeated snowfalls and then subsequent flooding. The situation has become very serious.

Mr. RASMUSSEN. We are aware of these, and we certainly don't intend to be arbitrary in extension work. I think our past record shows that.

LOG EXPORT RESTRICTIONS UNDER PUBLIC LAW 90–554

Mrs. HANSEN. What has been your experience in policing the restrictions on log exports promulgated by Public Law 99–554?

Mr. RASMUSSEN. Our inquiries and work on this phase of the log export program has indicated to us that there is very little problem in policing. Our BLM operators [the ones who are operating on the BLM land] are certainly not exporting all the logs they might. We haven't found a real policing problem with the operators who are cutting O. & C. timber.

Mrs. HANSEN. They have been very conscientious? You haven't had the problem of mix and exchange.

Mr. RASMUSSEN. Not that we are aware of. There has been some discussion about this with the operators. But we do not have any proof of any kind, and I am sure that if there were occasions like this that we would have some evidence.

Mrs. HANSEN. You would have heard about it?

EXPORT OF WOOD CHIPS

Mr. RASMUSSEN. Yes. Last year you asked me for information about chips.

Mrs. HANSEN. Yes. Chips are becoming an increasing problem.

Let me point out, Mr. Director, that when small mills are not operating chips are not available for the pulp and paper operations.

When this happens in an area where a sizable number of mills are not operating, due to the high interest and lack of housing starts, you are going to have a curtailment of chips produced. This is another harmful effect on the whole price structure in the Northwest.

Mr. RASMUSSEN. The export of chips from the west coast has continued to increase. In 1966, it was 182,651 cords. In 1967, it was 502,000 cords. In 1968, it was 1,112,000 cords. In 1969, it was 1,300,000 cords. And this is projecting the last quarter.

Mrs. HANSEN. This isn't covered by log exports.

Mr. RASMUSSEN. No.

Mrs. HANSEN. So chips are being exported, even though the mills are having an increasingly difficult time in securing chips in the United States?

Mr. RASMUSSEN. Yes. The chips have continued to increase in volume.

Mrs. HANSEN. What does Japan pay for chips? Will you insert that in the record?

Mr. RASMUSSEN. Thank you.

(The information follows:)

PRICE OF WOOD CHIPS TO JAPAN

The prevailing price of wood chips in Japan is $23 per bone dry ton (2,000 pounds) at west coast U.S. ports f.o.b.

Mrs. HANSEN. What is the current price paid in the United States?

Mr. RASMUSSEN. I will be glad to place it in the record.

(The information follows:)

PRICE OF WOOD CHIPS IN U.S.A.

The prevailing price of wood chips in the United States is $17 to $18 per bone dry ton—U.S. west coast—delivered to pulp mill.

TRANSPORTING WOOD CHIPS

Mrs. HANSEN. Does the boxcar shortage have anything to do with this?

Mr. RASMUSSEN. I would not think so, because the chips are not being transported such long distances—the large bulk of them.

Mrs. HANSEN. I encountered a buyer on an airplane, who was on his way to talk to Northern Pacific about having some rates changed, because his company was having to go such increasing distances to secure chips.

Mr. RASMUSSEN. Well, there are chips that are going from the Rocky Mountain States to the Midwest.

Mrs. HANSEN. This was a Northwest operator.

POSTPONEMENT OF INCREASE IN GRAZING FEES

Grazing fees were scheduled to be increased on March 1, 1970. I understand that the decision has been made not to increase grazing fees as previously planned. Give us the details on this.

Mr. LOESCH. I think I should interject here, Mrs. Hansen. This was not a decision of the Bureau. It was a secretariat decision as a starter.

Mrs. HANSEN. The Secretary gave as his reason, before the committee last Tuesday, that he is awaiting the Public Land Law Review Commission's report, is that right?

Mr. LOESCH. Yes, that is correct.

ADMINISTRATION OF OFFSHORE OIL LEASES

Mrs. HANSEN. One of your major activities is the administration of offshore oil leases. This situation has been complicated by recent oil spills, which have occurred. Describe for the committee the various policies that are currently in effect in this connection?

Mr. RASMUSSEN. The OCS leasing and operating regulations were rewritten last year. These new regulations provide for stringent safeguards against environmental pollution, including a prior departmental review and approval of all production.

Mrs. HANSEN. Do you want to insert in the record those provisions?

Mr. RASMUSSEN. Yes, I will be glad to.

(The information follows:)

Title 43—PUBLIC LANDS: INTERIOR

Chapter II—Bureau of Land Management, Department of the Interior

SUBCHAPTER C—MINERALS MANAGEMENT (3000)

[Circular 2262]

PART 3380—OUTER CONTINENTAL SHELF MINERAL DEPOSITS

Miscellaneous Amendments

Part 3380 of Chapter II of Title 43 of the Code of Federal Regulations is amended as follows:

1. Section 3380.0–3 is revised to read as follows:

§ 3380.0–3 Purpose and authority.

The Outer Continental Shelf Lands Act of August 7, 1953 (67 Stat. 462; 43 U.S.C. § 1331 et seq.), referred to in this part as "the act", among other things authorizes the Secretary of the Interior to issue on a competitive basis leases for oil and gas, sulphur, and other minerals in submerged lands of the Outer Continental Shelf, as defined in section 2 of the act. Subject to the supervisory authority of the Secretary, the regulations in this part shall be administered by the Director, Bureau of Land Management, hereinafter referred to in this part as the Director.

2. The last sentence of § 3380.0–3 is redesignated as a new § 3380.0–4 to read as follows:

§ 3380.0–4 Applicability of public land laws.

The laws and regulations pertaining to the public lands of the United States are not applicable to the submerged lands of the Outer Continental Shelf. Mineral deposits in the submerged lands of the Outer Continental Shelf are subject to disposition only in accordance with the provisions of the act and the regulations promulgated by the Secretary thereunder.

3. Sections 3381.1, 3381.2, 3381.3, and 3381.4 are redesignated §§ 250.50, 250.51, 250.52, and 250.53, respectively, of Chapter II of Title 30 of the Code of Federal Regulations.

4. Section 3381.5 is redesignated § 3385a.2 and is included in a new Subpart 3385a, as hereinafter provided.

5. Sections 3380.2 (a) and (b) are redesignated § 3381.1 (a) and (b), respectively, and § 3380.2(c) is deleted and its content is included in the revision of Subpart 3382, as hereinafter provided.

6. Subpart 3381—Cooperative Conservation Provisions is deleted and a new Subpart 3381 is added as follows:

Subpart 3381—Leasing Areas

§ 3381.1 Leasing maps.

* * * * *

§ 3381.2 Resources evaluation.

From time to time the Director may announce tentative schedules of lease sales of Outer Continental Shelf areas. At such time as an area is initially considered for mineral leasing, or as the need arises, the Director shall request the Director, Geological Survey, to prepare a summary report describing the general geology and potential mineral resources of the area and shall request other interested Federal agencies to prepare reports describing to the extent known any other valuable resources contained within the general area and the potential effect of mineral operations upon the resources or upon the total environment.

§ 3381.3 Nominations of tracts.

In selecting tracts for oil and gas, sulphur, or other mineral leasing, the Director will receive and consider nominations of tracts or requests describing areas and expressing an interest in leasing of minerals, or, from time to time, upon his own motion, upon approval of the Secretary, may issue calls for nominations of tracts for the leasing of minerals in specified areas. Nominations of tracts should be addressed to the Director, with copies to the appropriate Bureau of Land Management field office and the appropriate oil and gas supervisor of the Geological Survey. The Director, Geological Survey, shall submit recommendations to the Director on tract selections and lease terms and conditions.

§ 3381.4 Selection of tracts.

The Director, prior to the final selection of tracts for leasing, either selected on his own motion or nominated pursuant to § 3381.3 of this subpart, shall evaluate fully the potential effect of the leasing program on the total environment, aquatic resources, aesthetics, recreation, and other resources in the entire area during exploration, development

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and operational phases. To aid him in his evaluation and determinations he shall request and consider the views and recommendations of appropriate Federal agencies, may hold public hearings after appropriate notice, and may consult with State agencies, organizations, industries, and individuals. The Director shall develop special leasing stipulations and conditions when necessary to protect the environment and all other resources, and such special stipulations and conditions shall be contained in the proposed notice of lease offer. The proposed notice of lease offer, together with all views and recommendations received and the Director's findings or actions thereon, shall be submitted to the Secretary for final approval.

§ 3381.5 Notice of lease offer.

Upon approval of the Secretary, the Director shall publish the notice of lease offer at the expense of the United States in the FEDERAL REGISTER, as the official publication, and in other publications as may be desirable. The publication in the FEDERAL REGISTER shall be at least 30 days prior to the date of the sale. The notice shall state the place and time at which bids will be filed, and the place, date, and hour at which bids will be opened. The notice shall contain any special stipulations or conditions which will become a part of any lease issued pursuant to such notice, including stipulations or conditions for the protection of the environment, aquatic life and other resources.

§ 3381.6 Tracts subject to drainage.

Upon direction of the Secretary, the Director, after obtaining the recommendation of the Director, Geological Survey, is authorized to publish on his own motion notices of lease offer of tracts which have been determined by the Director, Geological Survey, to be subject to drainage of their oil and gas deposits from wells on other tracts. The Director may request and consider the views and recommedations of appropriate Federal and State agencies prior to publishing the notice of lease offer. The notice shall be published in accordance with section 3381.5 of this subpart.

7. Section 3382.1 is revised to read as follows:

§ 3382.1 General.

Tracts will be offered for lease by competitive sealed bidding under conditions specified in the notice of lease offer. Each oil and gas lease issued pursuant to section 8 of the act shall cover a compact area not exceeding 5,760 acres.

8. Section 3382.2 is redesignated § 3385a.1 and is included in a new Subpart 3385a, as hereinafter provided. A new § 3382.2 is added as follows:

§ 3382.2 Term.

(a) All oil and gas leases shall be issued for a term of 5 years and so long thereafter as oil or gas may be produced from the leasehold in paying quantities, or drilling or well reworking operations, as approved by the Secretary under § 3385a.1 of this part, are conducted thereon.

(b) All sulphur leases shall be issued for a term of 10 years and so long thereafter as sulphur may be produced from the leasehold in paying quantities or drilling, well reworking, plant construction, or other operations for the production of sulphur, as approved by the Secretary, are conducted thereon.

(c) Other mineral leases shall be issued for such terms as may be prescribed at the time of offering the leases in the notice of lease offer.

§ 3382.3 [Deleted]

9. Section 3382.3 is deleted. Its content is included in a new § 3381.5, as heretofore provided.

10. The first sentence of § 3382.5 is deleted and the following substituted therefor:

§ 3382.5 Award of lease.

Sealed bids received in response to the notice of lease offer shall be opened at the place, date and hour specified in the notice. The opening of bids is for the sole purpose of publicly announcing and recording the bids received and no bids will be accepted or rejected at that time. In accordance with section 8 of the act, leases will be awarded only to the highest responsible qualified bidder. The United States reserves the right and discretion to reject any and all bids received for any tract, regardless of the amount offered. Awards of leases will be made only by written notice from the authorized officer. Such notices shall transmit the lease forms for execution. * * *

11. Section 3383.4 is redesignated § 3385a.3 and is included in a new Subpart 3385a, as hereinafter provided.

12. Paragraph (a) of § 3383.5 is revised as follows:

§ 3383.5 Effect of suspensions on royalty and rental.

(a) In the event that under the provisions of 30 CFR 250.12(c) or (d)(1) the regional oil and gas supervisor of the Geological Survey with respect to any lease directs the suspension of both operations and production, or with respect to a lease on which there is no producible well directs the suspension of operations, no payment of rental or minimum royalty will be required for or during the period of the suspension. In the event that under the provisions of 30 CFR 250.12(d)(1) the supervisor approves, at the request of a lessee, the suspension of operations or production, or both, or under the provisions of 30 CFR 250.12 (d)(3) suspends any operation including production, the lessee will not be relieved of the obligation to pay rental, minimum royalty or royalty for or during the period of suspension.

(b) In the event the anniversary date of a lease falls within a period of suspension for which no rental or minimum royalty payments are required under paragraph (a), of this section, the prorated rentals or minimum royalties, if any are due and payable as of the date the suspension period terminates, shall be computed and notice thereof given

the lessee. Payment of the amount due shall be made by the lessee within 30 days after receipt of such notice. The anniversary date of a lease will not change by reason of any period of lease suspension or rental or royalty relief resulting therefrom.

13. Paragraph (b) of § 3383.5 is redesignated paragraph (e) of § 250.12 of Chapter II of Title 30 of the Code of Federal Regulations.

§ 3384.1 [Amended]

14. In § 3384.1 in the first sentence the amount "$15,000" is changed to read "$50,000," and in the first and the sixth sentences the amounts "$100,000" are changed to read "$300,000". The words "New Orleans, Louisiana" appearing in the eighth sentence are deleted.

§ 3384.2 [Amended]

15. In § 3384.2 the amount "$100,000" is changed to read "$300,000".

§ 3385.1 [Amended]

16. The second sentence of this section is amended by deleting "Bureau of Land Management, Washington 25, D.C." and substituting therefor "appropriate office of the Bureau of Land Management".

17. A new Subpart 3385a is added as follows:

Subpart 3385a—Extension of Leases

§ 3385a.1 Extension of leases by drilling or well reworking operations.

* * * * *

§ 3385a.2 Directional drilling.

* * * * *

§ 3385a.3 Compensatory payments.

* * * * *

§ 3385a.4 Effect of suspensions on lease term.

In the event that under the provisions of 30 CFR 250.12(c) or (d)(1), the regional oil and gas supervisor of the Geological Survey directs the suspension of either operations or production, or both, with respect to any lease, the term of the lease will be extended by a period equivalent to the period of the suspension. In the event that under the provisions of 30 CFR 250.12(c) or (d)(1), the supervisor approves the suspension of either operations or production, or both, with respect to any lease, the term of the lease will not be deemed to expire so long as the suspension remains in effect.

§ 3386.1 [Amended]

18. The first sentence of this section is amended by deleting the words "Director's office" and substituting therefor "appropriate office of the Bureau of Land Management."

MITCHELL MELICH,
Acting Secretary of the Interior.

AUGUST 18, 1969.

[F.R. Doc. 69-10026; Filed, Aug. 21, 1969; 8:50 a.m.]

Mrs. HANSEN. Under revised regulations proposed in June of 1969, you would be required to consider reports from other agencies on anticipated effects of leasing, and in some cases, you would hold public hearings and to consult State agencies, organizations, and individuals. What is the situation in this connection?

Mr. RASMUSSEN. These are included in the new regulations.

REPORT ON OCS GEOLOGIC DATA BY GEOLOGICAL SURVEY

Mrs. HANSEN. You would also be required to obtain a report, from the Geological Survey, on potential mineral resources of any Outer Continental Shelf area considered for leasing. How is this working?

Mr. RASMUSSEN. This is working well. However, the Government does not always have all the resources knowledge.

Mrs. HANSEN. What do you mean by that?

Mr. RASMUSSEN. Because of the fact that USGS must secure most of its information from the private companies.

Mrs. HANSEN. Why do you use private companies?

Mr. RASMUSSEN. I think, Mrs. Hansen, that Secretary Loesch could speak to that.

Mr. LOESCH. Yes, I could interject there, Mrs. Hansen. The Secretary is addressing himself to that now. He fully agrees that the Government should have its own program on this and is at the present time working on it. Of course, it is kind of a big program.

Mrs. HANSEN. Well, so are the oil spills.

Mr. LOESCH. Yes, ma'am.

Mrs. HANSEN. If you are not going to protect the environment of the United States, then there is no use making a lot of speeches about the environment.

Mr. LOESCH. This is right. It is presently estimated that they have only 2 percent of the knowledge that they should have on the Continental Shelf.

ADDITIONAL FUNDS NEEDED TO PROTECT PUBLIC INTEREST

Mrs. HANSEN. Is it not true, that in order to protect the public interest and the public environment, it is going to be necessary to spend increasingly larger amounts of money for this knowledge.

Mr. LOESCH. This is certainly my opinion and, to my knowledge, it is the opinion of everyone in the Department.

Mrs. HANSEN. The public must understand the reasons these costs are going to have to be increased.

Mr. LOESCH. Yes, Madam Chairman.

ECONOMIC IMPACT OF REVISED OCS REGULATIONS

Mrs. HANSEN. Because of the potential hazard to the environment related to offshore oil drilling, the Department is obliged to place more rigid restrictions on oil production in the offshore areas. Give me an estimate of the extent to which this will affect offshore oil receipts.

Mr. RASMUSSEN. At the present time, Madam Chairman, I won't be able to give you that estimate. But we are reviewing the possible effects, and do have a contract for evaluation of this. We have a major contract entitled "The Economic Impact of Revised Regulations, Operating Orders, and Lease Provisions on the Outer Continental Shelf,

Oil and Gas Production." The contract is nearing completion and a working draft is anticipated in April.

Mr. LOESCH. If I could interject just a word here. That certainly is going to have an effect. We don't know what it is yet. For example, the projected drainage sale of March 31, in the Gulf of Mexico, is now canceled because of the fact, among other things, that, because of the big fire going on down there we need to know before we have that sale what the results of that fire are going to be. That, of course, is going to delay that sale somewhat.

IMPACT OF DECREASED OCS RECEIPTS ON LAND AND WATER CONSERVATION FUND

Mrs. HANSEN. In other words, there is a direct relationship between what you spend and what you receive in income. Is this not correct?

Mr. RASMUSSEN. This is correct.

Mrs. HANSEN. If you do not place more funds in the budget for the investigation of these resources, the land and water conservation fund could eventually have no receipts.

Mr. LOESCH. You are correct, Madam Chairman, except perhaps I should point out that it is even more important to the USGS in this regard. They have the responsibility for the technical investigations, and so on.

Mrs. HANSEN. I understand, but if one department doesn't make it mandatory that such regulations are a part of their leasing procedure, then there is no hope of getting the full knowledge of another department.

Mr. LOESCH. Exactly.

TRANS-ALASKA PIPELINE SYSTEM

Mrs. HANSEN. This would be a good place to have a general discussion of BLM's activity and responsibilities in connection with TAPS.

The committee would like now to have you review what you have been able to do, and what you are going to do.

OCS-MAJOR STUDIES UNDERWAY

Mr. RASMUSSEN. Madam Chairman, excuse me. Before I go into that, may I say this committee did provide the funds for us to make the two major studies that we have underway. One of them was the timing and size of OCS sales, and the second was this economic impact of the revised regulations. So the committee did provide these funds last year.

Mrs. HANSEN. I understand. The committee would like to be sure that we provide all the funds that are necessary for the future. The record should show the impact of not providing enough funds with regard to your revenue-producing activities.

Mr. RASMUSSEN. Yes, madam.

PUBLIC LAND ORDER 4582 FREEZE LIFTED

Since our December meeting, the House and Senate committees replied to the Secretary's request for their comments on lifting of

Public Land Order 4582 to provide for the construction of a pipeline from Valdez to Prudhoe Bay. The committees replied favorably and the Secretary has lifted the freeze to provide for the issuance of a pipeline permit, and the other necessary permits that would be necessary to allow the construction phases.

Recently, the Secretary authorized the Bureau of Land Management to issue a road permit from the Yukon River to Prudhoe Bay. We have that permit under consideration right now. We are reviewing the provisions that are necessary in the road construction permit to protect the environment.

Mrs. HANSEN. What provisions do you anticipate they would encompass?

Mr. RASMUSSEN. We anticipate that the stipulations attached to the permit should provide for adequate stream crossings, for adequate gravel pits, for adequate drainage and to see whether any operation of the road crews are going to be injurious to the environment. We are right now revising the pipeline stipulations to apply to the road.

Mrs. HANSEN. How many miles is this?

Mr. RASMUSSEN. The road will be from the Yukon River to Prudhoe Bay, 410 miles.

OWNERSHIP OF LAND TAPS ROAD TRAVERSES

Mrs. HANSEN. Does this go though public land?

Mr. RASMUSSEN. 356 miles is across the public domain.

Mrs. HANSEN. Isn't this State of Alaska land?

Mr. RASMUSSEN. About 54 miles is across State of Alaska land when it reaches the Prudhoe Bay area.

Mrs. HANSEN. What proportion of the State of Alaska land does it traverse?

Mr. RASMUSSEN. About 10 to 15 percent.

Mrs. HANSEN. The rest is public land.

TAPS ROAD PERMIT

Will you please insert in the record the type of stipulation that the Department is propounding on road construction projects.

(The information follows:)

MANAGEMENT OF LANDS AND RESOURCES

The attached volume of stipulations is representative of those which the Department of the Interior will be requesting in connection with any permit that may be granted in connection with road construction for the Trans-Alaska pipeline.

The stipulations proposed in connection with road construction essentially will be adaptations of those prepared for the proposed pipeline right-of-way which are detailed in the attached volume. In adapting these to the haul road permit, provisions pertaining only to the pipeline would of course, be deleted.

STIPULATIONS

for the

TRANS ALASKA PIPELINE SYSTEM

Environmental Stipulations to be used in conjunction with existing laws and regulations for construction of the 48" oil Pipeline and related facilities from Prudhoe Bay to Valdez, Alaska.

Prepared by:

DEPARTMENT OF THE INTERIOR

and the

FEDERAL TASK FORCE ON ALASKAN OIL DEVELOPMENT

September 1969

(189)

TABLE OF CONTENTS

Acknowledgment

A. Definitions

B. General

1. Acknowledgments of Permittee
2. Authorized Officer
3. Changes in Conditions
4. Equal Opportunity
5. Liabilities and Responsibilities of Permittee
6. Bonding Requirements
7. Housing and Quarters
8. Public Improvements
9. Federal, State, and Local Laws and Regulations
10. Pipeline Standards, Design, and Compliance
11. Survey Monuments
12. Environmental Briefing
13. Construction Schedule
14. Surveillance and Maintenance
15. Electronically Operated Devices
16. Oil Spills
17. Excavations
18. Termination of Use
19. Pipeline Corrosion
20. Seismic Monitoring

C. Native Training

D. Regulation of Public Access

E. Pollution Abatement

1. Pesticides and Herbicides
2. Water Pollution
3. River and Stream Crossings
4. Thermal Pollution

F. Erosion Control

1. General
2. Stream Banks
3. Water Crossings
4. Disturbed Areas
5. Disturbance of Natural Waters
6. Areas of Unstable Soils
7. Permafrost Degradation
8. Off Right-of-Way Traffic

G. Sanitation and Waste Disposal

H. Small Craft Passage

I. Aesthetics

J. Timber

1. Commercial Timber
2. Noncommercial Timber

K. Wildlife

1. Hunting, Fishing, and Trapping
2. Use of Explosives
3. Buffer Strips
4. Fish Spawning Beds
5. Migration of Fish
6. Seasonal Concentrations of Fish and Game
7. Big Game Movements

L. Antiquities and Historical Sites

M. Fire Prevention

N. Campsites

O. Material Sites

1. Purchase of Materials
2. Vegetative Screen
3. Layout of Material Sites
4. Fish Protection
5. Restoration

Participating Agencies

41-447 O - 70 - pt. 1 -- 13

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

SEP 4 1969

Letter of Acknowledgement

This volume of stipulations represents the concerted efforts of the Department of the Interior and the Federal Task Force on Alaskan Oil Development, with the participation of State of Alaska agencies, to draw up guidelines that will provide exacting environmental protection during the construction and operation of the Trans Alaska Pipeline.

In this endeavor, we have asked our bureaus and representatives to judge both the conceptual framework and individual stipulations by a yardstick that was both fair and firm, one that stressed equally the importance of environmental protection and resource development.

The participation in this project has been notably broader than the cooperative effort of the Government agencies formally involved. We have received substantial counsel from conservation and industry representatives, as well as from the interested public.

This wide participation and interest, as well as the depth of many contributions, underscore what is becoming a national commitment toward the proper use and protection of our natural resources.

It is a pleasure to acknowledge and thank those who have participated directly in this project, and particularly those not professionally involved who have contributed their sincerity and advice toward the responsible development of artic Alaska.

Walter J. Hickel

Secretary of the Interior

A. Definitions

As used herein, the following terms have the following meanings:

"Authorized Officer" means the Alaska State Director, Bureau of Land Management, or the person designated or delegated to act in his stead with respect to the subject matter of this permit. As used herein, it is synonymous with "Superintendent in Charge," as that term is used in 43 CFR, Subpart 2234.

"Pipeline" means the Pipeline right-of-way; all or any part of the Pipeline system constructed thereon; and all structures, facilities, and appurtenances related thereto or used in connection therewith, whether located on or off the Pipeline right-of-way.

"Permittee" means each and every individual, person or company, including partnerships, corporations, joint ventures, associations, or any other business firms engaged in, or which shall become engaged in, the construction, operation or maintenance of the Pipeline, together with their employees, agents, contractors and subcontractors and the employees of each of them.

B. General

1. Acknowledgments of Permittee

Permittee, by accepting this permit and commencing activities pursuant thereto, acknowledges each of the following:

a. That, except where the approval of the Authorized Officer is required before Permittee may commence a particular operation, neither the United States nor any of its agents or employees agrees to or is in any way obligated to examine or review any plan, design, specification, or other document which may be filed by Permittee with the Authorized Officer pursuant hereto;

b. That the absence of any comment by the Authorized Officer or any other employee of the United States with respect to any plan, design, specification, or other document which may be filed by Permittee with the Authorized Officer does not represent in any way whatever any assent to, approval of, or concurrence in such plan, design, specification, or other document or of any action proposed therein;

c. That this permit, and the rights and privileges granted thereby, is subject to all valid existing rights in and to the land which is the subject of this permit, and that the United States makes no representations or warranties whatever, either express or implied, as to the existence, number, or nature of such valid existing rights.

2. Authorized Officer

The Authorized Officer, and such representatives of interested Federal agencies as he may designate, may inspect the exploration, construction, operation, or any other activities of Permittee at any time.

For purposes of information and review, the Authorized Officer at any time may call upon Permittee to furnish any or all data related to pre-construction, construction, or operation activities undertaken in connection with the Pipeline and its related

facilities, including roads. Permittee shall furnish the requested data as promptly as possible, or as otherwise required under the terms of this permit or other applicable permits. Such data specifically include, but are not limited to, records of all geological data, soil core drillings and terrain temperature measurements made during pre-construction investigations; and engineering standards, basic data and technical criteria relating to the design, construction and operation of the Pipeline, pumping stations, safety devices and monitoring programs.

The Authorized Officer may require Permittee to make such modification of the alignment and installation of the Pipeline as he may deem necessary to protect stability of geologic materials, integrity of the Pipeline, fish and wildlife habitats, and the environment. He may also require Permittee to make adjustments of the above-ground heights and/or methods of installation of the Pipeline to prevent obstruction of access.

The Authorized Officer shall be afforded reasonable use of Permittee's communications systems.

In the event the Authorized Officer determines in his absolute discretion that Permittee has failed or refused to comply with the provisions of this permit, or any other permit issued in connection with the Pipeline, the Authorized Officer, by written order, may suspend or terminate any or all of Permittee's activities. Permittee shall not resume such suspended or terminated activities until given written authorization to do so by the Authorized Officer.

All decisions, orders and determinations of the Authorized Officer, unless otherwise indicated by him in writing, shall be appealable only to the Secretary of the Interior. During the pendency of any such appeal, the Authorized Officer's decision, order, or determination shall not be suspended, but shall remain in full force and effect until the Secretary of the Interior finally disposes of the appeal.

3. Changes in Conditions

Unforeseen conditions arising during construction and operation of the Pipeline may make it necessary to revise or amend these stipulations. In that event, Permittee and the Authorized Officer shall agree as to what revisions or amendments shall be made. If they

are unable to agree, the Secretary of the Interior shall have final authority to determine the matter.

4. Equal Opportunity

By accepting this permit, Permittee agrees that, during the period of construction of the Pipeline and its related facilities and roads, and for so long as the Pipeline, or any portion thereof, shall be in operation, or for so long as this permit shall be in effect, whichever is the longest;

a. Permittee will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. Permittee will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Permittee agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Authorized Officer setting forth the provisions of this equal opportunity clause.

b. Permittee will, in all solicitations or advertisements for employees placed by or on behalf of Permittee, state that all qualified applicants will receive consideration for employment without regard to race, religion, sex, color, or national origin.

c. Permittee will send to each labor union or representative of workers with which Permittee has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the Authorized Officer, advising the labor union or workers' representative of Permittee's commitments under this equal opportunity clause and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

d. Permittee will comply with all provisions of Executive Order

No. 11246 of September 24, 1965, as amended, and the rules, regulations, and relevant orders of the Secretary of Labor.

e. Permittee will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, as amended, and by the rules, regulations, and orders of the Secretary of Labor, issued pursuant thereto, and will permit access to Permittee's books, records, and accounts by the Authorized Officer and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

f. In the event of Permittee's noncompliance with the equal opportunity clause of this permit or with any of such rules, regulations, or orders, this permit may be cancelled, terminated or suspended in whole or in part and Permittee may be declared ineligible for further Federal Government contracts or permits in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, as amended, and such other sanctions may be imposed and remedies involved as provided in Executive Order No. 11246 of September 24, 1965, as amended, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

g. Permittee will include the provisions of paragraphs a. through g. of this equal opportunity clause in every contract, subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, as amended, so that such provisions will be binding upon each contractor, subcontractor or vendor. Permittee will take such action with respect to any contract, subcontract or purchase order as the Authorized Officer may direct as a means of enforcing such provisions including sanctions for noncompliance: provided, however, that in the event Permittee becomes involved in, or is threatened with, litigation with a contractor, subcontractor or vendor as a result of such direction by the Authorized Officer, Permittee may request the United States to enter into such litigation to protect the interests of the United States.

5. Liabilities and Responsibilities of Permittee

a. Any structure, property or land harmed or damaged by or during the construction, operation or maintenance of the Pipeline shall be reconstructed, repaired, rehabilitated and restored, as may be necessary, by Permittee as soon as practicable, so that the condition thereof, in the judgment of the Authorized Officer, is at least equal to the condition thereof immediately prior to such damage or destruction. Permittee further shall abate as soon as practicable any condition existing with respect to the Pipeline or its related facilities or roads, or with respect to the construction, operation or maintenance thereof, which may be causing harm or damage to any person, structure, property, land, stream or wildlife.

b. Permittee shall be liable to the United States for any damage suffered or cost or expense incurred by the United States in any way arising from or connected with any operation under this permit whenever such damage, cost or expenses results from any breach of the permit or from any wrongful or negligent act of Permittee. Immediately upon written notice by the Authorized Officer of the nature and amount of such damage to or cost or expense of the United States, Permittee shall reimburse the United States therefor.

c. Permittee further shall indemnify and hold harmless the United States against and from any and all demands, claims or liabilities of every nature whatsoever, arising directly or indirectly from or in any way connected with any or all of the following: 1) The construction, operation or maintenance of the Pipeline or of any facility, structure or road used in connection therewith, whether or not located on Federally-owned land; and 2) The use or occupancy, whether authorized or not, by any person whomsoever of any land owned by the United States which is the subject of any permit or right granted to Permittee; provided, however, that the provisions of this paragraph c. shall not be deemed to apply to injuries or damages to the extent caused by employees of the United States acting within the scope of their authority.

6. Bonding Requirements

Permittee shall furnish a bond or other security (hereinafter called "Bond") of such type and on such terms and conditions as are acceptable to the Authorized Officer, in the principal amount of five million dollars ($5,000,000), within thirty (30) days after issuance to Permittee of a permit for a right-of-way for oil pipeline purposes.

Said Bond shall have the purpose of: 1) ensuring the performance by Permittee of each and every obligation of Permittee under the terms and conditions of any permit issued to Permittee by the United States in connection with the Pipeline; and 2) providing for immediate payment to the United States of any cost or obligation incurred by the United States in performing any said obligation of Permittee which, in the absolute judgment of the Authorized Officer, Permittee has not performed satisfactorily.

Said Bond shall be maintained in force and effect during construction of the Pipeline, as for so long as the Pipeline is operated, and for so long thereafter as may be necessary.

7. Housing and Quarters

Permittee shall furnish, on a reimbursable basis, such representatives of the United States as may be designated by the Authorized Officer with meals, living quarters and office space during the periods of construction and operational activities. Permittee shall be notified in writing by the Authorized Officer at a reasonable time before need exists, regarding the number of individuals for whom such services and facilities will be required.

8. Public Improvements

Existing telephone, telegraph, and transmission lines, fences, ditches, roads, trails, and other improvements shall be protected in all phases of Permittee's construction operations under this permit. Damage to utilities and improvements shall be promptly repaired to a condition which is at least as good as the condition just prior to such damage.

All roads and trails needed for fire protection shall be kept free of logs, slash, and debris.

Construction activities will not be allowed within one-half (1/2) mile of all designated recreation sites (campgrounds, waysides, parks) unless authorized in writing by the Authorized Officer.

9. Federal, State and Local Laws and Regulations

Permittee shall comply with all applicable federal, state and local laws and regulations thereunder, existing or hereafter enacted or promulgated, affecting in any manner construction, operation, or maintenance of the Pipeline or any road constructed in connection therewith.

10. Pipeline Standards, Design and Compliance

All design, materials, and construction practices employed in the installation of the Pipeline shall be in accordance with safe and proven engineering practice for the arctic environment and in accordance with the following pipeline standards:

a. U.S.A. Standard Code for Pressure Piping, Liquid Petroleum Transportation Piping Systems (USAS B31.4-1966).

b. The Department of Transportation's proposed regulations on "Transportation of Hazardous Materials by Pipeline."

If either of said pipeline standards contains a provision which is inconsistent with a provision in the other standard, whichever provision is the more stringent shall be observed by Permittee. The plan and profile for the Pipeline shall be submitted for review and approval of the Authorized Officer prior to commencement of construction for any section of the Pipeline. The plan shall show the locations of pumping plant sites, block valves, stream crossings and other facilities; it shall also show those parts of the Pipeline to be constructed above ground, the dimensions of above-ground structures, and the general specifications and locations of all crossings across the Pipeline.

The design shall provide for automatic shut-off valves at each pumping station and additional valves using the best engineering judgment with due regard for the following:

terrain traversed, including associated drainage;

population centers;

wildfowl habitat and fishery habitat;

public water supplies and significant water bodies including the Yukon River and other major rivers; and

hazardous geologic areas;

All practical means will be utilized to avoid breaking or otherwise injuring the tundra or other organic layers in permafrost areas outside the Pipeline ditch area.

X-ray testing of weld quality and pressure testing of the completed Pipeline shall be conducted by Permittee prior to placing the system in operation.

During the construction of the Pipeline, Permittee shall protect the environment, stability of geologic materials, and integrity of the Pipeline and shall prevent undue interference with access over or across the Pipeline.

Permittee shall provide for continuous and suitable inspection of the Pipeline and related facilities by qualified inspectors to assure compliance with design and construction specifications.

11. Survey Monuments

In surveyed areas, Permittee shall mark and protect all survey monuments within or near the Pipeline right-of-way against destruction, obliteration or damage during the life of this permit. If any monuments corners or accessories are destroyed, obliterated or damaged, Permittee shall hire a registered land surveyor to re-establish or restore at the same location the monuments, corners or accessories using surveying procedures in accordance with the "Manual of Instructions for the Survey of Public Lands of the United States, 1947 Ed.," and shall record such survey in the

appropriate records. Additional requirements for the protection of monuments, corners, and bearing trees may be prescribed by the Authorized Officer.

12. Environmental Briefing

Prior to and during construction activities, Permittee shall provide for environmental and other pertinent briefings of construction and other personnel by such Federal employees as may be designated by the Authorized Officer. Such briefings shall include fire prevention and suppression training for all construction personnel. Permittee shall arrange the time, place and attendance for such briefings upon request by the Authorized Officer. Permittee shall bear all costs of such briefings other than salary, per diem, subsistence, and travel costs of Federal employees.

In addition, Permittee shall separately arrange with the State of Alaska for such similar briefings as the State may desire.

13. Construction Schedule

Prior to commencement of construction, Permittee shall submit a schedule of its construction activities. This schedule shall be in such detail as may be required by the Authorized Officer. During the course of construction this schedule shall be updated and resubmitted at 30-day intervals.

14. Surveillance and Maintenance

Permittee shall, during the life of the Pipeline permit and for so long as the Pipeline is in operation, conduct a surveillance and maintenance program applicable to the arctic environment in a timely manner and designed to provide for public safety, prevent damage to any resources adjacent to the Pipeline right-of-way, prevent erosion from the Pipeline right-of-way and maintain pipeline integrity. The surveillance and maintenance program shall include an effective communications system.

Records on construction, operation and maintenance activities shall be maintained by Permittee and regularly submitted as required to

appropriate State and Federal agencies. Such records will include surveillance data, leak and break records, and necessary operational data.

Roads or air strips shall be maintained by Permittee to give maintenance crews access to valves, pumping stations, and other facilities.

15. Electronically Operated Devices

Permittee shall screen, filter, or otherwise suppress any electronically operated devices, that are installed as part of the Pipeline which are capable of producing electromagnetic interference radiations, to the extent necessary so that such devices will not adversely affect the functioning of existing communications systems or navigational aids. In the event that physical obstructions such as towers or buildings are to be erected as part of, or in association with, the Pipeline, their positioning should be such that they will not obstruct radiation patterns of line-of-sight communications systems, navigational aids, or similar systems.

16. Oil Spills

Permittee recognizes its prime responsibility for the protection of the public and environment from the contingency of oil spillage.

a. Reporting of Oil Leaks

All spills or leakage of oil or waste materials shall be recorded and reported by Permittee in accordance with 49 CFR, Part 180. Reports shall be filed with the Central Reporting Network as may be required by any joint Federal-State contingency plan which may be adopted and which pertains to the minimization of the effects of a spill of oil or other hazardous substances in Alaska or adjacent waters.

b. Containment of Oil Spills at Storage Tanks and Tank Farms

Permittee shall provide oil spill containment dikes or other structures around storage tanks at pumping stations

and at the Valdez tank farm. The volume of the containment structures shall be at least: 1) one-hundred ten (110) percent of the total storage volume of the storage tanks in the relevant area, plus 2) a volume sufficient for maximum trapped precipitation and runoff which might be impounded at the time of the spill. Such structures shall be impervious so as to provide seepage free storage over reasonable periods of time.

c. Cleanup of Oil Spills

Permittee shall submit a contingency plan in conformance with the recommendations of the National Interagency Committee at least sixty (60) days prior to scheduled commencement of pumping. The plan shall: include oil spill control, disposal and cleanup; specify that the Interior agencies responsible for contingency plans in Alaska shall be among the first to be notified in the event of a Pipeline failure resulting in oil spill; provide for immediate corrective actions, including control and cleanup of oil spills and restoration of the affected resource; and spell out that the Authorized Officer shall approve any materials or device used to control or clean up oil spills and shall approve any disposal sites or techniques selected to handle oily matter. Detailed information must be included for major river crossings, lakes, populated areas, pumping stations and terminals. The contingency plan shall include separate and specific oil spill cleanup techniques for 1) terrestrial, 2) lake, 3) river and stream, 4)marine, and 5) estuarine spills. The plan must be approved by the Authorized Officer prior to pumping oil through the Pipeline.

If at any time, including without limitation during any phase of the construction, operation or maintenance of the Pipeline, any oil or other pollutant should spill or escape from the Pipeline, the control and total removel, disposal and cleaning up of such oil or other pollutant, wheresoever found, shall be at the expense of Permittee. Upon failure of Permittee to control, dispose of, or clean up an oil spill, or to repair all damages resulting therefrom, the Authorized Officer shall take such measures as he deems necessary to control the spill, clean up the spillage and restore the area to as near its original condition as possible at the full expense of the Permittee.

17. Excavations

In excavation operations, Permittee shall use construction methods that will provide maximum protection to animals and human beings.

18. Termination of Use

Upon revocation or termination of the Pipeline permit or abandonment of any section of the Pipeline, Permittee shall remove all above-ground Pipeline sections, and restore the land to the satisfaction of the Authorized Officer. Prior to capping the open ends of underground pipe sections, all oil and residues shall be removed from the pipe.

19. Pipeline Corrosion

Permittee shall provide detailed plans for corrosion resistant design and methods for early detection of corrosion. These will include: pipe material and welding techniques to be used and information on their particular suitability for the environment involved; details on the external pipe protection to be provided (coating, wrapping, etc.), including information on variation of the coating processes to cope with variations in environmental factors along the Pipeline route; plans for cathodic protection including details of impressed ground sources and controls to insure continuous maintenance of adequate protection over the entire external surface of the pipe; details of plans for monitoring cathodic protection current including spacing of current monitors; provision for periodic intensive surveys of trouble spots and regular preventive maintenance surveys and special provisions for abnormal potential patterns resulting from crossing of the right-of-way by other pipelines or cables; information on precautions to be taken in removing corrosive substances (e.g., saline water) from the crude prior to moving it to the pipeline. Permittee will also provide comments on the need for plans for periodic internal pitting surveys by electromagnetic or other means.

20. Seismic Monitoring

Permittee shall file with the Authorized Officer for approval a detailed plan for the monitoring of crustal strain and microseismic activity in the vicinity of the proposed Pipeline route.

Said monitoring network shall be constructed and in operation prior to use of the Pipeline.

The monitoring network shall include establishing of reference points on stable ground, placed at satisfactory intervals so as to form closed figures. Trilateration measurements shall be made at time intervals not to exceed six months and to a probable error not to exceed two parts per million. As data on creep locations and rates are accumulated, Permittee shall install recording or telemetering creep meters where movement is rapid. The monitoring network shall also provide for clusters of seismonitors, with outputs telemetered to a central facility, where the Pipeline crosses major fault zones.

Data obtained from the network shall be provided to the Authorized Officer at regular intervals throughout the operational life of the Pipeline. Strain, creep, and microseismic data shall be used by Permittee to aid in the initiation of corrective measures to protect the Pipeline from breaking from tectonic strain.

C. Native Training

Permittee shall enter into an agreement with the Secretary of the Interior regarding recruitment, testing, training, placement, employment and job counseling of Alaska Natives.

Continuously during Pipeline construction, Permittee shall conduct a pre-employment and on-the-job training program for Alaska Natives, adequate to qualify them for initial employment and for advancement to higher paying positions thereafter.

Permittee shall do everything within its power to secure the employment of those Alaska Natives who successfully complete Permittee's training program.

Permittee shall inform the Authorized Officer of its discharge of any Alaska Natives, and of the reasons therefor, in advance of such discharge wherever possible or, if advance notice is impossible, as soon thereafter as is practicable.

Permittee shall furnish the Authorized Officer such information and reports concerning Alaska Native employment as the Authorized Officer shall require from time to time.

D. Regulation of Public Access

After construction is completed, Permittee shall permit free and unrestricted public access to and upon the Pipeline and access road rights-of-way for all lawful and proper purposes except areas designated as restricted by Permittee with the consent of the Authorized Officer.

During construction Permittee may regulate public access and vehicular traffic as required to facilitate operations and to protect the public and wildlife from hazards associated with the Project. For this purpose, Permittee shall provide warnings, flagmen, barricades and other safety measures as necessary.

Provisions must be made for suitable permanent crossings where Permittee's Pipeline right-of-way and related access roads cross existing roads, foot-trails, winter sled trails, or other rights-of-way.

During construction, Permittee shall provide alternate routes for existing roads and trails as determined by the Authorized Officer, whether or not these roads or trails are recorded.

41-447 O - 70 - pt. 1 -- 14

E. Pollution Abatement

1. Pesticides and Herbicides

The use of pesticides and herbicides is limited to non-persistent and immobile types. An approved list of pesticides and herbicides, together with application constraints shall be obtained from the Authorized Officer.

2. Water Pollution

Permittee shall conduct its activities in a manner to prevent pollution of land and water, thereby protecting acquatic and terrestial life.

Toxic material or sediments shall not be released in any lake or water drainage in such concentrations as would exceed acceptable water standards. Every effort shall be made to protect water bodies from damage by erosion and unnatural drainage conditions. In the design, construction and operation of the Pipeline, protection of water quality shall be of prime importance. Criteria for compliance will be the "Alaska State Plan-Water Quality Standards for Interstate Waters within the State of Alaska" as revised.

Unless waived by the Authorized Officer, dikes or cofferdams shall be installed to separate concrete work areas from lakes or streams during construction.

Mobile ground equipment shall be kept out of the waters of lakes, streams or rivers except for crossings within the right-of-way limits.

3. River and Stream Crossings

The Pipeline shall cross all rivers and streams completely underground unless a different means of crossing is approved in writing by the Authorized Officer.

4. Thermal Pollution

At all underground water crossings the Pipeline shall be placed at such depth and be so insulated that it will not degrade the water beyond standards set for thermal pollution in the State of Alaska.

If changes in the overburden take place so as to expose the pipe to natural water, the Pipeline will be additionally insulated from the water to the satisfaction of the Authorized Officer.

A standard stream crossing profile shall be filed in advance of Pipeline installation for review by the Authorized Officer.

F. Erosion Control

1. General

The design of the Pipeline, roads, and associated structures shall include specifications for the construction of erosion control and drainage features that will minimize the concentration of water and thereby reduce erosive effects.

The erosion control measures such as water bars, contour furrows, water spreaders, diversion ditches, plugs, or other control measures shall be constructed to avoid induced and accelerated erosion and to lessen the possibility of forming new drainage channels resulting from construction activity on all Pipeline rights-of-way areas. All control measures must be designed with proper regard to minimize disturbance to the thermal equilibrium, thus minimizing the adverse effects of permafrost degradation.

The Authorized Officer shall be informed of all proposed erosion control measures.

2. Stream Banks

Excavated cuts through stream banks shall have side slopes that will not erode or slide.

Where practicable, unless otherwise approved by the Authorized Officer, temporary access over stream banks shall be made through use of fill ramps rather than by excavating through stream banks. Permittee shall remove such ramps upon termination of seasonal use or abandonment.

3. Water Crossings

At water crossings, the Pipe trench excavation shall stop an adequate distance from the water crossing to leave a protective plug (unexcavated material) at each bank. These plugs shall be left in place until the crossing grade is complete behind the plug and the piep laying operation is begun. The plugs shall not be completely removed until absolutely necessary. The plugs shall be replaced with stable material on each bank as soon as the pipe is laid.

4. Disturbed Areas

Permittee shall conduct all construction, operation, and maintenance activities with minimum disturbance to vegetation.

Disturbed areas shall be restored by Permittee as nearly as

practicable to their original condition as follows:

a. All disturbed areas shall be left in a stabilized condition. Stabilization practices shall include, as determined by the needs of specific sites: seeding; planting; mulching; and the placement of mat binders, soil binders, rock or gravel blankets, or structures.

b. Special attention shall be given to stream and river crossings so as to prevent erosion. Such measures shall not interfere with fish passage.

c. Material from the trench excavation in excess of that required to backfill around the pipe shall be disposed of in a manner approved by the Authorized Officer.

d. Seeding and planting shall be conducted during the first growing season and shall be repeated if unsuccessful on the first attempt. All other restoration shall be completed as soon as possible.

e. Unless other acceptable methods such as controlled burning or burial are approved by the Authorized Officer, all trees, snags, stumps or other woody material, not having commercial or construction value, shall be mechanically chipped and spread in a manner that will aid seeding establishment, soil stabilization and the minimization of permafrost degradation.

5. Disturbance of Natural Waters

All construction activities of Permittee which may create new lakes, drain existing lakes, significantly divert natural drainages, permanently alter stream hydraulics, disturb significant areas of streambeds, or appreciably degrade water quality, shall be prohibited unless approved in advance by the Authorized Officer.

6. Areas of Unstable Soils

Areas having soils that are susceptible to slides and slumps, excessive settlement, severe erosion and soil creep shall be avoided wherever possible. However, if these areas cannot be avoided, or are encountered unexpectedly, Permittee shall design its construction to insure maximum stability. Permittee will continue soil

investigations in conjunction with construction activities. Such data shall be made available to the Authorized Officer upon his request.

The Authorized Officer may require special construction methods, and/or rerouting, where unstable conditions are encountered.

7. Permafrost Degradation

Permittee shall conduct studies to determine: (1) the most feasible route and best construction design through permafrost areas so as to prevent permafrost degradation that could result in progressive geomorphic degradation, and (2) whether the Pipe should be buried or above ground. The potential effects of installing the pipe beneath the surface in moisture laden permafrost will be determined with regard to each segment of the Pipeline, and reports thereon shall be filed with the Authorized Officer prior to construction of each segment of the Pipeline. Construction methods shall be designed to prevent degradation of the permafrost in areas where such degradation would result in detrimental erosion or subsidence.

8. Off Right-of-Way Traffic

Permittee's vehicles shall not be operated outside the boundaries of the Pipeline, access or other roads, or other permitted areas, except with the consent of the Authorized Officer or when necessary to protect life, limb, or public property.

G. Sanitation and Waste Disposal

All waste generated in road or Pipeline construction and operation shall be removed or otherwise disposed of in a manner acceptable to the Authorized Officer. All applicable standards and guidelines of the Alaska State Department of Health and Welfare, the United States Public Health Service and the Federal Water Pollution Control Administration shall be adhered to by Permittee. All incinerators shall meet the requirements of all applicable State and Federal laws and regulations and shall be used with maximum precautions to prevent forest and tundra fires. After incineration, material not consumed in the incinerator shall be disposed of in a manner approved in advance by the Authorized Officer.

Emissions from incinerators, pumps, motors, equipment and installations and other burning material, must meet the air quality standards of the United States Public Health Service and the State of Alaska.

The term "waste" as used in this stipulation means all discarded matter, including but not limited to human waste, trash, garbage, refuse, oil drums, petroleum products, ashes and equipment. The best practicable portable or permanent waste disposal systems shall be used and shall be approved in advance by the Authorized Officer.

H. Small Craft Passage

The creation of any permanent obstruction on any waters to the passage of canoes, boats, or other craft under forty feet in length, is prohibited.

I. Aesthetics

Permittee shall consider aesthetic values in planning, construction, and operation of the Pipeline and its associated facilities and roads. All permanent structures shall be painted a color or colors that harmonizes with their natural setting. The Authorized Officer may require such plans as he deems necessary to protect aesthetic values.

J. Timber

1. Commercial Timber

Prior to clearing operations, Permittee will enter into a contract with the United States for the purchase by Permittee of all merchantable timber situated within the Pipeline right-of-way.

2. Noncommercial Timber

Clearing and grubbing limits shall be approximately 10 feet outside of the edge of any cut or fill. Unless other methods, such as controlled burning or lopping and burial, are agreed upon between Permittee and the Authorized Officer in the clearing plan as acceptable for a given segment, all trees, snags, stumps or other woody material not having value to Permittee shall be mechanically chipped and spread in a manner that will aid seeding establishment, soil stabilization and the minimization of permafrost degradation. Permittee shall identify right-of-way clearing boundaries on the ground for each construction segment prior to clearing operations.

All timber and other vegetative material outside the right-of-way clearing boundaries and all blazed, painted or posted trees which are on or mark the clearing boundaries are reserved from cutting and removal with the exception of danger trees or snags designated as such by the Authorized Officer.

All trees, snags, or other woody material cut in connection with clearing operations shall be cut so that the resulting stumps shall not be higher than six (6) inches measured from the ground on the uphill side.

All trees, snags, and other woody material cut in connection with clearing operations shall be felled into the right-of-way and away from live water courses.

In areas where heavy equipment would be detrimental under the existing conditions, standard hand clearing operations will be used.

Logs shall not be skidded or yarded across any stream without prior approval of the Authorized Officer.

All debris, such as logs, chunks, and tops resulting from clearing operations and construction which may block stream flow, delay fish migration, contribute to flood damage, or result in streambed scour or erosion shall be removed.

No log landing shall be located within two hundred (200) feet of any live stream course.

Logs having a value to Permittee shall be neatly piled adjacent to the right-of-way clearing boundary if further use is contemplated by Permittee.

K. Wildlife

1. Hunting, Fishing, and Trapping

Permittee shall inform its employees, agents, contractors, subcontractors, and their employees, of applicable laws and regulations relating to hunting, fishing, and trapping.

2. Use of Explosives

At least thirty (30) days in advance of any underwater blasting Permittee shall submit to the Authorized Officer a plan for such blasting. The plan shall set forth blasting locations, types and amounts of explosives, date or dates of blasting, and the reason for the blasting.

No blasting shall be permitted underwater, or within one quarter($\frac{1}{4}$) mile of streams or lakes, without a permit from the Alaska Department of Fish and Game.

3. Buffer Strips

Except at approved crossings, the Pipeline shall be located so as to provide three hundred (300) minimum buffer strip of undisturbed land along all streams. Requests for exceptions to this provision shall be submitted in writing to the Authorized Officer at least thirty (30) days in advance of approval. The request shall include a description of the design criteria and time necessary to restore or enhance the stream habitat.

4. Fish Spawning Beds

"Fish spawning beds" means the areas, usually gravel, where anadromous and resident fish deposit their eggs.

Where channel changes cannot be avoided in designated anadromous fish spawning beds, new channels shall be constructed according to standards supplied by the Authorized Officer. Spawning beds shall be protected from sediment

from all sources of construction activity. Where soil material is expected to be suspended in water as a result of construction activities, sediment settling basins shall be constructed to permit the removal of silt before it reaches the stream or lake. Special requirements may be made by the Authorized Officer for each stream system to protect spawning beds. Permittee shall repair all damage to fish spawning beds caused by construction, operation, or maintenance of the Pipeline.

5. Migration of Fish

Permittee shall provide for uninterrupted and safe upstream or downstream passage of fish. Any artificial structure or any stream channel change that causes a permanent blockage to migration of fish shall be provided with a permanent fish passage structure that meets all Federal and State requirements. The proposed design shall be submitted to the Authorized Officer at least thirty (30) days in advance of construction.

Unless otherwise provided for by appropriate State or Federal authority, culvert construction in water crossings shall meet the following minimum standards:

a. Water velocities at medium discharge will not exceed four (4) feet per second in any part of the culvert.

b. Installation shall be at zero gradient with the bottom of the outlet six (6) inches below the natural streambed to prevent erosion at the downstream end of the culvert.

c. Where necessary because of outfall erosion, a stilling basin shall be constructed at the outflow end of the culvert that is at least three (3) feet deep and twelve (12) feet long. The pool sides shall be stabilized with riprap or other appropriate method to prevent erosion.

d. Water shall be diverted around the work area in the streambed during installation of the culvert to reduce siltation.

e. Water diversion ditches or pumps shall be screened with a device approved by the Authorized Officer to prevent harm to migrating fish.

Abandoned water diversion structures shall be plugged and stabilized to prevent trapping or stranding of fish.

6. Seasonal Concentrations of Fish and Game

Key fish and wildlife areas may be closed to construction activities during periods of wildfowl nesting, migration, and spawning. The Authorized Officer shall provide Permittee written notice of closure.

From time to time, the Authorized Officer shall furnish Permittee a list of areas where closure may be required, together with anticipated dates of closure.

7. Big Game Movements

Permittee shall construct the Pipeline, both buried and above ground sections, so as to assure unrestricted passage and movement of big game animals.

L. Antiquities and Historical Sites

Permittee shall engage an archeologist approved by the Authorized Officer to provide surveillance and inspection of the Pipeline for archeological values.

If in connection with any operation under this permit Permittee excavates known or previously unknown archeological, paleontological, or historical sites, Permittee shall notify immediately said archeologist who shall investigate and provide an on-the-ground opinion regarding the protection measures to be undertaken by Permittee. The Authorized Officer may suspend that portion of Permittee's operations necessary to preserve evidence pending investigation of the site by said archeologist or his representative.

Two copies of all survey and excavation reports shall be filed with the Authorized Officer.

M. Fire Prevention

Permittee shall take all measures necessary or appropriate for the prevention and suppression of fires on the permit area and on other Federal lands. Permittee shall comply with all applicable laws and regulations, and with the instructions and directions of the Authorized Officer concerning the prevention and suppression of fires.

N. Campsites

Permittee or its contractors shall obtain special land use permits for each campsite from the Authorized Officer.

Upon abandonment or relocation of each campsite, the area shall be cleaned up and restored to a condition satisfactory to the Authorized Officer.

0. Material Sites

1. Purchase of Materials

Permittee shall make application in accordance with applicable regulations, to purchase construction materials, consummate a materials sale contract with advance payment, and submit a mining plan that must be approved before any materials are removed from the public lands.

Permittee shall utilize upland materials and existing material sites in place of clearwater stream materials when reasonably available. Gravel and other construction materials shall not be taken from stream or river beds or shores or outlets of lakes that are or could be considered as spawning areas unless approved by the Authorized Officer.

2. Vegetative Screen

Permittee shall not cut or remove any vegetative cover within a minimum five hundred (500) foot strip between roads and material sites unless authorized to do so in writing by the Authorized Officer. Permittee shall remove any debris created by its construction activities.

Where primary roads intersect the Pipeline right-of-way, a screen of vegetation native to the specific setting shall be established unless waived by the Authorized Officer in writing.

3. Layout of Material Sites

Material site boundaries should be shaped in such a manner as to blend with surrounding natural land patterns. Regardless of the layout of material sites, primary emphasis shall be placed on prevention of damage to vegetation and soil erosion.

4. Fish Protection

If material sites are approved adjacent to or in certain lakes, rivers or streams, the Authorized Officer may further require the construction of levees or berms to protect fish and prevent siltation of streams or lakes.

5. Restoration

All slopes shall be left in a stable condition.

Haul ramps, berms, dikes and other earthen structures shall be leveled, and other structures removed unless otherwise directed by the Authorized Officer.

Material pits in stream and river bottoms and channels shall be connected to the stream by channels constructed to allow flow of water through the pit at median stream stage.

Vegetation, overburden and other materials removed from surfaces of material sites shall be disposed of by Permittee at termination of use of the site in a manner approved by the Authorized Officer. Vegetative debris which has been put through a chipper shall be spread evenly over material site slopes, together with other organic materials and topsoil. Permittee, during the first growing season following termination of use of the site, shall revegetate material site slopes through seeding and planting with suitable plant materials unless otherwise directed by the Authorized Officer.

Upon completion of material site restoration, Permittee shall immediately remove all equipment, materials and supplies from the sites.

PARTICIPATING AGENCIES

ALASKA

Federal

Department of the Interior
- Regional Coordinator
- Bureau of Land Management
- Bureau of Sport Fisheries and Wildlife
- Bureau of Commercial Fisheries
- Federal Water Pollution Control Administration
- Bureau of Mines
- U.S. Geological Survey
- Bureau of Indian Affairs
- National Park Service

Department of Defense
- Corps of Engineers, Alaska District
- Alaskan Command

Federal Field Committee for Development Planning

State

Department of Fish and Game

Department of Natural Resources, Division of Lands

Department of Highways

WASHINGTON

Federal Task Force on Alaskan Oil Development

Department of the Interior

Department of Defense

Department of Transportation

Department of Commerce

Department of Health, Education and Welfare

Department of Housing and Urban Development

TRANS-ALASKA PIPELINE STREAM CROSSINGS

Mrs. HANSEN. What particular measures are you taking on the stream crossings? Isn't it true that there are a substantial number of streams?

Mr. RASMUSSEN. Yes, ma'am. It depends on the particular stream, the size of it, the characteristics of the stream, or whether it is a salmon spawning stream. Each one has to be dealt with individually.

Mrs. HANSEN. Are they dealt with in cooperation with the Bureau of Commercial Fisheries and the Bureau of Sports Fisheries?

Mr. RASMUSSEN. We work very closely with both the Bureau of Sport Fisheries and the Bureau of Commercial Fisheries.

LOCATION OF GRAVEL BEDS FOR TAPS ROADWORK

One of the other major problems connected with the building of the road is the securing of gravel. This is a problem that the three Bureaus are interested in. We have identified some 130 potential gravel sites that will be needed to provide gravel for the construction of the road.

Mrs. HANSEN. Does this come from the creek beds?

Mr. RASMUSSEN. No, ma'am. Ordinarily we try to find it on a ridge, an area away from the streams.

Mrs. HANSEN. How does this affect erosion?

Mr. RASMUSSEN. The pipeline companies must have a mining plan for each gravel pit, which takes into account the erosion, the amount of gravel removed, and provides for rehabilitation. I have a few pictures indicating the gravel pits that were developed and are still in use on the section of the road from Livengood to the Yukon, if you would care to see them.

Mrs. HANSEN. Surely.

Mr. RASMUSSEN. You can see from the location of these gravel pits that they are located on ridges and not in the stream bottoms.

Mrs. HANSEN. They could well have an effect on the stream itself. The removal of the gravel, as you are well aware, can alter the terrain's activity. Isn't that correct?

Mr. RASMUSSEN. As long as the necessary drainage measures are taken into account for each pit, it would not have an effect on the streams.

BLM TO SUPERVISE TAPS DRAINAGE

Mrs. HANSEN. Are you going to supervise the drainage?

Mr. RASMUSSEN. This is one of the jobs that we have to do that requires very careful supervision and work with the contractors in providing that the environment is adequately protected.

Mrs. HANSEN. How much of the funds appropriated for 1970 have you spent to date?

ACTIVITIES OF PERSONNEL ASSIGNED TO TAPS WORK

Mr. BEIRNE. We have placed about 18 people on our payroll, Mrs. Hansen.

Mrs. HANSEN. Insert a list in the record of what they are doing and their activities.

(The information follows:)

TAPS PEOPLE NOW ON BOARD

We have filled positions on the trans-Alaska pipeline project as follows:
One pipeline project coordinator,
One assistant pipeline project coordinator,
Two pipeline supervisors,
Two assistant pipeline supervisors,
Six engineers,
One natural resource specialist (soil and watershed),
One realty specialist,
One administrative officer,
One electronics technician,
One foreman, and
One secretary.

The type of work these persons are currently engaged in consists of—

1. Review of construction and operating plans prior to issuance of the pipeline right-of-way permit to determine if they meet stipulations and conditions in the permit.
2. Establishment of permit specifications to afford protection to the environment.
3. Evaluation of the impact of construction on the land and water resources.
4. Coordination of the efforts of other Interior agencies and the State of Alaska to determine what construction and maintenance stipulations are necessary to protect the environment.
5. Determination of the pipeline and road alignment in order to minimize damage to the resources.
6. Building the construction monitoring organization by recruiting and training resource specialists and engineers so that effective surveillance can start at the outset of construction.

PRESENT SURVEILLANCE ACTIVITIES OVER TAPS

Mr. LOESCH. I think, Mr. Rasmussen, that the committee might be interested—in connection with this—how good the surveillance is, and so on, and what recently occurred.

Mr. RASMUSSEN. At the present time we are supervising the removal of gravel from these pits being used on the Livengood to Yukon River Road. We are overflying the area, including the Yukon north area, twice a week to make sure that the pipeline companies and the contractors who are there are not engaged in any activities that are not authorized. It was necessary last week to shut down one of the contractors because he was doing some bulldozer work he shouldn't have been doing.

We also are working on the entire length of the pipeline to look at the environmental and recreation aspects. Should it go here or should it not go here. We are working with Commercial Fisheries, the Bureau of Sports Fisheries, and the State of Alaska on the salmon spawning areas.

Mrs. HANSEN. I notice on page 516 of the 1970 supplemental hearings, in reply to a question by me, Mr. Tunison said:

We would recommend to BLM not to permit removal when it would utterly damage the spawning areas in the stream. In fact, in some areas it may be necessary to move the pipeline or go elsewhere for gravel.

Mr. RASMUSSEN. This is correct. And this is one of the things that we are doing now. Of the 130 areas that we have identified that gravel could be taken from, we do not intend to take gravel from the live streams. This is why it is very important that each gravel pit be very carefully located.

STEPS TAKEN PRIOR TO GRANTING TAPS PERMIT

Mrs. HANSEN. Have these steps been taken prior to the permit granting?

Mr. RASMUSSEN. They are working on them right now.

Mrs. HANSEN. Without a permit signed where are you, legally speaking?

Mr. RASMUSSEN. Well, before any permit is granted, we look at the area that is applied for and determine if it is a proper use, determine the hazards, determine the things that might be needed in the stipulations. Then we grant the permit. In other words, there is a lot of preparatory work that goes on before any permit. You don't just grant a permit and then start looking at the dangers.

Mrs. HANSEN. This is what the committee is very deeply concerned with.

Mr. RASMUSSEN. This is why we are locating the gravel pits in advance. We do work very closely with the Bureau of Sports Fisheries and the Bureau of Commercial Fisheries on any salmon spawning area.

COMPLAINTS OF WILD GAME ILLEGALLY KILLED

Mrs. HANSEN. There has been in the northwest newspapers statements of complaints about wild game being killed by crews in Alaska. This would be on your BLM lands. To what extent is this a truthful or factual article?

Mr. RASMUSSEN. I am not aware of how truthful it is. The State game commission, as well as BLM, would be interested in this.

Mrs. HANSEN. Off the record.

(Discussion off the record.)

Mr. RASMUSSEN. Our stipulations provide they will obey the game laws. It also puts the burden of proof on the operator. We do look at these things.

As far as the report goes, I cannot guarantee whether it is true or false.

Mrs. HANSEN. I wish you would look into it.

Mr. RASMUSSEN. I will.

Mrs. HANSEN. Give the committee a report on it. If they are depleting the wildlife of Alaska, I think the people of the United States should know it in advance. I firmly believe the companies wouldn't countenance this kind of business. I think their interest in public relations is probably as great as the Government's interest.

Mr. LOESCH. The companies have been cooperative on this and they prohibit firearms in their camps.

Mrs. HANSEN. I understand, but the charge has been made in the newspaper that this was going on. I think it would be to the interest of the companies, as well as to the interest of the American public, to know to what extent animals are being killed. I think you should insert in the record for the committee the agreements with the State of Alaska on the enforcement of the game laws.

Mr. RASMUSSEN. All right.

Mrs. HANSEN. Also insert in the record how many people the State of Alaska is prepared to place in the enforcement area.

Mr. RASMUSSEN. Yes, ma'am.

(The information follows:)

Alaska Wild Game Illegally Killed

There have been rumors that oil company employees are wantonly killing big game animals on the North Slope and the State of Alaska presently has the matter under investigation. The State enforcement offices stationed at Deadhorse on the North Slope has found little substance in the allegations.

For several reasons, it is unlikely that the drilling crews are engaged in this illegal activty. One reason is the difficulty in getting around in the roadless terrain and the unavailability of off-road vehicles. Another deterrent is afforded by very strict company rules against employees having firearms in camp.

There have been some game license violations involving oil company workers on leave in the Fairbanks area. These cannot be attributed to the oil companies, however, since they occurred while employees were on leave and away from the company camps.

Commercial guiding activity is on the increase north of the Brooks Range; there are two new guides in the area. This has increased legitimate hunting, mostly by oil company employees.

The State of Alaska has responded to increased game law enforcement needs in the area by adding 5 new game officers. Three more will be added to the force in 1971. Prior to January, 1970, there were no enforcement officers stationed north of Fairbanks.

The Bureau of Land Management has a cooperative agreement with the Alaska Department of Fish and Game whereby Bureau employees report witnessed game violations to the State enforcement agency. Bureau employees do not have authority to actually enforce Federal or State game laws.

FINANCING OF TAPS INSPECTION WORK

Mrs. Hansen. I was interested to read in the President's budget estimate the following statement in connection with the Alaska Pipeline inspection: "All such costs connected with this work shall be reimbursed by the pipeline right-of-way applicants, if the permit is issued." Describe for the committee the detailed procedure you will follow in reclaiming these costs.

Mr. Hite. Madam Chairman, Secretary Hickel has constituted a committee, and asked me to coordinate its activities, to breakdown by line item just what the cost will be of each of the participating bureaus attributable to supervision of the pipeline construction. We hope to have this information in hard form and to him by February 27.

Mrs. Hansen. Will it be completed in time to include in the appendix of our hearing?

Mr. Hite. We would be happy to include it there.

Mrs. Hansen. That would be fine.

Mr. Hite. I don't think it is really responsive to your question, but the actual procedures for recovering the costs will be worked out in the negotiations with the pipeline companies, which will ensue shortly.

Mrs. Hansen. Thank you.

Mr. Hite. Yes, ma'am.

LEASING OF OIL SHALE LANDS

Mrs. Hansen. You are also responsible for the leasing of oil shale lands in Colorado, Utah and Wyoming. Summarize for the committee the current situation with regard to this phase of your activity.

Mr. Rasmussen. Our oil shale program is continuing on a level basis. We have six contest proceedings underway now. We have received 41 claim relinquishments from the post-1920 claims, representing about 6,000 acres.

Also, another 14 claim relinquishments, covering 17,000 acres, are under a minor legal review.

We have pending about 1,100 claims covering about 115,000 acres on further relinquishments. We are inventorying the pre-1920 claims and indexing them to identify the claims that are suitable for immediate contest.

The base map of the Piceance Creek Basin is being edited and it should be ready for printing. The USGS has nearly completed the Uinta Basin source maps. We have maps showing about 3,000 claims involved in the Tri-State oil claims. We have two maps of the Tri-State oil withdrawal prepared and we are working on a field reconnaissance map. Cadastral survey has completed about five townships.

OIL SHALE LANDS CLAIM RELINQUISHMENTS

Mrs. HANSEN. The Wall Street Journal of February 18, 1970, had an article, "Five firms relinquish rights to dawsonite on oil shale tracts." The article reads in part:

> The Interior Department estimates that 23,000 dawsonite claims have been filed on 3.7 million acres of land. Most are believed to be on oil shale lands. The Interior Department estimates there are 7.9 million acres of Federal oil shale lands in three States.

Is this essentially correct?

Mr. RASMUSSEN. This is part of the relinquishment. We have more relinquishments than are stated now, and we have others pending.

SUMMARY JUSTIFICATION MATERIAL ON BUREAU

Mrs. HANSEN. At this point in the record we will insert pages 1 through 5 of the justifications.

(The pages follow:)

Highlight Statement

The Bureau of Land Management administers 453 million acres of land in the 11 western states and Alaska. One of the last segments of the Federal estate to be placed under management, these lands amount to 20% of the entire land area of the United States. Years of neglect have left their mark. However, through multiple-use management in the public interest this land is making an ever-increasing contribution to the continuing welfare of Americans. In addition, 515 million acres of Outer Continental Shelf under Bureau administration continues to yield great mineral wealth which offers increasing promise for the future.

The public lands are the major source of undeveloped open space in the United States. Their appropriate use and status are a matter of increasing public interest and concern. Field inspection and public discussion preceed classification for disposal. Under the Classification and Multiple-Use Act of 1964, 2.7 million acres have been classified for disposal while 133 million acres have been designated for multiple use management. The most common demands for public lands are for community expansion, industrial use, agriculture, and other enterprises.

Minerals are increasingly important resources of the public lands. Mineral production in 1969 included 200 million barrels of petroleum; 942 billion cubic feet of natural gas; 470 million gallons of gasoline and liquid petroleum gas; and 24 million short tons of coal, potash, sodium and other minerals. Mineral receipts, including those from the Outer Continental Shelf, were over $566 million.

Alaska Oil and Mineral Development

The Prudhoe Bay oil discovery has triggered one of the most complex responsibilities ever assumed by the Bureau. A consortium of oil companies, known as TAPS, wishes to build a 48-inch pipeline, 800-miles long, from Prudhoe Bay on the North Slope to Valdez on the Gulf of Alaska. An accompanying 400-mile long haul road has been proposed, a portion of which has been approved for construction by the State of Alaska.

The Bureau is responsible for issuance of the right-of-way permit, final alignment of the pipeline, enforcement of stipulations, sale of common construction materials, and supervision of construction and monitoring of the line. It also has the entire coordinating function for all participating federal agencies. The Bureau estimates that there will be at least 8 prime contractors, 15 crew locations, 5 to 12 pumping station sites and several new towns to accommodate approximately 3,000 workers and their families. The supervisory responsibility is intensified by the delicacy of the tundra ecosystem. This previously undisturbed area has limited ability to recover from extensive damage. The Bureau must see that development occurs without serious environmental disorder.

Because of the urgency and immediacy of the problem, the Bureau is requesting an increase of $750,000.

Improved Land Services

A basic function of the Bureau is the processing of applications for land. Western population growth, twice the national average, has led to greater land use demands on a fixed land base. Rapid sociological and technological changes have altered land use patterns, and new Executive and Legislative requirements have increased the complexity of the disposal process itself. The result is a 12,000 case backlog, with about 30% of the applicants having waited five years or more. A $465,000 increase is requested to reduce this backlog and to improve service to the public.

Upland Mineral and Energy Leasing

The mineral and energy industries' increasing demands for both upland and Outer Continental Shelf (OCS) resources have required the Bureau to intensify its leasing evaluation practices to more effectively analyze the economic impact of all mineral and energy development and to obtain a fair return to the Federal Government. An increase of $95,000 is being requested primarily for upland mineral evaluation and to integrate, where practicable, upland and OCS evaluation efforts.

Recreation

Although the Bureau administers the largest amount of undeveloped land in the Western states, the facilities on this land fall far short of meeting present recreational use. In 1970, 32 million visitor days are expected, including 5.3 million visitor days of intensive use. In 1971, this is expected to exceed 36 million visitor days, including over 6 million days of intensive use.

Bureau facilities are usually non-existent. Where they do exist, they cannot accommodate the growing numbers of public land visitors. Adequate and properly maintained facilities can channel use into appropriate areas designed to withstand recreational use, as well as reduce litter, sanitation and water pollution problems. Outside of western Oregon, the Bureau started no work on new sites in FY 1970.

The sites selected for FY 1971 development are located in the California Desert and Lower Colorado River; at Superstition Mtn. near Phoenix, Arizona; at Holter Lake, near Helena, Montana; and at Organ Mountain near Las Cruces, New Mexico. These developments will provide some relief in areas experiencing resource abuse. Minimum facilities will be provided at these sites to protect public health and prevent pollution, fire and other damage.

An increase of $406,000 is also requested for operation and maintenance of facilities and roads. The Johnny Horizon Anti-Litter Campaign will expand to capitalize on the momentum generated by its highly successful first two years. Custodial efforts will be directed to facility, dumpsite and roadside cleanup, particularly in areas such as those along the Lower Colorado River where overuse and abuse are creating problems of public health and sanitation.

Funds are also requested for recreation planning in the California Desert. The Desert area served 9.3 million visitors in 1968, for 4.9 million visitor days. By the year 2000, visitor days are expected to reach 50 million. Activities include motorcycling, rock hounding, hiking, camping and picnicking. Detailed and immediate planning is needed to limit destruction of the desert environment and the values that the recreationists seek.

Road Construction - Public Lands

An adequate system of roads and trails is essential to public use and proper management and protection of the public lands. In FY 1971, the Bureau's obligation program is $3,837,000 for the construction of 5 bridges and 56 miles of trail, grading 115 miles of road and surfacing 89 miles. In addition, 60 miles of historically significant trails will be marked and reestablished.

Summary of Budget Request

The estimate of appropriations for the Bureau is summarized below by major budget activity:

	FY 1970	FY 1971	Increase + Decrease -
	(in thousands of dollars)		
Management of Lands and Resources			
1. Realty and Mineral Leasing Service	$ 7,564	$ 7,659	+$ 95
2. Resource Management, Conservation, and Protection	40,693	42,229	+ 1,536
3. Cadastral Survey	5,703	5,703	---
4. Firefighting and Rehabilitation	1,000	1,000	---
5. General Administration	2,268	2,349	+ 81
Total, MLR	57,228	58,940	+ 1,712
Construction and Maintenance			
1. Construction	1,030	940	- 90
2. Maintenance	1,869	2,275	+ 406
Total, C&M	2,899	3,215	+ 316
Public Lands Development Roads and Trails (Liquidation of Contract Authority)	3,500	3,500	---
Oregon and California Grant Lands (indefinite)	16,000	18,000	+ 2,000
Range Improvements (indefinite)	1,769	1,841	+ 72
Subtotal	81,396	85,496	+ 4,100
Permanent Appropriations	88,845	92,959	+ 4,114
Grand Total	170,241	178,455	+ 8,214

Receipts

As shown in the table below the Bureau continues to produce substantial revenues for the U.S. Treasury and for public land states and counties.

Receipts Collected by the Bureau ($ in millions)

	1968	1969	1970[a/]	1971[a/]
Total Receipts	1,158	650	521	1,217
Paid to States & Counties	- 71	-78	-88	-92
Deposited in Treasury	1,087	572	433	1,125

a/ Estimated

RECEIPTS BY SOURCES

The following table shows actual receipts of the Bureau of Land Management for fiscal years 1967, 1968, 1969, and estimated receipts for 1970 and 1971.

	Actual 1967	Actual 1968	Actual 1969	Estimate 1970	Estimate 1971
Sales, Public Lands and Materials.....	$ 2,583,863	$ 2,521,132	$ 1,802,126	$ 3,000,000	$ 3,200,000
Fees and Commissions.....	3,268,243	3,889,635	4,888,321	4,500,000	4,000,000
Mineral Leasing.....	124,977,468	128,555,825	138,538,529	140,500,000	149,000,000
Mineral Leasing, Outer Continental Shelf.....	637,310,722	961,266,059	428,278,500	292,000,000	970,000,000
Grazing Fees.....	4,571,449	4,601,460	5,623,299	5,800,000	6,800,000
Right-of-Way Leases.....	217,301	225,552	324,740	240,000	250,000
Timber Sales.....	47,075,177	56,166,027	69,678,639	70,600,000	78,100,000
Miscellaneous Receipts...	343,457	492,570	561,870	2,700,000	4,300,000
Total.....	$820,347,680	$1,157,718,260	$649,696,024	$519,340,000	$1,215,650,000

NOTE: Does not include Public Land Administration Act Funds

ALLOCATION OF BUREAU OF LAND MANAGEMENT RECEIPTS TO STATES, 1969

State	Sale of Public Lands and Timber	Mineral Leases and Permits	Taylor Grazing Districts	Taylor Grazing Leases	Other	Total
Alabama	$ 39	$ 11,661	$ ---	$ ---	$ ---	$ 11,700
Alaska	1,557	7,778,784	---	---	---	7,780,341
Arizona	1,507	102,862	21,184	31,215	---	156,768
Arkansas	9	17,412	---	---	---	17,421
California	42,167	3,250,730	6,279	47,421	---	3,346,597
Colorado	5,051	3,409,338	20,815	11,397	---	3,446,601
Florida	160	1,045	---	---	---	1,205
Idaho	17,933	152,332	32,868	9,736	---	212,869
Kansas	---	148,424	---	---	---	148,424
Louisiana	1	276,378	---	---	---	276,379
Michigan	188	14,077	---	---	---	14,265
Minnesota	1	---	---	---	---	1
Mississippi	2	18,419	---	---	---	18,421
Missouri	6	---	---	---	---	6
Montana	15,947	3,394,729	23,431	34,166	191,863[a]	3,660,136
Nebraska	---	6,869	---	444	---	7,313
Nevada	35,406	536,915	61,702	9,446	---	643,469
New Mexico	10,908	11,342,601	49,282	8,951	11,403[a]	11,423,145
North Dakota	---	204,988	---	2,120	---	207,108
Oklahoma	1,123	163,142	---	95	---	164,360
Oregon	100,551	1,639	25,674	15,873	25,875,471[b]	26,019,208
South Dakota	175	228,390	---	14,450	---	243,015
Utah	970	3,119,219	34,632	---	1,729[a]	3,156,550
Washington	2.491	120	---	5,770	---	8,381
Wyoming	3,714	17,184,174	41,806	77,844		17,307,538
Total	$239,906	$51,364,248	$317,673	$268,928	$26,080,466	$78,271,221

a/ Executive Orders 10787, Nov. 6, 1958, and 10890, Oct. 27, 1960, from grazing and mineral receipts, L.U. Lands.

b/ From "O&C" lands, $25,567,166; Coos Bay Wagon Road lands, $308,304.

MINERAL LEASING RECEIPTS

Mrs. HANSEN. You indicate an increase of $8.5 million in mineral leasing receipts. What is the basis for this increase?

Mr. RASMUSSEN. This is the increased production from our mineral leasing.

MINERAL LEASING RECEIPTS FOR YEARS 1967–71

Mrs. HANSEN. Mineral leasing has gone up from $124,977,468 in 1967, $128 million in 1968, $138 million in 1969, $140 million in 1970, to an estimate of $149 million in 1971. What accounts for this?

Mr. RASMUSSEN. This is from increased production from the leases.

Mrs. HANSEN. In what areas?

Mr. RASMUSSEN. It is throughout the West, mainly oil and gas.

Mrs. HANSEN. You indicate an increase of $678 million in receipts for mineral leasing on the outer continental shelf. Give us the details on this.

Mr. RASMUSSEN. We anticipate that during 1971 there will be a rather large sum of money released from the escrow fund.

Mrs. HANSEN. Your estimate for 1970 was $292 million. Is this going to run about true to your prediction?

Mr. BEIRNE. I think it will be dependent largely on a decision as to whether or not the drainage sale, which has been postponed, will be held during the current fiscal year.

ANTICIPATED INCREASED TIMBER SALES RECEIPTS

Mrs. HANSEN. What is the basis for your estimated increase of $7.5 million in 1971 for timber sales receipts.

Mr. RASMUSSEN. First of all, we anticipate that some of the higher priced timber sold last spring will be cut during the coming fiscal year.

Mrs. HANSEN. Where are they going to sell it?

Mr. RASMUSSEN. There are some indications in the timber business that, after the first of the year, there will be additional housing opened up and an increasing market.

Mrs. HANSEN. Are you talking about next year?

Mr. RASMUSSEN. Yes. Next fiscal year.

CURRENT TIMBER MARKET

At the present time our timber continues to sell at rather good prices. The industry may feel that things are going to go along rather slowly.

Mrs. HANSEN. If inventories of lumber build up in an ever increasing volume, will the sale prices be less than before? Or is the ever increasing lack of land and lack of timber going to be the factor that keeps the sale price up?

Mr. RASMUSSEN. I think that there is going to be a continual interest in Federal timber that is going to place a premium on it. So that the people who are bidding on timber will continue to bid good prices to keep their inventory of timber up so that they have at least a year and a half or 2 years timber for cutting ahead.

Mrs. HANSEN. Does this tend to stabilize the price? As you well know, when timber is in short supply your bids go up. Now, what is the relation between your sales and price?

Mr. RASMUSSEN. The relationship of sales and price is in direct relationship to the total amount of timber that is available to cut in any given area at a given time.

As far as the present situation is concerned, the demand for timber exceeds the amount that is available. Therefore the price will stay high.

HOUSING STARTS EFFECT ON TIMBER MARKET

Mrs. HANSEN. If the demand for housing goes up violently, what is going to happen to the timber market? Is it going to go up concurrently?

Mr. RASMUSSEN. Yes, it would.

Mrs. HANSEN. Then you are going to have a high price factor due to a lack of timber supply. This is going to cause a housing market that is tremendously costly. Isn't this true?

Mr. RASMUSSEN. Yes, it will be.

Mrs. HANSEN. There is a substantial move on to put more funds back into timber management so that we can grow more timber. Mr. Rasmussen, as you are well aware, the growth of timber is not only related to the cutting of timber but it is also an integral part of watersheds, pollution control, environment, and recreation.

FOREST MANAGEMENT ACTIVITIES

Mr. RASMUSSEN. This is correct, Madam Chairman.

Mrs. HANSEN. Do you feel that you have had the proper emphasis on forest management?

Mr. RASMUSSEN. Up to the present time I think we have had a proper input into forest management. We might have been able to reforest some of the backlog.

Mrs. HANSEN. How many million acres of timber land does your bureau own? How many of those acres have been reforested and how many need reforestation? Will you please insert that in the record? I think you are going to see that you have acres of land that have not been reforested. Isn't this true?

Mr. RASMUSSEN. Not entirely.

(The information follows:)

Reforestation Backlog—Commercial forest lands administered by the Bureau

Region:	*Acreage*
Western Oregon	2,133,000
Alaska	19,500,000
Other public domain	1,665,444
Total	23,298,444

Statistics on reforestation backlog and reforestation accomplishments are as follows:

REFORESTATION ACCOMPLISHMENTS, ACRES

	Seeding	Planting	Total
Fiscal year 1968 actual:			
Public domain	697	2,614	3,311
Western Oregon (O. & C.)	10,903	15,538	26,441
Total	11,600	18,152	29,752
Fiscal year 1969 actual:			
Public domain	478	2,269	2,747
Western Oregon (O. & C.)	12,141	12,468	24,609
Total	12,619	14,737	27,356
Fiscal year 1970 planned:			
Public domain	400	1,940	2,340
Western Oregon (O. & C.)	13,200	13,420	26,620
Total	13,600	15,360	28,960

These annual accomplishments have enabled the Bureau to keep current with respect to its annual cutting levels. Thus, the hard core, difficult to treat backlog has remained relatively constant for the past 2 to 3 years as follows:

	Acres
Western Oregon (O. & C.)	30,000
Public domain (exclusive of Alaska)	21,500

Increases for forest development in the O. & C. grant land fund are aimed at a planned reduction of the western Oregon backlog.

Mr. RASMUSSEN. We do have a backlog of cut over land that hasn't been reforested or land that isn't reforested. These are hard-core lands which are difficult to reforest.

Mrs. HANSEN. Isn't it good economy to reforest this land so you can eventually have a continuing cycle of use?

Mr. RASMUSSEN. This is our thought and plan, that gradually we will put this back in production. These are the most difficult areas to handle. We are building our program toward that. In other words, we have to start gathering seed and you have to start putting seed in the ground.

Mrs. HANSEN. If you are going to cut a tree in 30 years, it has got to be in the ground right now.

Mr. RASMUSSEN. That is correct.

Mrs. HANSEN. You can't spend forever thinking about what you are going to do.

Mr. RASMUSSEN. I agree on that.

INCREASED DEMAND FOR TIMBER

Mrs. HANSEN. Increased demand is going to explode in the housing field if we don't solve our housing problems. When that explosion comes, the demand and the pressure is going to result in the desire to overcut our timber. This need not be done at all, if programs have been in effect to effectuate that kind of cutting.

Mr. Wyatt?

Mr. WYATT. Madam Chairman, thank you.

I would just like to emphasize what the chairman said. I have great fear that once the housing dam bursts, which it appears to me may happen perhaps in about a year or hopefully a little bit less than that, that the demands for timber are going to be so enormous that the price squeeze that we were all in such a tizzy about in March and April of

1969 is going to look like a normal seasonal adjustment compared to what we are going to have.

So I am extremely interested in seeing that you have all the financing that is necessary to enable you to do every bit of planning to get ready for this thing when it does happen.

Now, the conservationists, the extreme conservationists as distinguished from the responsible conservationists, would have you actually slow down your cutting now. And they don't realize and anticipate the emotional wave that is going to hit this country when we simply don't have timber enough to meet the huge housing demands of the future. That emotional demand is going to sweep us, if we are not careful and if we are not planning adequately to meet it, into an irresponsible program of tree cutting, because when it comes to a question of having housing or not, the emotion is going to be on the side of having housing.

So I am interested, as I say, in seeing that you ask for and that you have all the money that you can intelligently use for planning to get the maximum timber out of your high-yield areas.

MANAGEMENT OF O. & C. TIMBER RESOURCES

I think the Bureau of Land Management has done very well in the past and I certainly think the management of the O. & C. timber resources is a model for all Government agencies.

Mr. RASMUSSEN. Thank you, Mr. Wyatt.

Our program for the O. & C. this year does include another increase for intensive forest practices.

STATUS OF PRESIDENTIAL TASK FORCE ON TIMBER

Mr. WYATT. One other thing in connection with what we have been talking about. I know of your problems with the Bureau of the Budget, but in April and in May of 1969 there was a Presidential task force addressed to the high price of timber, lumber, and plywood.

Mr. Mayo was the Chairman of that task force. I do not know if it completed its work. I think there is a feeling that the problem is settled. It certainly is not settled. It will come back to us 10 times as strong as it ever was. Just as a suggestion, I think it might be wise for you and the Department of Interior to go to the Bureau of the Budget now to be sure that you are on record with them as to your opinion as to what is going to happen when this housing boom breaks loose. Actually, we are building at the rate of less than 50 percent of our annual housing start goal now. This means we will have to be above the 2.6 million units per year average what we are seeking. When you go from the 1.1 million unit rate now to, we will say, 3.5 million units, the demand on the timber resource is going to be something that will be enormous. I think you would do well to go to them and be on record as to what is going to happen.

They do not have any conception, I am satisfied, of what is coming. Thank you, Madam Chairman.

Mrs. HANSEN. Thank you very much.

I wondered what had happened to that.

Mr. WYATT. I have seen no evidence of it. There well may be something that has come of it and they may be tuned into the problem we face, but I seriously doubt it.

I think they feel the problem is solved.

Mr. LOESCH. If I may speak to that for a moment because I was the Department representative on that task force, and as you say, Congressman Wyatt, it has just fallen in a hole as far as I am aware. There was a directive that a report be made and my understanding was that we were to have a draft of this report some 3 or 4 months ago. I have not seen hide nor hair of it. Frankly I have quit holding my breath.

TASK FORCE ON ENVIRONMENTAL HEALTH

Mr. MARSH. If the chairlady would yield. Along the same general line that gets into the management of timber resources—not just timber in your instance, but land and minerals—what role is BLM playing, or have you been invited to play, or be represented on the task force that relates to the environmental health and ecology that is much in discussion in recent days.

Mr. RASMUSSEN. We work on this within the Department. I am not represented on any outside committees of this type.

Mr. MARSH. I mean a departmental task force on environmental health. The President is talking about air and water pollution, and quite frankly tied in with air and water pollution, you get into the quality of life, and recreation. We are talking about the administration's major thrust on environmental health, land use, and ecology. What role is BLM playing in this? You have literally millions of acres of land.

Mr. RASMUSSEN. We are on a number of task forces that concern the environment. We are working very closely, for instance, on new towns.

NUMBER OF ENVIRONMENTAL TASK FORCES

Mr. MARSH. This is the point I am trying to make. How many task forces on environment are there?

Mr. RASMUSSEN. I would not be able to estimate that.

Mr. LOESCH. I would not, either.

Mr. MARSH. This is of concern to us. We saw this happen on water research.

On many, many different task forces. Is there one task force on environmental health on which you sit as representative of BLM on that task force?

Mr. RASMUSSEN. No, sir.

PUBLIC LAND UNDER BLM RESPONSIBILITY

Mrs. HANSEN. Then I say it is time you had a task force. How many million acres does the Bureau administer?

Mr. RASMUSSEN. 453 million acres.

Mrs. HANSEN. 453 million acres which encompasses a major part of the recreation lands, water resources, and timberlands. Yet you are still getting together plans to replant some of those acres. You can write reports forever, and it will not mean a thing until this program is implemented.

ROUND LOG EXPORTS TO JAPAN

Mr. WYATT. May I say one more thing for the record, Madam Chairman? This is in connection with timber and plywood and lumber for housing. I can remember so well when we were fighting to get some reasonable restrictions on the increase in the export of round logs to Japan. I do not remember one single conservation group that came in to show any kind of interest in it at all. Now as we are trying to develop some sort of policy for using the high yield Government areas for high yield timber growth, they are saying, "You don't need it because look how many logs you are sending to Japan."

I say, "Where were you back when we were fighting this battle?" I say to them now, where are they now in planning to intelligently grow the resource that we need so that we are not going to have to emotionally overcut 2 or 3 years from now in order to meet the huge housing needs that we are going to face. I would like to have that on the record.

Mrs. HANSEN. This committee is deeply concerned. We can have task forces and the best reports in the world, but there is one simple ingredient for a successful program and that is proper funding.

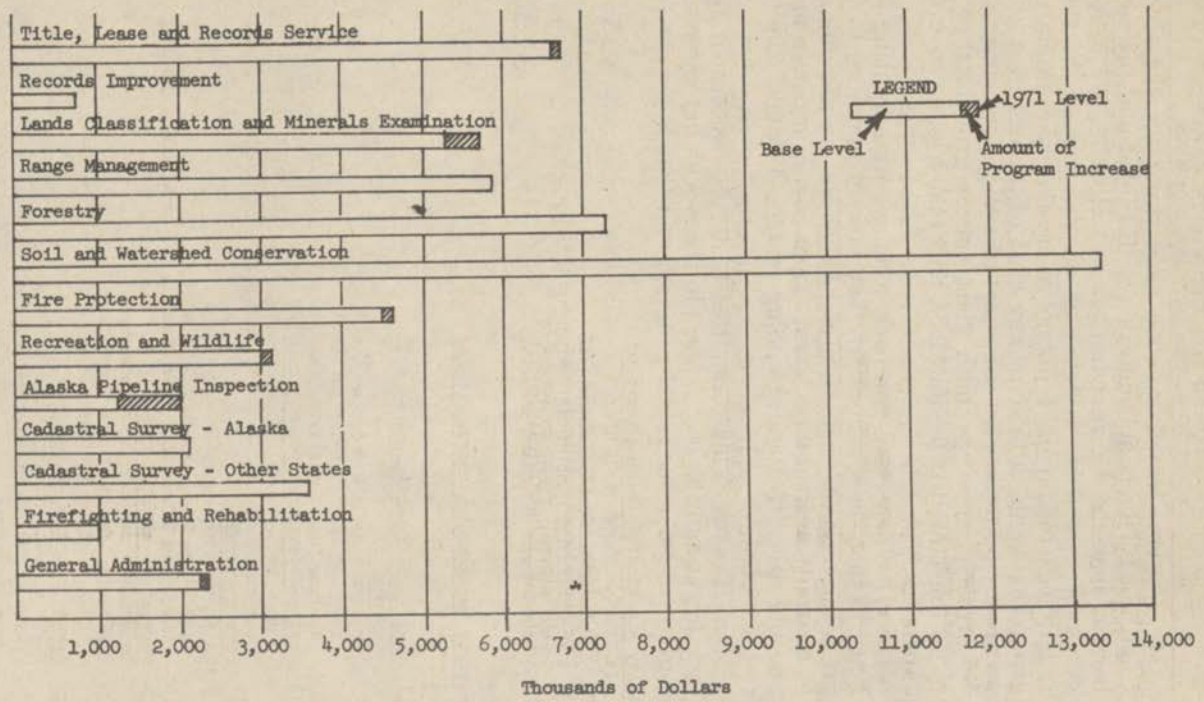
JUSTIFICATION MATERIAL ON MANAGEMENT OF LANDS AND RESOURCES

Please insert justifications pages 6 through 38.

(The justifications follow:)

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

MANAGEMENT OF LANDS AND RESOURCES APPROPRIATION
FY 1971 PROGRAM INCREASES



MANAGEMENT OF LANDS AND RESOURCES

Appropriation, 1969	$50,751,000	
Second supplemental appropriation, 1969	12,213,000	
Total appropriation, 1969		$62,964,000
Transferred to "Operating Expenses, Public Buildings Service," General Services Administration		-84,243
Transferred from "Salaries and Expenses Office of the Secretary"		+141,000
Total available, 1969		63,020,757
Appropriation, 1970	53,823,000	
Transferred to "Operating Expenses, Public Buildings Service," General Services Administration		-93,000
Pay cost supplemental		3,498,000
Total available, 1970		57,228,000

Summary of Increases and Decreases, 1971

	Base for 1971	Increase 1971	
Realty and Mineral Leasing Services			
(a) Title lease and records service For the economic evaluation of oil and mineral resources leased by the Bureau in upland area	---	95,000	+95,000
Resource Management Conservation and Protection			
(a) Land classification and mineral examination For improving land services and response in processing petition applications for realty transactions.	3,128,000	465,000	
(d) Soil and watershed conservation To meet obligations for employee compensation	104,000	13,000	
(e) Fire protection To provide necessary equipment, supplies, rent, and utilities at the Boise Interagency Fire Center	604,000	120,000	
(f) Recreation and wildlife To conduct comprehensive recreation planning for the Lower Colorado River, and the California Desert	155,000	188,000	
(g) Alaska Pipeline inspection For inspection of activities associated with Trans-Alaska Pipeline and road construction	1,250,000	750,000	+1,536,000

	Base for 1971	Increase 1971	
General Administration			
To provide for additional administrative services required by the increased program (net increase - offset by $19,000 savings in management improvement).....	2,268,000	81,000	
			+ 81,000
Net Increase, 1971.....			+ 1,712,000
Budget Estimate, FY 1971.....			58,940,000

MANAGEMENT OF LANDS AND RESOURCES
Analysis by Activities

Activity	Fiscal Year 1969 Amount Available	1970 Total Appropriations	1970 Pay Cost Supplemental	1970 Transfer 1/	1970 Amount Available
1. Realty and Mineral Leasing Service	$ 6,443,452	$ 7,092,000	$ 481,000	$- 9,000	$ 7,564,000
2. Resource Management, Conservation and Protection	37,103,014	38,210,000	2,562,000	-79,000	40,693,000
3. Cadastral Survey	5,324,394	5,385,000	323,000	- 5,000	5,703,000
4. Firefighting and Rehabilitation	11,603,726	1,000,000	---	---	1,000,000
5. General Administration	2,124,917	2,136,000	132,000	---	2,268,000
Unob. balance lapsing	421,254	---	---	---	---
Total	$63,020,757	$53,823,000	$3,498,000	$-93,000	$57,228,000

1/ Represents transfers to General Services Administration.

MANAGEMENT OF LANDS AND RESOURCES
Analysis by Activities

	FY 1969 Amount Available	FY 1970 Amount Available	FY 1971 Estimate	Increase (+) Decrease (-) 1971 Compared with 1970	Page ref.
1. Realty and Mineral Leasing Services	$ 6,443,452	$ 7,564,000	$ 7,659,000	+$ 95,000	11
2. Resource Management Conservation and Protection	37,103,014	40,693,000	42,229,000	+1,536,000	16
3. Cadastral Survey	5,324,394	5,703,000	5,703,000	---	33
4. Firefighting and Rehabilitation	11,603,726	1,000,000	1,000,000	---	35
5. General Administration	2,124,917	2,268,000	2,349,000	+ 81,000	36
Unob. balance transferred to other accounts	---	---	---	---	
Unob. balance lapsing	421,254	---	---	---	
Total	63,020,757	57,228,000	58,940,000	+1,712,000	

1. REALTY AND MINERAL LEASING SERVICE

Analysis by Subactivities

Subactivity	FY 1969 Amount Available	FY 1970 Amount Available	FY 1971 Estimate	Increase (+) or Decrease (-) 1971 Compared with 1970
(a) Title, Lease and records service...	$5,755,359	$6,737,000	$6,832,000	+$95,000
(b) Records Improvement	688,093	827,000	827,000	---
Total.....	$6,443,452	$7,564,000	$7,659,000	+$95,000

(a) Title, Lease and Records Services: FY 1970, $6,737,000; FY 1971, $6,832,000; an increase of $95,000. This increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1) +$95,000	+3	$95,000	3	For economic evaluation of the upland mineral resources leased by the Bureau.

Cost Factors Involved in Increases

(1) Three permanent positions at average annual rate of $13,000, $39,000; consultants' fees, contractual costs and computer time involved in formulating conceptual framework studies, $56,000.

Need for Increase: Substantial revenues are realized from the Bureau's upland leasing activities as shown in the following table:

	Actual FY 1968	Actual FY 1969	Estimated FY 1970	Estimated FY 1971
	($ in millions and tenths)			
Mineral Leasing, Upland	128.6	138.5	140.5	149.0

The principal objective of the upland evaluation program is to facilitate the orderly development of mineral resources by industry. Lease evaluations, properly implemented, will also tend to increase the worth of upland mineral deposits which will help insure full public benefits. Because of the magnitude of the upland mineral values, a change of only 1% can influence returns by about 1½ million dollars.

The upland and OCS programs are quite similar; mineral and energy sources are often leased to the same firms, operating in the same markets, with the same raw materials. Therefore, much of the information gathered in the OCS evaluation effort can be utilized in an upland program. However, there are also specific upland needs which can be met only by developing an expertise in upland analytical work.

The economic impact of the Bureau's upland leasing program is great as illustrated by the production of minerals from Federally leased lands shown on the following table.

Mineral Production from Public and Acquired Lands by Minerals,
and Percentages of Total U.S. Production 1/

Mineral	Unit	Calendar 1966		Calendar 1967		Calendar 1968		Production Value Federal Lands millions of dollars
		Production	% of U.S.	Production	% of U.S.	Production	% of U.S.	
Petroleum	million barrels	196.8	6.3	206.9	6.4	212.3	6.4	562
Natural Gas	billion cubic feet	521.1	4.8	1,000.8	5.5	967.4	5.0	142
Gasoline & L.P.G.	million gallons	807.5	2.5	712.2	3.3	470.7	2.0	26
Potassium	million short tons	17.5	87.5	13.8	50.0	12.2	84.7	57
Coal (bituminous)	million short tons	7.1	1.3	6.8	1.2	7.5	1.4	35
Phosphate	million short tons	2.0	5.0	2.2	5.4	1.8	4.4	6
Sodium (soda ash)	million short tons	1.6	10.0	1.8	10.1	2.5	54.9	56

1/ Domestic Mineral Production derived from Bureau of Mines, U.S. Minerals Year Book. Production from Federal Lands is obtained from U.S.G.S. publication, Minerals Production, Royalty Income, and Related Statistics.

Plan for Increase: With the additional funds requested the Bureau will begin examining the following:

1. The best methods of approaching the upland evaluation effort to include conceptual framework studies.

2. Data which can be applied to the upland program from the OCS evaluation to date and additional data, specifically related to upland resources, which are needed.

3. How to promote orderly development of the upland mineral resource.

The increase will also be utilized to begin computerization of routine data.

Program of Continuing Work: The principal program goal of this subactivity is to provide an efficient realty, leasing and record service for the public and governmental agencies. The paperwork and actual transfer of land title from the Federal Government is performed here, while the "field" investigation and determination that transfer is proper is performed in the Land Classification and Mineral Examination Subactivity.

Maintaining public lands records in the land offices, providing public land status and information about the public land and mineral laws, and processing realty transactions with other Federal agencies, State and local governments and private individuals are continuing efforts in this program. The leasing and disposal of non-renewable natural resources under conservation guidelines constitute a large portion of the workload.

Leasing and disposing of non-renewable mineral resources of the Public Domain and Federal Outer Continental Shelf lands become more important each year. In recent years these resource leases have yielded from one-half to one billion dollars to the Federal Government. We are attempting to improve our capability to ensure the proper development of these resources. Part of the leasing workload involves non-fuel mineral leasing. The scope of this function in the over-all leasing effort is illustrated below:

FEDERAL NON-FUEL MINERAL LEASING FY 1969

	Prospecting Permits Issued		Leases Issued	
Mineral	No.	Acreage	No.	Acreage
Hardrock	97	107,617		
Phosphate	29	16,447	12	5,295
Potassium	45	75,649	4	6,537
Sodium	25	40,785		
Sulphur	304	180,577	--	--
Special Laws	--	--	3	1,911
TOTAL	500	421,075	19	13,743

The number of unclosed and pending lands and minerals cases has increased to about 41,000 (12,000 lands cases and 29,000 mineral cases). In the minerals area, this is largely due to a buildup of 12,000 cases, primarily oil and gas lease applications in Alaska resulting from Public Land Order 4582. This Order closed Alaska to new filings and prohibits issuance of leases or title to lands until December 31, 1970, to allow Congressional action on the Alaska Native Land Claims problem. Unless this order is extended beyond the prescribed December 31 termination date, Significant progress in reducing the pending caseload will be possible by the end of Fiscal Year 1971. However, reduction below the previous level of 25,000 unclosed lands and mineral cases is not anticipated within the scope of work emcompassed by this subactivity.

(b) Records Improvement: FY 1970, $827,000; FY 1971, $827,000; no change.

Program of Continuing Work: Records improvement includes the construction of new land status records in each Land Office to replace the original records which are becoming worn or illegible through age and use. Through the new records system, which also makes use of microfilm and other modern processes and reproduction equipment, Land Offices can provide land status information quickly and economically. The public makes extensive use of these records.

New records for Idaho should be completed in the early part of FY 1971 and construction of records for the Sacramento Land Office will commence. The remaining portion of this part of the program will be completion of the Sacramento Office records and construction of new records for the Riverside Land Office in California.

Records improvement work has been completed and new records are installed in Arizona, Colorado, Montana, Nevada, New Mexico, Oklahoma, Oregon, Utah, and Wyoming; and for portions of Alaska, Kansas, Nebraska, North Dakota, and South Dakota. Completed records are scheduled for Idaho in FY 1971, and for California in FY 1974.

As part of the program, a system for indexing and microfilming field notes of cadastral and other kinds of surveys has been designed and tested. The system will be installed in one State (Colorado) in FY 1970, and installation in two additional States is scheduled for FY 1971. The system will contribute to efficiency in operations in State and District Offices and will help assure preservation of the original survey notes which constitute a vital part of the land records. It will also serve the public better in that the survey notes as indexed will be more usable and copies can be readily obtained in District offices.

Status of Program

The principal program goal of this activity is to provide prompt and efficient services to the public and to governmental agencies and to execute a well-planned disposal program in areas where non-Federal ownership of land is appropriate in meeting local needs. Efforts are continuing in the evaluation of the economics of offshore oil and gas leasing; new efforts are needed for similar work in the upland areas. Modernization of land office record keeping is making satisfactory progress.

The lease and disposal of non-renewable natural resources generates substantial income in excess of operating expenses. Total receipts from lands and minerals programs for the past year and those estimated for the current and budget years are as follows:

REVENUES FROM LANDS AND MINERALS ACTIVITIES FY 1969-71

Fiscal Year	Outer Continental Shelf	All Others	Total
1969	$428,278,500	140,340,655	$ 568,619,155
1970	292,000,000	143,500,000	435,500,000
1971	970,000,000	152,200,000	1,122,200,000

2. RESOURCE MANAGEMENT, CONSERVATION AND PROTECTION

Analysis of Subactivities

	Subactivity	FY 1969 Amount Available	FY 1970 Amount Available	FY 1971 Estimate	Increase (+) or Decrease (-) 1971 Compared with 1970
(a)	Land classification and mineral examination.....	$ 4,981,516	$ 5,323,000	$ 5,788,000	+$ 465,000
(b)	Range management.....	5,321,432	5,879,000	5,879,000	---
(c)	Forestry.....	7,075,524	7,316,000	7,316,000	---
(d)	Soil and watershed conservation.....	13,060,397	13,394,000	13,407,000	+ 13,000
(e)	Fire protection.....	3,744,962	4,537,000	4,657,000	+ 120,000
(f)	Recreation and wildlife.....	2,919,183	2,994,000	3,182,000	+ 188,000
(g)	Alaska pipeline inspection....	---	1,250,000	2,000,000	+ 750,000
	Total.....	37,103,014	40,693,000	42,229,000	+1,536,000

(a) Land Classification and Mineral Examination: FY 1970, $5,323,000; FY 1971, $5,788,000; an increase of $465,000. The increase consists of:

	Increase(+) or Decrease(-) Amount	Positions	Total Program	Total Positions	Explanation
(1)	+$465,000	+31	3,593,000	230	For reducing land-case backlog and improving the case-handling program.

Cost Factors Involved in Increase

(1) Thirty-one permanent positions at an average cost of $11,500, $356,000; travel and per diem costs for field investigation at an average annual cost of $1,900 per person, $59,000; supplies, equipment and specialized personnel training costs, $50,000.

Need for Increase: Land Services required for the public include satisfaction of State indemnity rights, additional land for government, and private land needs for industrial, residential and agricultural expansion, and support of other agency and Bureau programs. States and local governments will require 13 million acres by 1975, and the private sector will require 2.5 million acres. All told thirty-three million acres of public land is scheduled for examination and tentative classification for Federal management or disposal. A study recently completed has revealed that Federal action in response to land requirements is not keeping pace. Population growth and changing land use patterns have increased public demand for land services. Not only has demand increased, but recent Executive

Orders and Legislation have made case processing more complex. It is now necessary to properly evaluate flood plain effect, environmental quality, and other external considerations in reaching land disposal decisions. However, the manpower available for case work has remained fairly constant for the past 3 years. The result is a current backlog of 12,000 cases; of which 70% await BLM action.

The increase will be used to reduce the case backlog by completing the field examination and classification on about 1,500 of the 4,700 cases pending field action, and on 200 cases pending appraisal or re-appraisal.

Program of Continuing Work: In addition to work included in the proposed increases, the following recurring annual land resources and programmed realty work will be done.

Over 50 percent of the continuing work consists of providing public service and processing public demand cases. Field examinations will be completed and classification decisions issued for about 7,600 land petition-applications under the various public land laws. Land appraisals will be performed for all land disposals and permitted uses to assure fair return.

About 11,000 new and about 2,000 reactivated lands and minerals cases are received each year for field examination and classification action. Approximately the same number (13,000) are closed annually but the base program effort has been unable to lower the accumulated caseload pending field examination and classification below five to six thousand lands cases and fifteen hundred to two thousand minerals cases.

The authority to classify public lands under the Classification and Multiple Use Act (78 Stat. 986) and to sell public lands under the Public Land Sale Act of 1964 (78 Stat. 988) will expire six months after the Public Land Law Review Commission submits its report or no later than December 31, 1970. Effort currently being expended for classification under the C&MU Act will be used to continue follow-up on C&MU Act disposal classification. By the expiration of the C&MU Act, it is anticipated that over 4 million acres will be classified for disposal. These disposal classifications have been made in cooperation with State, County, and city planning authorities who expect continuing action on the part of BLM to follow through.

There is a need for a continuing classification program under other existing classification authorities. This continuing classification process is primarily for disposal. Continuing the public participation element that was given impetus under the C&MU Act is essential. Also the Lands & Minerals inventory work that was going on prior to the C&MU Act must continue.

In addition, there are new requirements resulting from recent legislation and executive orders that add to the lands and minerals workload. New national direction regarding the public lands has been established through such items as the White House Conference on Natural Beauty (1965), the Highway Beautification Act (1966), Water Pollution Control Act, Wild and Scenic Rivers Act and others concerned with upgrading environmental quality. The Federal Flood Control Policy of 1966 and Executive Order 11296, aimed at minimizing flood damages, directed all Federal agencies to evaluate flood hazard potentials in conjunction with the use and disposal of Federal lands.

These laws, executive orders, and national policies together have added new dimensions to the land resource program. Future cases are expected to be more involved, complex and difficult to resolve.

Additional resource protection measures have been adopted regarding lease and permit issuances. In January, 1969, the Department promulgated the new Surface Exploration, Mining and Reclamation of Lands Regulations. These regulations

require BLM to insure adequate surface protection and bonding requirements in all future permits and leases for minerals other than oil and gas. Appropriate stipulations and other requirements are being developed in conjunction with the USGS, but issuance of permits and leases, including bonding, is a BLM land office responsibility.

In Idaho, efforts to settle problems in the Snake River Omitted Lands area will be accelerated as the workload in the Desert Lands Entry Program diminishes.

The land exchange program will be continuing, utilizing lands classified for disposal and best adapted to exchange. Leases and permits will be issued to permit special uses of the public lands including rights-of-way and easements.

Review of land previously withdrawn for specific purposes will continue as a part of the land tenure adjustment program. Restorations are made after determination that the need for withdrawal no longer exists.

Priority attention is given cases involving state grant and lieu selections, mining projects, trespass, and mining and industrial development.

The estimated workload and accomplishments for FY 1970 and FY 1971 are as follows:

Action	Units	FY 1970	FY 1971
1. Land Petitions and Applications.....	Cases	7,600	9,300
2. Mineral Investigations.....	Cases	5,000	9,000
3. Material Sales and Free Use.....	No.	1,150	1,360
4. Contests and Hearings.....	No.	100	120
5. Trespass.....	Cases	320	320

(b) Range Management: FY 1970, $5,879,000; FY 1971, $5,879,000; no change.

Plan of Work: The Bureau issues over 25,000 permits and leases annually to graze about 3.9 million cattle and horses and 7.7 million sheep and goats on the public lands in the western States and Alaska plus 23,000 reindeer in Alaska. Livestock use on the public lands varies from 1 to 12 months per year, amounting to between 13 and 14 million annual unit months (AUM's) of annual forage consumption. In many cases, this use represents a vital segment of overall livestock operations and is of critical importance to the economy of numerous western communities. In addition, over 2½ million big game animals and countless small game animals and birds share these range lands with domestic livestock for both food and habitat.

The Bureau's range administration workload includes issuing grazing permits and leases, making transfers and allotment adjustments resulting from base property changes or differences in range use requirements, and maintaining the necessary records of use, ranch ownership, grazing privileges, etc. It also includes mediation of conflicting range uses, investigation of trespass, and answering public inquiries about range management. The Bureau works in cooperation with the advisory board set up in each district.

The basis for this program is the Taylor Act which was passed in 1934 to: (1) stop injury to the public lands by preventing overgrazing and soil deterioration, (2) provide for their orderly use, improvement and development, and (3) stabilize the dependent livestock industry. The BLM Planning System provides the basic guidance for integrating the range management program with other resource uses.

A basic reason for passage of the Taylor Act was rancher concern over the existing poor range conditions and resultant erosion and deterioration of wildlife habitat. However, by 1963 it was estimated that still only 16% of the public rangeland was producing forage anywhere near its potential, and the remaining area continues to decline or stabilize at a very low condition level. The situation is depicted in the following table:

Condition Class -- Thousand Acres and % of Total				
Excellent	Good	Fair	Poor	Bad
1,600 - 1%	24,000 - 15%	84,800 - 53%	41,600 - 26%	8,000 - 5%

Trend -- Thousand Acres and % of Total		
Improving	Static/Indefinite	Declining
24,000 - 15%	113,600 - 71%	22,400 - 14%

As a means of improving range conditions the BLM has embarked on an intensive management program through Allotment Management Plans (AMPs). The allotment plan is oriented to reversing trend in range deterioration affecting watershed, wildlife habitat and livestock forage. Experience strongly shows that proper manipulation of livestock grazing patterns improves plant density and range conditions with corresponding increases in AUM's and meat production. Realization of allotment management plans benefits on the part of BLM allottees has resulted in a backlog of 553 firm requests for cooperative plans by ranchers in ten western States.

Approximately eleven-hundred and thirty-six allotment management plans will be in effect at the end of FY 1969 and 200 are planned for FY 1970. At the no increase level, by the end of FY 1970 these 1,336 allotment management plans will be the maximum number attainable within the manpower available for supervision. An estimate of total program requirements follows:

Number of Plans Through Time

Estimated Total Number of Plans Required		10,700
Completed through FY 1969	1,060	
Estimated Number of Plans Remaining		9,640
Planned for FY 1970	200	
Estimated Number remaining after FY 1970		9,440

Number of Acres

Total BLM Acres (outside Alaska)	175,000,000
Estimated Livestock Grazing Acres	160,000,000
Estimated Acres Needing AMP's	125,000,000
Average Acres Per AMP	11,700

(c) Forestry: FY 1970, $7,316,000; FY 1971, $7,316,000; no change.

Plan of Work:

(1) Forest Management Western Oregon: FY 1970, $4,567,000; FY 1971, $4,567,000; no change.

The objective is to manage these lands to provide a steady flow of timber in western Oregon which contributes to the economic stability of forest dependent communities. Offerings are maintained on a sustained yeild basis to insure

that the resource will be available to meet the wood product needs of future generations.

The following table shows volumes, sales prices and receipts in western Oregon for FY 1967 through FY 1969 and current estimates for FY 1970 and FY 1971. These include O&C, Coos Bay Wagon Road, and western Oregon Public Domain timber volumes and receipts.

	BLM Sales		Receipts	
FY	Volume Sold (Million Board Feet)	Sales Price[a/]	BLM	Forest Service
1967	1,353	$50,880,000	$39,723,000	$ 5,925,000
1968	1,347	51,599,000	47,555,000	6,818,000
1969	1,093 b/	79,447,000	61,268,000	6,724,000
1970*	1,708 b/	79,200,000	60,100,000	8,000,000
1971*	1,450 c/	63,000,000	66,100,000	10,000,000

* Volume to be offered and estimated prices and receipts.

a/ Receipts vary because payments are made on cutting schedules, not at the time timber is purchased.

b/ Because of a rapid decline of timber prices at the end of FY 1969, 189 million board feet was "No Bid" and 69 million board feet was withdrawn. This volume was reoffered and sold in FY 1970.

c/ The volume shown for FY 1971 is a continuation of the FY 1970 base volume and is subject to adjustment following re-inventory calculations which are now in progress.

The base volumes for FY 1970 and FY 1971 are distributed by type of sale as follows:

Type of Sale	Volume (Million Board Feet) FY 1970	FY 1971
Regular Sales.....	1,170	1,170
Mortality Salvage and Commercial Thinning Sales.....	280	280
Total.....	1,450	1,450

The volume shown for FY 1971 is a continuation of the FY 1970 base volume and is subject to adjustment following re-inventory calculations which are now in progress.

The sale of 280 million board feet of mortality salvage and commercial thinnings is financed from the Forest Management subactivity of the Oregon and California Grant Lands Appropriation. Volume sales prices and receipts of the salvage and thinning program are included with the regular sales here to provide a complete picture of the western Oregon Forest Management Program.

The following tabulation shows the source of timber sale receipts by type of lands:

FY	O&C Land[a/]	Coos Bay Wagon Rd. Land	Western Oregon Public Domain	Total
1967	$43,523,000	$ 824,000	$1,302,000	$45,649,000
1968	51,135,000	1,553,000	1,685,000	54,373,000
1969	64,233,000	1,941,000	1,818,000	67,992,000
1970*	64,000,000	2,000,000	2,100,000	68,100,000
1971*	72,000,000	2,000,000	2,100,000	76,100,000

* Estimated

a/ Includes Forest Service receipts

(2) Forest Management Public Domain: FY 1970 $2,286,000; FY 1971, $2,286,000; no change.

Sales totaling 140 million board feet will be concentrated mainly in California, Colorado, Idaho, Montana, eastern Oregon, and Washington, since these states have the best potential for the development of commercial forest lands. In the remaining States, forest management will continue at a protective level, yet one which allows meeting current demand.

Actual FY 1967 through FY 1969 and estimated FY 1970 and FY 1971 volumes, sales prices, and receipts for timber sold from public domain lands are tabulated as follows:

FY	Volume Sold (Million Board Feet)	Sales Price	Receipts
1967	116,325	$1,711,000	$1,426,000
1968	122,380	1,996,000	1,793,000
1969	98,000	3,436,000	1,687,000
1970*	140,000	2,200,000	2,500,000
1971*	140,000	2,200,000	2,000,000

* Volume to be offered and estimated prices and receipts.

(3) Forest Development Public Domain: FY 1970, $463,000; FY 1971, $463,000; no change.

This program provides for restoration and treatment of denuded commercial forest sites having the highest productive capacity in areas which can utilize the future crop.

Early establishment of trees protects watershed and the land's timber producing capacity. Often, when tree reproduction is not re-established, undesirable brush species invade which provide no economic benefit but do increase fire hazards. The proposed level of financing will permit the reforestation of approximately 3,220 acres, site improvement on 1,020 acres and a 270 acre program of stand improvement.

(d) Soil and Watershed Conservation: FY 1970, $13,394,000; FY 1971, $13,407,000; an increase of $13,000. The increase consists of:

	Increase(+) or Decrease (-) Amount	Position	Total Program	Explanation
(1)	+$13,000	--	$117,000	Employee Compensation Payments

Employee Compensation Payments

Cost Factors Involved in Increase

(1) Increased amount of required payment to Bureau of Employees Compensation, $13,000.

Need for Increase: Under the Federal Employees Compensation Act employees or members of their families are compensated for injury or death. The increase is required because of the Labor Department's estimates of raising compensation costs due to higher medical care costs.

Program of Continuing Work: This program provides the capital investment necessary to conserve and develop the soil and water resources for present and future uses to protect public values, help stabilize dependent uses and industries, and assist in meeting regional and national needs for land resource products and services.

The application of land treatment practices (1) stablize depleted lands and maintain or restore soil productivity capability; (2) enhance on-site resource use values, including fish and wildlife, livestock grazing, timber production, outdoor recreation, industrial development, mineral production, and wilderness preservation, and (3) enhance off-site values, including improved water quality, improved timing and yield of streamflow, renewal of ground water supplies, control of floods and sedimentation, maintenance of estuaries and protection of public health.

This program is based on the premise that the public lands offer considerable possibilities for greater use; that these lands contribute to environmental quality problems primarily through sedimentation damage; and that this program is essential in the protection, management or improvement of the environment of the public lands.

41-447 O - 70 - pt. 1 -- 17

CONSERVATION ACCOMPLISHMENTS AND NEEDS OF LANDS UNDER JURISDICTION
of the
BUREAU OF LAND MANAGEMENT

Practice	Units	Inventory of Total Needs 1/	Accomplishments 2/ 1937 - 1969	Planned 1970	Planned 1971	Remaining Work
Water Control Structures.....	Cu. Yds.	242,602,300	28,199,900	854,000	616,500	212,931,300
Other Conservation Practices 3/.....	Acres	19,125,900	3,034,800	10,100	14,500	16,066,500
Protective Fencing.....	Miles	121,900	63,825	1,820	1,320	54,935
Undesirable Plant Control.....	Acres	16,498,800	2,325,600	134,700	109,300	13,929,200
Revegetation.....	Acres	14,798,000	3,442,300	133,400	109,300	11,113,000
Water Developments.....	Number	85,200	41,280	1,130	900	41,890

1/ Inventory of total needs was completed by the Bureau during 1964 and reflected the total needs of the public lands as then identified. The inventory amounts include those listed under "Accomplishments."

2/ Includes all sources; Soil & Watershed, Range Improvements, Fire Rehabilitation, PL 566, and Private.

3/ Includes contour trenches, pitting, furrowing, waterspreading, dune control, and deep tillage.

The plan of work on special projects is essentially similar to the FY 1970 plan with work continuing as listed below:

Special Project	State	Soil and Watershed Conservation Funds FY 1971
Rio Puerco	New Mexico	$ 556,000
Little Beaver	North Dakota	45,000
Makotapi	South Dakota	64,000
Vale	Oregon	1,159,000
Owyhee	Idaho	336,000
Big Horn Basin	Wyoming	376,000
Beowawe 1/	Nevada	308,000
Total		$2,844,000

1/ Field work is now underway to identify a shift in work from the Beowawe Project in FY 1971 to other critical high priority watersheds in the northern Nevada area.

The Bureau's PL 566 (Watershed and Flood Prevention Act) program for FY 1971 will be continued at the FY 1970 level of $150,000. This program coordinates public land programs with the plans and treatment measures being conducted by other agencies under this Act.

(e) Fire Protection: FY 1970, $4,537,000; FY 1971, $4,657,000; an increase of $120,000. This increase consists of:

	Increase(+) or Decrease(-) Amount	Position	Total Program	Total Positions	Explanation
(1)	+$120,000	-0-	$724,000	21	For operating and equipping new facilities at Boise Interagency Fire Center (BIFC).

Operation and Equipment for Facilities at BIFC

Cost Factors Involved in Increase

(1) Cost of supplying heat, power, telephone service, water, sewage disposal and other utilities to BIFC facilities operational for full year FY 1971 and cost of providing furnishings and equipment necessary to use new facilities.

Need for Increase: When the new facilities at BIFC scheduled for FY 1970 construction become operational, it will be necessary to operate the physical plant and its equipment, and to provide heat, power, telephone service, water, sewage disposal, and other utilities for the Fire Center for a full year in FY 1971. Furthermore, during FY 1971, it is anticipated that the smokejumpers training facilities, part of the ramp and taxiway, and shops will be constructed and ready for use. Increases are also required to purchase furnishings and equipment required to operate the new facilities.

Plan of Work: The principal goal of protection is to prevent fires and to maintain the capability to control fires as rapidly as possible if they do start. Early detection and effective initial attack with adequate equipment and well-trained and sufficient manpower, including smokejumpers, are the best means of keeping fires and fire damages small.

Toward this end, the Bureau is developing an active program to provide a cadre of professionally trained personnel, an improved communication system and radio network, better fire control training, the beginning of a modernized fire equipment pool, and a limited air operations program.

Fire protection activities have suffered from poor equipment, lack of manpower, and shortage of supplies. In serious fire years, other programs have been hampered seriously due to the necessity of using personnel from these other programs as fire control overhead.

To correct these deficiencies, the Bureau is completing a formal fire plan to identify the protection requirements for all resource programs. It considers fuel classes, weather factors, rate of spread, and risk in relation to value classes of the resources. When equipment, manpower, and other facilities are limited, it assists in establishing priorities for both initial attack and follow up suppression.

In Alaska, the Bureau of Land Management is the center of fire protection for all Interior agencies.

The Boise Interagency Fire Center, a specialized joint service unit of BLM, USFS, and Weather Bureau trains and arranges backup suppression support in the form of manpower, fire control overhead, equipment, etc., to the Bureau, other Interior agencies, to the U. S. Forest Service, and to certain State Governments on a reimburseable contract basis.

(f) Recreation and Wildlife: FY 1970, $2,994,000; FY 1971, $3,182,000; an increase of $188,000. This increase consists of:

	Increase(+) or Decrease(-) Amount	Position	Total Program	Total Positions	Explanation
(1)	$188,000	+7	$343,000	17	Recreation planning of Lower Colorado River and California Desert.

Recreation Planning

Cost Factors Involved in Increase

(1) 7 positions at an average annual cost of $11,200, $78,000; travel and transportation of persons for field study and investigation at average annual cost of $2,000, $14,000; supplies, material and equipment, training costs, $5,000; contractual cost of conducting use surveys, mapping and inventories, $91,000.

(1) Recreation Planning

Need for Increase: Recreation use of the public lands in the western United States increases annually, at a rate that far exceeds population growth. With outdoor recreation demand linked directly to population, leisure time, mobility and personal income, the role of the public lands in meeting these demands in the western United States has increased in importance.

Unplanned and uncontrolled use of the public lands can be highly detrimental to natural and historical features. Fires, litter, uncontrolled use of motor vehicles, water pollution, vandalism, and the innocent and wanton taking of artifacts are detracting from the very pleasures which the recreationist seeks. Comprehensive recreation planning is a pre-requisite to achieving a balanced recreation program which will permit maximum realization of public land potential in satisfying increasing demands for outdoor recreation while minimizing their destructive influences.

Plan for Increase: Initially this program will involve those regions in the Western United States which face critical demand pressures and contain unique and endangered public values. The increase will be used to conduct studies, inventories and analyses in the high-use California Desert complex, and along the Lower Colorado River. The Lower Colorado River attracts over 4,000,000 visitor days on a year-round basis. This visitation, heavily influenced by the population centers of Southern California and Phoenix, Arizona, exceeds the rate of many, if not most, of the National Parks in the entire United States. The California Desert, located at the edge of the largest metropolitan center in the west, is within a few hours reach of 11 million people. It now logs about 5 million visitor days which is expected to reach 50 million by the turn of the century.

In this program, archeological and historical sites will be studied and plans developed to minimize vandalism and pilferage. A detailed analysis of 15 high-use recreation areas in the California Desert covering 2.5 million acres and a recreation inventory of facilities along the Lower Colorado River will be made. Additionally, studies will be conducted in the two areas to determine public-use patterns, preferences, origin, areas of concentration, and seasonal-use variations. Surveys to provide accurate up-to-day topographic information will be made along the Lower Colorado to provide the basis for future site analysis and development.

In addition, better control and review of concessioners' activities along the Lower Colorado will be established.

Program of Continuing Work

Recreation Management: This program includes recreation site inventory and investigation, access need determination, interpretive work, and program direction.

Recreational use of the public lands is expected to be about 37 million recreation visitor days in FY 1971. This use, together with hunting and fishing, is expected to expand to nearly 50 million visitor days by FY 1975 as indicated on the Recreation Visitor Day Use graph which appears on the next page.

Detailed preliminary site investigation preceeding construction design is needed to ensure local cooperation and to solve access problems, land tenure conflicts, mining claims, water scarcity, or possible resource use conflicts which might interfere with future site development work.

Pressures for recreational use of BLM lands will increase as population increases while other outdoor recreation opportunities are lost to urban expansion. There is a growing segment of the western economy which is increasingly dependent on outdoor recreation opportunities. The recreationist and the local businessman are beginning to voice needs for more public land recreational opportunities. For these reasons, BLM participation in programs which support recreation and wildlife are expected to increase.

Wildlife Habitat Management and Development: This program which deals primarily with wildlife and fish habitat is conducted in cooperation with State Fish and Game Departments and sportsmen's groups. It includes studies, plans, and operation of habitat area development.

Wildlife habitat development provides increased food, water, and cover to aid animal production and survival. Most habitat may be improved by spring development, protective fencing, and browse seeding and brush manipulation, which encourage the growth of adequate food and cover. Water guzzlers are fabricated to catch and store rainfall for wildlife use.

Fish habitat development includes stream clearance to assist anadromous fish migration, stream bank stabilization and channel structures to provide essential spawning and rearing habitat.

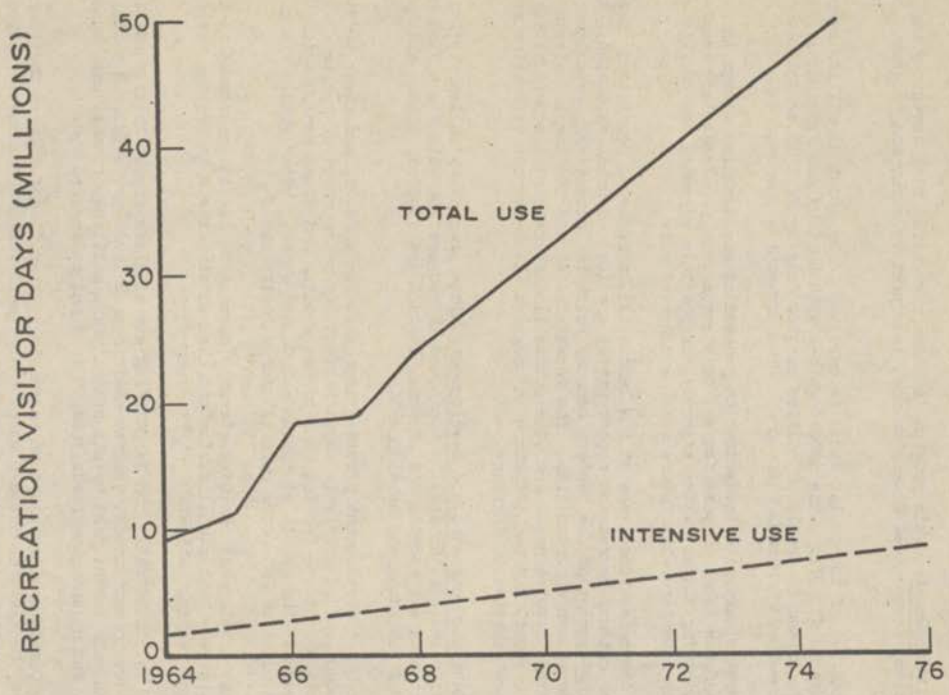
The Bureau is concentrating on identifying key wildlife areas, their condition, and their development needs. Bureau-administered lands now support 2.5 million big game animals during part or all of the year, millions of small game animals, waterfowl, and upland game birds, and 59 rare and endangered species.

The Public Domain habitat plays an increasingly significant role in the tourist industry in the Western United States. Many small western communities depend heavily on Public Domain hunting and fishing as a substantial part of their economic base. Hunting and fishing on the Public Domain currently exceed 10 million days and are expected to reach 25 million days by 1980, an increase of 250%. This increase, which is greater than the 3% annual population increase in the West as a whole, is due in part to the hunter saturation of state and other Federal lands and the increasing costs associated with access and hunting rights on private property.

(g) Alaska Pipeline Inspection: Fy 1970, $1,250,000; FY 1971, $2,000,000; an increase of $750,000. This increase consists of:

Increase(+) or Decrease(-) Amount	Position	Total Program	Total Positions	Explanation
+$750,000	+25	$2,000,000	70	Provides for inspection, surveillance, and other work

RECREATION VISITOR DAYS OF USE — PUBLIC DOMAIN



	1964	66	68	70	72	74
TOTAL USE	9.3	19.0	23.6	32.3	41.0	50.0
INTENSIVE USE	2.0	3.3	4.0	5.3	6.5	7.5

Graphs based upon recreation visitor day use statistics through 1968 and straight line future projections.

Explanation

necessitated by the Trans-Alaska Pipeline Project.

Cost Factors Involved in Increase

(1) Twenty-five positions (44 man-years full-time permanent, and 9 temporary) at an average annual salary of $13,280, $704,000 (includes annualization of FY 1970 salaries, 25% cost of living allowance, overtime and Sunday differential, personnel benefits, and allowance for moving expenses and movement of household effects); travel and transportation between construction sites and homes for off-duty employees, on-site subsistence, and other transportation costs including helicopter rental, $340,000; consultings fees for technical engineering review of pipeline design, $35,000. Increases are offset partially by reduction in equipment purchases and other miscellaneous items, -$329,000.

Need for Increase: The Prudhoe Bay oil discovery has dramatized the problems and conflicts between rapid development of the immense oil field and the protection of the Arctic environment. The Bureau of Land Management, as the agency responsible for monitoring the pipeline, must balance the need for development at a feasible cost against the need to conserve the Arctic environment.

The importance of development cannot be ignored. The size of the Brooks Range reserve is conservatively estimated at five to ten billion barrels, and the petroleum industry estimates that between 100 and 300 billion barrels will eventually be found in Alaska and the Canadian Arctic. By contrast, only 118 billion barrels of oil have been discovered to date in all of North America. Development of this field will stave off a predicted shortage of domestic petroleum reserves by 1980. Development will generate enormous growth in the Alaskan economy, creating hundreds of jobs and circulating millions of dollars in wages and services throughout Alaska.

Since discovery, exploration and development have proceeded at a pace reminiscent of the Alaska goldrush. The largest peace-time civilian air-lift in history is in progress, with more supplies being brought by barge to the Arctic Coast via the McKenzie River and the Bering Sea. Geophysical exploration is in progress and activity is already at a level which was not anticipated for many years to come.

The most significant development for the Bureau of Land Management is the proposed 800-mile pipeline from the Beaufort Sea to Valdez on the Gulf of Alaska. Three major oil companies have formed a consortium, the Trans-Alaska Pipeline System, which plans to build the pipeline. The feasibility of developing the Arctic oil reserves depends on economical methods of transportation. The pipeline, designed to carry 2 million barrels or 84 million gallons of petroleum per day, is considered the cheapest method of bringing oil out of the Arctic.

Although a permit from the Secretary of the Interior is required before actual construction of the pipeline can begin, route reconnaissance for identification of right-of-way location has been initiated, and design work based on the route selection is under way. In expectation of permit issuance, TAPS has already assembled its personnel and ordered the steel for the pipeline.

The Bureau is responsible for the issuance of the right-of-way permit, the final alignment of the pipeline, supervision of construction, sale of common construction materials, and monitoring of the line and service roads including enforcement of stipulations as well as the over-all coordination of participating Federal agencies. It is estimated that there will be at least 8 prime contractors, 15 crew locations, 5 to 12 pumping station sites, and several new towns to accommodate approximately 3,000 workers and their families.

Supervision of the pipeline construction and its attendant activity are complicated by the uniqueness of the undertaking and by the Arctic environment itself. The engineering problems presented by the cold, the land's geologic structure, the length of the pipe, are a challenge to existing technology. However, the Bureau intends to see that the developers meet these challenges with minimum destruction of the tundra. Every effort to protect this last wilderness will be made. Based on the best available information, the program presented here is designed to insure this protection. Specifically the Bureau will:

(1) Conduct pre-construction review of the construction and operation plans and standards (including transportation routes, facility sites, gravel and timber needs).

(2) Evaluate impact upon land and water resources and the environment.

(3) Establish guidelines and stipulations.

(4) Inspect and monitor stipulations, plus requiring post construction effect studies, if necessary.

(5) Coordinate the resource protection efforts of other Interior agencies.

(6) Cooperate with the State of Alaska in its work to establish and enforce construction and maintenance stipulations on State-owned lands.

To properly plan and enforce the stipulations associated with the construction of this pipeline, highway, and appurtenant facilities 25 additional permanent personnel will be recruited for duty in Alaska.

The problems presented by this project are unique and greater than those involved in any land use application previously presented to this Department. Accordingly, the Department plans to assess the pipeline right-of-way applicant for cost connected with this work. It is anticipated that funds authorized by Congress will be reimbursed to the General Fund of the Treasury.

Resource Management, Conservation and Protection

Status of Program

This budget activity which includes all of the primary elements of the multiple-use approach to land management finances the core of the Bureau's field program.

The public lands managed by the Bureau consist of about 175 million acres in the western United States and about 278 million acres in Alaska. Most of this area in the western States is required to meet expanding needs for water, recreation, open space, wildlife, livestock, timber, and mineral products. The impact which the public lands have on the quality of the Nation's environment and the welfare of its people continues to grow in importance.

The Bureau is continuing its efforts to transfer to non-Federal ownership those public lands which can best meet pressing demands for community growth, and other private needs commensurate with sound land use. In FY 1971, the Bureau may transfer as much as 5 million acres to States, local governments, and private individuals. A major portion of this acreage is in the State of Alaska and the actual accomplishment is, among other things, dependent on the status of public land order freeze pending settlement of Alaskan native claims. Improvement in the case handling ability of the Bureau will help reduce backlog cases and will streamline future case processing.

The management of sub-surface resources is integrated with the management of surface resources. The public domain includes the largest portion of the richest domestic oil shale bearing lands in the Nation and contain a variety of

other fuels and mineral sources which are vital to the needs of the public.

Allocation of available forage between competing applicants and wildlife has been determined by range adjudication. The next step of range management involves conducting resource studies and preparing and implementing allotment management plans in cooperation with range users. These plans benefit both the range user and the general public by protecting the range and watershed resources to meet livestock, wildlife, and human uses for the present and in the future.

The public lands administered by the Bureau comprise a major portion of the watersheds of the West and vary widely in type, in condition and in the quantity and quality of water produced. During 1964, the Bureau developed a 25-year inventory of needs for soil and watershed conservation, requiring an estimated total investment of $840 million for capital improvements, watershed management, and maintenance of improvements.

High quality water in optimum quantity is the key to sustaining economic growth of the western States. Deteriorating soil conditions on large areas of the public lands are detrimental to the supply of usable water and to the productive capability of the soil resource. The results are flash runoff, low usable water yield and high sediment and salinity yields. In order to improve water quality and quantity and to hold productive soil in place, efforts will be concentrated on priority watersheds to arrest soil movement and site deterioration.

There are 4 million acres of commercial forests on public lands, excluding Alaska, contributing to the lumber demands of the nation and providing an important economic base for many western communities. These lands, together with millions of acres of woodland, provide public recreation opportunities and are essential to the stabilization of soil, regulation of streamflow and provision of wildlife habitat.

In western Oregon during FY 1970, 1.45 billion board feet of timber will be offered for sale including 280 million board feet of commercial thinnings and salvage. FY 1970 receipts from the sale of timber are anticipated to be $68 million. FY 1971 timber volume will be based upon new inventory calculations which are currently in progress and will reflect that level necessary to insure a sustained yield of timber flow.

Offerings of timber sales on the public domain continue at the sustained yield allowable cut level in those states where the demand will support such offerings. In other public domain areas, the forests and woodlands are managed for their important contribution to watershed stabilization, wildlife benefits, and recreational opportunities.

The public lands and their resources can contribute their potential values to the Nation only if they are adequately protected from the major hazard of wildfires and disease.

The Bureau fire center at Boise, Idaho, continues to be a primary instrument in the efforts to fight fires. The fire center organizes, houses, feeds, and equips fire suppression crews not only for the Bureau but also for other Federal agencies and the adjoining States.

The Bureau also undertakes a fire prevention and a presuppression program to inform the public about fire dangers, to keep public attention focused on the need for fire prevention, and to take action to lessen fire dangers by constructing firebreaks, removing fire hazards, maintaining fire patrols and lookouts, operating a radio communications system, and organizing and training a fire fighting force.

People from all over the Nation are using the public domain in increasing numbers for camping, hunting, fishing, picnicking, and other recreation. This

use is not only important to the public land visitor but also contributes to the economic stability of communities which depend heavily upon services to the recreationist.

In FY 1964, the total recreational use of the public lands amounted to 9.3 million recreation visitor days. In FY 1975, the total is estimated to approach 50.0 million recreation visitor days, more than a fivefold increase in a span of a decade.

Present recreation use of the public lands far exceeds the capacity of the facilities which have been constructed. The over-use causes extensive damage to the resources, water pollution, littering, and a rising danger from man-caused fires. The Bureau will continue its efforts to plan for and handle the increasing recreational pressures.

The public lands represent the largest single ownership available for the management of game animal habitat. It is also the home for a number of rare and endangered species threatened with extinction. In addition, there are more than 10,000 miles of streams and over 8½ million acres in lakes and reservoirs which are important to both recreational and commercial fisheries. Efforts are in progress to adequately plan for the habitat management and development. Enhancement critical habitat areas will also continue. Coordination between the Bureau and State wildlife agencies is maintained to better accomplish wildlife production and protection goals.

In FY 1971, the Trans-Alaska Pipeline is expected to be under full construction. Supervision of the work, coordinating other Federal Agencies, and the administration of the permit stipulations governing pipeline construction will constitute a major Bureau activity for the protection of the Alaskan Arctic.

Together, all of the separate types of activities underway on the public lands form the foundation of the multiple-use concept. These activities are combined into a program which strives for balanced efforts of management, conservation, and protection to achieve the optimum benefit from the public lands resources for the present and the future.

3. CADASTRAL SURVEY

Analysis by Subactivity

Subactivity	FY 1969 Amount Available	FY 1970 Amount Available	FY 1971 Estimate	Increase (+) or Decrease (-) 1970 compared with 1969
(a) Alaska.....	$2,025,816	$2,124,000	$2,124,000	---
(b) Other States.....	3,298,578	3,579,000	3,579,000	---
Total.....	$5,324,394	$5,703,000	$5,703,000	---

(a) Alaska: FY 1970, $2,124,000; FY 1971, $2,124,000; no change.

Program of Continuing Work: Alaska - The Alaska Statehood Act granted the new State over 104 million acres of selection rights. When the state identifies an area for selection and field survey has been completed, tentative approval can be granted and the State can take over some management functions of the lands. State-selected lands, however, can only be patented to the State after they have been surveyed by BIM and the approved survey filed in the Land Office. The difficulties of terrain, particularly when smaller, more rugged parcels are selected, increase the time and cost of surveying, even with the use of more efficient survey methods such as the Hoversight system developed by the Bureau.

Of the 104 million acres to be selected, 25.6 million acres have been chosen. The State is expected to select about one million acres annually. The status of the program as of June 30, 1969 is as follows:

Acres to be selected.....	104 million
Acres selected to date.....	25.6 million
Annual expected rate of selection.....	1 million

The current status of the state selections and supporting surveys:

Acres patented (survey plats compiled and approved)	5.5 million
Pending completion of patent action.....	8.6 million
Survey plats completed and approved.....	(1.8 million)
Platted; survey plats pending final approval.....	(6.8 million)
Field surveys completed, preparation of survey plats in progress.....	0.9 million
To be surveyed.....	10.6 million
Total acres selected.....	25.6 million

Special surveys are conducted to provide for title transfer under the public land laws including native townsites and native allotments. At the present time, at least 65% of the Alaska cadastral survey funds are devoted to State selection work, with the remainder divided among the above duties. In FY 1970, 1,279,000 acres are scheduled for survey, almost all of which is related to state selection. FY 1971 accomplishments are programmed at 1,500,000 acres. These accomplishments will leave about 350 million acres of public land in Alaska still unsurveyed.

(b) Other States: FY 1970, $3,579,000; FY 1971, $3,579,000; no change.

Program of Continuing Work: The FY 1971 Cadastral Survey program will continue the Bureau's responsibility for original survey, resurveys and special surveys to support management of the natural resources on public lands and to identify Federal land boundaries for other agencies. Emphasis will be placed on Federal land boundary location where trespass is occurring.

In the eleven western States the Federal Government owns a large amount of land designated by law for continued Federal management and public use. In this ownership there are 235 million acres of surveyed land of which 180 million acres were surveyed prior to 1910. Much of the pre-1910 surveyed area needs resurvey to restore lost or obliterated corner monuments. One-hundred-eleven million acres remain unsurveyed. The high intensity management of lands and resources by Governmental agencies today requires careful identification of lands. Priority surveys often involve large values as in the case of timber sales and mineral leasing. These factors contribute to the growing need for resurveys and as much as 60% of the total survey effort is directed toward re-survey work.

The program also must accommodate the growing need for oil and gas leasing maps for the Outer Continental Shelf.

4. FIREFIGHTING AND REHABILITATION

Analysis by Subactivity

Subactivity	FY 1969 Amount Available	FY 1970 Amount Available	FY 1971 Estimate	Increase (+) or Decrease (-) 1971 compared with 1970
(a) Firefighting.....	$11,260,000	$ 400,000	$ 400,000	$ ---
(b) Rehabilitation...	343,726	600,000	600,000	---
Total.....	$11,603,726	$1,000,000[a/]	$1,000,000	---

a/ Does not include request of $24,000,000 in supplemental funds proposed for separate transmittal.

(a) Fire Fighting: FY 1970, $400,000; FY 1971, $400,000; no change. The amount requested reflects the continuation of the practice of requesting a minimum appropriation to be followed later with a supplemental request to cover the actual cost of fire suppression.

Plan of Work: Funds will be used for emergency presuppression and suppression of fires starting on or threatening the public land except those lands protected under contract with State agencies or other Federal agencies. Contract protection is funded by the Protection Subactivity. The Bureau cooperates closely with other agencies in its effort to reduce losses from fires.

Improved fire fighting techniques, equipment and materials are constantly being adopted. The national fire danger rating system, air-drop chemical fire retardants and the use of smokejumpers and aircraft are among the measures used to increase fire fighting effectiveness.

Regular salaries of permanent employees used on an emergency basis during the regular duty hours for fire suppression are not included in this estimate, since these salaries are already budgeted in other activities providing for program work.

Alaska experienced one of the worst seasons on record during the spring and summer of 1969, resulting in fire obligations of about $27 million as of the end of December. Current estimate for FY 1970 fire suppression is $29 million.

(b) Fire Rehabilitation: FY 1970, $600,000; FY 1971, $600,000; no change.

Program of Work: Under this subactivity, the Bureau conducts emergency rehabilitation work in burned areas to reduce resource and economic losses. Without adequate and timely rehabilitation after wildfires, the exposed soil is vulnerable to accelerated erosion, streams become silted and polluted with fire debris, watersheds are seriously damaged and water retention and production may be permanetly impaired. Prompt protection of the soil mantle, through re-establishment of of vegetal cover, maintains the productivity of the lands, and retards the invasion of undesirable vegetation.

The requested program level should provide an adequate program for a typical fire year; however, if more extensive damage occurs in a critical fire year the work will require supplemental funds.

5. GENERAL ADMINISTRATION

Activity	FY 1969 Amount Available	FY 1970 Amount Available	FY 1971 Estimate	Increase (+) or Decrease (-) 1971 compared with 1970
General Administration	$2,124,917	$2,268,000	$2,349,000	+$ 81,000

General Administration: FY 1970, $2,268,000; FY 1971, $2,349,000 an increase of $81,000. The increase consists of:

	Increase(+) or Decrease(-) Amount	Positions	Total Program	Total Positions	Explanation
(1)	$81,000	+7	$2,349,000	188	To handle increased general administration workload associated with increased program activity.

Cost Factors Involved in Increase

(1) Seven permanent positions at an average annual rate of $8,250, $58,000; Additional automatic data processing costs, $20,000; Additional administrative supplies and equipment, $3,000.

Need for Increase: To provide professional administrative support services to all programs of the Bureau. These services include executive direction, financial management, personnel management, management analysis, and procurement and property management. To provide these services efficiently, they are consolidated at two field locations. Additionally, effective use is made of automated systems as the primary means of doing repetitious work such as payrolling and reporting.

Program of Work: The general administration activity includes the executive direction and administrative support functions consisting of financial management, personnel management, management analysis, procurement and property management.

Heavy emphasis is placed upon the use of automated systems to accomplish repetitious and routine support work such as payrolling, maintaining ledgers and accounts, preparing monthly management reports and maintaining current information on the progress of work programs and the status of operating budgets, and to provide management with necessary administrative support services. The objective is to provide adequate professional general administrative support to all bureau programs. Appropriations which receive common services from general administration will continue to be charged at the rate of five percent to the benefiting activity.

Personnel Summary

	1969 Actual	1970 Estimate	1971 Estimate
Total number of permanent positions	3,199	3,227	3,300
Full-time equivalent of other positions	1,294	715	710
Average number of all employees	4,298	3,759	3,792
Average GS grade	8.7	8.7	8.7
Average GS salary	$9,740	$10,780	$10,780
Average salary of ungraded positions	$7,645	$ 8,256	$ 8,256

ITEMIZATION OF ESTIMATE

Management of Lands and Resources

	Actual 1969	Estimate 1970	Estimate 1971	Increase (+) Decrease (-)
Program and Financing:				
Total obligations	$62,599,503	$57,228,000	$58,940,000	$+1,712,000
Unobligated balance lapsing	421,254	---	---	---
Unobligated balance transferred to other accounts	---	---	---	---
Transferred to other accounts	84,243	93,000	---	- 93,000
Transferred from other accounts	-141,000	---	---	---
Pay Cost Supplemental.	---	- 3,498,000	---	+3,498,000
Appropriation	62,964,000	53,823,000	58,940,000	+5,117,000
Obligation by Objects:				
11.0 Personnel compensation	38,354,000	36,709,000	38,283,000	+1,574,000
12.1 Personnel benefits: Civilian employees	3,064,000	3,090,000	3,301,000	+ 211,000
21.0 Travel and transportation of persons	3,077,000	3,448,000	3,926,000	+ 478,000
22.0 Transportation of things	2,813,000	1,423,000	1,368,000	- 55,000
23.0 Rent, communications, and utilities	1,824,000	1,052,000	1,100,000	+ 48,000
24.0 Printing and reproduction	386,000	330,000	330,000	---
25.0 Other services	6,120,503	6,639,000	6,510,000	- 129,000
26.0 Supplies and materials	5,607,000	2,948,000	3,055,000	+ 107,000
31.0 Equipment	1,356,000	1,649,000	1,128,000	- 521,000
32.0 Lands and structures	10,000	---	---	---
42.0 Insurance claims and indemnities	42,000	---	---	---
Subtotal	62,653,503	57,288,000	59,001,000	+1,713,000
95.0 Quarters and subsistence charges	- 54,000	- 60,000	- 61,000	- 1,000
Total Obligations	62,599,503	57,228,000	58,940,000	+1,712,000

TITLE LEASE AND RECORDS SERVICE

Mrs. HANSEN. A $95,000 increase is scheduled for economic evaluation of the upland mineral resources leased by the Bureau. Please give the justification for this increase.

Mr. RASMUSSEN. We propose to employ three additional mineral specialists in the State offices having the largest increased workload in leasing activities. These are Colorado, Montana, and Wyoming.

Mrs. HANSEN. Let me point out what your justification says, "Because of the magnitude of the upland mineral values, a change of only 1 percent can influence returns by about $1½ million."

Mr. RASMUSSEN. This is correct. These people will assist in the evaluation of the relationship of environmental protection requirements to the leasability of minerals. They will conduct studies of the relationship of the minerals on the public land to national and regional land for usable materials, and future development of the terms and conditions to be inserted in leases to encourage the development of lease deposits, and to discourage the holding of lease minerals from development, and some computer time for conceptual studies.

PROGRESS REPORT ON RECORDS IMPROVEMENT PROGRAM

Mrs. HANSEN. Would you give us a progress report on your records improvement?

Mr. RASMUSSEN. This is a continuing program that has been ongoing for sometime. We hope to complete the records for Idaho by 1971, and to complete the project by 1974. I have some examples of what we are doing.

Mrs. HANSEN. Why is it so slow?

Mr. RASMUSSEN. We are financing it at a level to be completed in about 5 years. If you would like to see what we are doing, this is an example of what is happening to our status records in each State. These are the microfilms for each master title plat and historical index. From this we can produce the map shown here and also produce this large map. These are all on microfilm. For each township and range we can produce those in the various States. We expect to complete this project that has been going along very well by 1974. In addition, we have a microfiche program——

Mr. MARSH. What is that?

Mr. RASMUSSEN. Microfiche, it is the small microfilm.

(Discussion off the record.)

GOVERNMENT SURVEYS IN STATE OF WASHINGTON

Mrs. HANSEN. Have you finished the Government surveys in the State of Washington?

Mr. RASMUSSEN. I do not know. I hope so. But I do not think we have.

Mrs. HANSEN. What have you done?

ACCURACY OF GOVERNMENT FIELD NOTES

Mr. RASMUSSEN. These are the original field notes that are still valid unless there is a resurvey.

These field notes are kept in our land office by township and range.

Mrs. HANSEN. Are these still valid?

Mr. RASMUSSEN. Yes.

Mrs. HANSEN. What about timber companies that say, "We are moving the boundaries a few feet because we don't believe the Government field notes are correct"?

Mr. RASMUSSEN. The Government field notes are still correct unless there is a resurvey that shows them in error.

Mrs. HANSEN. Who is the judge of the resurvey?

Mr. RASMUSSEN. The courts will tell you that the only resurvey is a resurvey that is conducted by the Federal Government by its surveyors.

(Discussion off the record.)

Mrs. HANSEN. When you issue a patent and you have used the Government field notes, is it presumed correct unless there has been adjudication by a court.

Mr. RASMUSSEN. That is correct.

(Discussion off the record.)

Mrs. HANSEN. How long is it going to be before you complete your land surveying in Alaska?

Mr. RASMUSSEN. It will be a rather long time.

Mrs. HANSEN. What do you mean by rather long?

Mr. RASMUSSEN. It depends upon how much of Alaska it is necessary to survey.

Mrs. HANSEN. What would be your guess?

Mr. LOESCH. For the whole thing?

Mrs. HANSEN. Yes.

Mr. RASMUSSEN. Fifty years.

CADASTRAL SURVEYS—ALASKA NATIVE LAND CLAIMS AREAS

Mr. LOESCH. We ought to make it clear, I think that for State selection up there, together with anything that may go to the Natives under the Alaska Native claims bill we should be able to complete those portions very, very much faster than that estimate.

Mr. RASMUSSEN. Yes.

Mrs. HANSEN. How fast?

Mr. RASMUSSEN. It would depend exactly on what has to be done and the amount of money appropriated.

We could not do the Alaska Native claims with our present appropriation.

Mrs. HANSEN. The Native claims, if they are settled legislatively will still require funding.

Mr. RASMUSSEN. That is correct.

Mrs. HANSEN. Which is at the present time not programed?

Mr. RASMUSSEN. No.

Mr. LOESCH. That is right.

Mr. RASMUSSEN. Our present program in Alaska calls for surveying for State selection and Native villages. I think we do about 15 a year.

IMPROVED LAND SERVICES PROGRAM

Mrs. HANSEN. An increase of $465,000 is budgeted for reducing land case backlog and improving the case handling program. Please give us the justification for this.

Mr. RASMUSSEN. We have been falling behind to where we have a backlog of 41,000 cases; 12,000 land cases and 29,000 mineral cases.

Mrs. HANSEN. Why have you been falling behind?

Mr. RASMUSSEN. About 12,000 mineral cases are in Alaska and we are unable to act on those at the present time.

Mrs. HANSEN. Why?

Mr. RASMUSSEN. Because of the Public Land Order 4582, no action can be taken on those until the land order is lifted.

We have been clearing between 10,000 to 11,000 land cases a year, and our caseload has increased to where we get 11,000 to 13,000 cases a year. So, every year we are falling behind. This money is to help us get on top of our caseload and to do the field examinations that are needed.

LAND NEEDS OF PRIVATE AND LOCAL GOVERNMENTS

Mrs. HANSEN. The statement has been made that "States and local governments will require 13 million acres by 1975, and the private sector will require 2½ million acres." Will you please analyze what this involves?

Mr. RASMUSSEN. The State of Alaska has tentatively indicated its selection of about 26 million acres of its 103-million-acre selection. Last December and January, Alaska tentatively identified for selection about 6½ million acres.

In addition to that we expect that they will select another million each year. This is our largest State selection problem. In the State of Arizona, we still have some 250,000 acres of selection, and about the same in the State of Utah.

Mrs. HANSEN. Will you please insert those in the record by category so we can get a picture of the total.

(The information follows:)

PUBLIC LAND CLASSIFICATION AND NEEDS BY STATE AND LOCAL GOVERNMENTS

States	Acres planned for classification under the Classification and Multiple Use Act, fiscal year 1971 [1]	Public land needs by State and local governments, fiscal year 1971–75	Public land needs by private sector, fiscal year 1971–75
Alaska	30,000,000	12,220,000	120,000
Arizona	490,000	195,000	570,000
California	360,000	40,000	70,000
Colorado	170,000	12,000	30,000
Idaho	860,000	5,000	200,000
Montana	60,000	15,000	140,000
Nevada	200,000	35,000	250,000
New Mexico	370,000	205,000	670,000
Oregon	110,000	20,000	110,000
Utah	370,000	225,000	220,000
Wyoming	400,000	35,000	60,000
Other States		2,000	10,000
Total	33,390,000	13,009,000	2,450,000

[1] 1st 6 months of fiscal year 1971, after which the Classification and Multiple Use Act is scheduled to expire; includes both retention and disposal classifications.

Note: The estimates of the amount of public land that State and local governments and the private sector will need were originally developed on a regional basis. The State-by-State display above was tabulated from this regional analysis by extrapolation. These are not commitments that this much public land will be transferred during the 5 years. The amount of public land transferred to the State and local government is entirely dependent upon the initiative of these agencies.

BUDGET REQUEST FOR RANGE MANAGEMENT

Mrs. HANSEN. The Department has scheduled no increase in 1971 for range management. Do you think you have sufficient funds to properly manage your range areas?

Mr. RASMUSSEN. This is a rather difficult question to answer.

Under the budget, this is the amount of money we could allocate to this work. However, it does not fully meet all of the land management needs.

Mrs. HANSEN. Isn't your range management a component part of your leasing operations?

Mr. RASMUSSEN. Yes, it is.

Mrs. HANSEN. Would you kindly tell me why we cannot pay for the management of our own grazing lands?

Mr. RASMUSSEN. It is the constraints of the budget.

Mrs. HANSEN. Why is a budget restriction placed on grazing lands? You know what happens to grazing land that is overgrazed.

Mr. RASMUSSEN. Yes.

Mrs. HANSEN. Mr. Reifel and I saw lands in New Mexico, where the cattle looked like ghosts.

This is a direct result of undermanagement. I do not think this makes sense at all.

The grazing lands of the west have great difficulties anyway, don't they?

Mr. RASMUSSEN. They do.

Mrs. HANSEN. You have a wide variety of erosion problems. If you do not put enough funds into management, obviously you are not going to get back satisfactory products.

FUNDS FOR FOREST MANAGEMENT PROGRAM

You have no increases for forest management. Yet this activity brings in $70 million a year in receipts. I would like to know the reasoning for not funding an increase in the 1971 estimates for the improvement in management which, in turn, can increase receipts and in turn provide accelerated improvement of our watersheds and in our total environment.

Mr. RASMUSSEN. The improvements in management that are contemplated for the O. & C. lands this year are being funded out of the Oregon and California grant lands appropriation.

Mrs. HANSEN. Will this do it all?

Mr. RASMUSSEN. This starts us off on a very good and balanced program.

Mrs. HANSEN. It will provide for the acceleration.

Mr. RASMUSSEN. It provides for the cutting budget we are preparing and the proposals that we have.

Mrs. HANSEN. If you do not want to upset the conservationists and the environmental people, you are going to have to do your management in such a way that you have enough funds for cutting, planting, recreation, watersheds, and all the other things that are necessary ingredients of life in this century.

Mr. RASMUSSEN. I certainly will agree with you on that.

TIMBER CUTTING SCHEDULE IN 1970 AND 1971

Mr. WYATT. Madam Chairman, may I interject on page 20 for a moment? I am disturbed about the same thing with which the Chairman is concerned. Essentially your cutting schedule in 1971 is the same as 1970. My question really is, Mr. Rasmussen, are you going to be in the process of developing any kind of contingency plans to increase the total cut in 1971 if we have the rush that many of us anticipate.

I think my question really is, can you use more money to develop contingency plans, or do you feel that you are cutting as much as can be cut regardless of money supplies?

Mr. RASMUSSEN. We have completed our inventories and are now working to recalculate our allowable cuts. So that should be done within the next 6 months. We feel that our cutting level for 1971, which does include the sale of 280 million feet of mortality salvage and commercial thinnings above our allowable cut—this, we think, is the timber sale program that we can reach this coming fiscal year.

Mr. WYATT. To put it another way, when we get in the bind, I do not want this committee to be in a position and I do not think the Bureau of Land Management or the Government should be in a position, of having a single solitary acre that is capable of reforestation that is not either actively under reforestation or in the pipeline for reforestation.

BLM REFORESTATION PROGRAM

The same is true with your salvage and thinning programs. I think what I am really asking right now, is this going to be the case, are we going to be able to say that virtually all lands that are capable of reforestation within your jurisdiction are either under reforestation or in the immediate prospect of being in reforestation, and that you have all the money for the maximum thinning and salvage possible?

Mr. RASMUSSEN. Our reforestation program is behind somewhat. We think we have in here what we can accomplish next year.

Mr. LOESCH. With the money provided.

Mrs. HANSEN. I think this is what we want to know.

Mr. WYATT. That is the key to it, yes.

Mr. RASMUSSEN. I can provide for the record what might be done, if you would like.

(The information follows:)

ADDITIONAL WORK—REFORESTATION

The level of reforestation activity on the O. & C. Lands of Western Oregon has kept pace with the annual acreage harvest. Additional funds from the fiscal year 1971 O. & C. grant land budget authority will initiate a reduction of some 30,000 acres of hard-core, difficult-to-treat backlog. This backlog reduction is paced according to the availability of planting stock and tree seed, which has been expanded to launch an accelerated reforestation program.

Public domain reforestation could be expanded as follows:

Reforestation of problem areas needing special treatment—2,000 acres, $30,000.

This covers seed purchase and nursery contract costs only—actual on site planting would not occur until seedlings become available in fiscal year 1973. Then planting costs would require more funding.

Mr. WYATT. I think this is very important.

Mrs. HANSEN. You know Congress gets the blame for a lot of things it is not responsible for.

Mr. WYATT. I have the uncomfortable feeling in connection with some of our resource programs, and I think timber is one of them, that we tend to think in terms of what can be done in terms of certain budgetary limitations. No business is run that way. The Ford Motor Co. projects the potential sales for calendar 1970, and then they adjust their production accordingly. I think it is extremely important that there be thinking of this kind in timber production in view of what I am absolutely certain is going to be the huge demand for wood fiber.

Mr. LOESCH. Could I comment a second here? I am correct, am I not, that as far as O&C lands are concerned, we are all right, we are doing as much as we can on those lands. It would be in the Public Domain Lands outside of western Oregon.

Mr. RASMUSSEN. Yes.

Mr. LOESCH. It would be in other areas which would come under this budgetary amount where we could do more.

ADDITIONAL SALVAGE AND THINNING PROGRAM

Mr. WYATT. Could I ask, Madam Chairman, that Mr. Rasmussen attempt to furnish for the record as far as possible the amount of money that they could use intelligently for additional salvage and thinning on all BLM lands.

Mr. LOESCH. With some identification of the land as much as possible.

Mr. RASMUSSEN. Yes, I would be glad to.

(The information follows:)

ADDITIONAL WORK—SALVAGE AND THINNING

The level of budgeting authorized for the O. & C. lands has provided adequate funding for an Interim Production Forestry Study which is now being concluded. The fiscal year 1971 proposed budget includes a full program of intensive practices. Depending on the final outcome of the IPF Study and the new allowable cut based on applying intensive forestry to the new inventory, increased funding may be needed in fiscal year 1972 and beyond.

A study similar to the Intensive Production Forestry Study in western Oregon is now being launched in the public domain States. Before it is completed, much information must be gathered. The fiscal year 1971 proposed budget covers the start of the studies first phase, an updated forest inventory of five key States. We feel, however, that the following intensive practices could be implemented in fiscal year 1971 and that the study will indicate considerably larger investments needed beyond this to obtain full production.

Stand improvement (includes precommercial thinning of stagnated stands, disease control, e.g., mistletoe, sanitation cut, etc.) 8,000 acres, $320,000.*

* This is a starting program—it could be accelerated in fiscal year 1972 and beyond if study findings indicated feasibility. Appropriate manpower increases would also be needed to carry out this work.

Mrs. HANSEN. We will recess now and resume at 1:30.

SOIL & WATERSHED CONSERVATION

ADEQUACY OF FUNDS

Mrs. HANSEN. There is no increase for soil and watershed conservation. In view of the emphasis on water supplies, water quality,

water pollution, why is this activity not funded at a higher rate than in 1970?

Mr. RASMUSSEN. This is being funded within the budget constraints we are operating under.

Mrs. HANSEN. Who imposed the budget constraints? You do not need to look around; just answer me.

Mr. HITE. If I could interject in support of this, Mr. Rasmussen is indicating that within the allowance——

Mrs. HANSEN. Allowance by whom?

Mr. HITE. That is imposed upon us by the Bureau of the Budget.

Mrs. HANSEN. Who does the Bureau of the Budget represent—Congress or the Executive?

Mr. HITE. The Executive.

Mrs. HANSEN. It seems to me we should have more funding in this area.

For example, let me read one sentence:

The appropriated level of financing will permit the reforestation of approximately 3,220 acres, site improvement on 1,020 acres and a 270-acre program of stand improvement.

What proportion of the whole is this?

Mr. HITE. I cannot answer that, Mrs. Hansen.

Mrs. HANSEN. But you went to the Bureau of the Budget and sat there while they imposed guidelines upon you?

Mr. HITE. That is correct, I did.

Mrs. HANSEN. How are you going to stand up to them if you do not have better answers?

Mr. HITE. Over and above the allowance, the Department does request funding in the magnitude that they feel is adequate.

Mrs. HANSEN. Adequate or mandatory?

Mr. HITE. I would have to say, Mrs. Hansen, that the total funding requested by the Department was that which they felt was adequate for a good program, a complete program but not mandatory in the sense it was all under the allowance figure.

ENVIRONMENTAL PROGRAM

Mrs. HANSEN. Your soil and watershed programs are an integral part of the environment?

Mr. HITE. Indeed they are.

Mrs. HANSEN. I am sure that the Bureau of the Budget does not intend to spend any more money in this field. So let's understand that we are not going to achieve the goals of the President, the Congress, or the people until more funding is provided.

Mr. HITE. I understand.

ALLOCATION OF SOIL AND WATERSHED FUNDS

Mrs. HANSEN. Please insert in the record a breakdown of the $13.4 million requested for soil and water conservation, indicating the allocation of funds by State, for fiscal years 1969, 1970, and 1971.

(The information follows:)

DISTRIBUTION OF SOIL AND WATERSHED FUNDS

State	Fiscal year 1969	1970	1971
Alaska	$38,067	$39,100	$39,100
Arizona	923,230	816,500	791,400
California	524,560	551,100	606,800
Colorado	956,297	995,900	1,005,100
Idaho	1,222,766	1,300,500	1,354,100
Montana	963,787	1,002,200	1,096,800
Nevada	1,821,648	1,941,800	1,851,900
New Mexico	1,324,011	1,357,300	1,332,800
North Dakota	60,000	60,000	60,000
Oregon	2,196,128	2,210,300	2,131,700
South Dakota	70,000	70,000	70,000
Utah	1,612,936	1,628,600	1,643,000
Wyoming	1,346,967	1,420,700	1,424,300
Totals	13,060,397	13,394,000	13,407,000

FIRE PROTECTION

BOISE INTERAGENCY FIRE CENTER

Mrs. HANSEN. Would you please justify the $120,000 increase for operating and equipping facilities at Boise Fire Center.

Mr. RASMUSSEN. This is the cost of supplying heat, power, telephone service, water and sewage disposal at the Boise Interagency Fire Center and the cost of providing some additional furnishings and equipment necessary to use these new facilities.

Mrs. HANSEN. Last year we had quite a discussion on the use of the airborne firefighters. How many did you use this year? How many months was this in effect and how many people were involved?

Mr. RASMUSSEN. We transported through the Boise Fire Center 604 trained firefighters of different crews to Alaska.

Mrs. HANSEN. How many Indians were in this group?

Mr. RASMUSSEN. There were six Southwest Indian crews; about 150 persons.

USE OF JOB CORPS CREWS IN FIREFIGHTING

Mrs. HANSEN. How many Job Corps people were in the group?

Mr. BEIRNE. Our camps were closed on June 30 last year.

Mrs. HANSEN. When you closed those camps how much additional cost did the Government incur for firefighting? You can insert this information in the record.

(The information follows:)

USE OF JOB CORPS IN FIREFIGHTING

The Bureau generally made only minimal use of Job Corps enrollees in fighting fires for several reasons:

1. Minimum age requirements for firefighters excluded Job Corps enrollees under 18 years of age.
2. Enrollee firefighting was strictly voluntary and they were given no extra compensation for fighting fires.
3. For the most part the centers were not strategically located in areas of high fire occurrence and use of the enrollees would have entailed considerable transportation.

In Oregon, however, a considerable contribution was made. The BLM center at Fort Vannoy was located in a high fire incidence area and enrollee firefighters constituted an effective initial attack force.

In eastern Oregon, BLM in several instances made use of heavy equipment from the Malheur Center operated by the Bureau of Sport Fisheries and Wild life.

The saving to the Government would be the difference between the cost of manpower and equipment available from alternative sources. Other savings would be realized due to being able, through more effective initial attack, to control fires before they reach large size. These savings cannot be determined exactly, but in the case of BLM's firefighting operations are estimated to be minimal except in Oregon.

FIRE OVERHEAD IN ALASKA

Mr. RASMUSSEN. We transferred an additional 734 men from the Western States for overhead in Alaska. We moved 630,000 pounds of cargo to Alaska, including items such as chain saws, portable pumps, fire hose, hand tools. Also, we obtained helicopters and air tankers that were sent to Alaska. This was the operation of the Boise Interagency Fire Center.

JOB CORPS EFFECTIVENESS

Mrs. HANSEN. Don't you think the Job Corps people have done a very effective job in prior years?

Mr. RASMUSSEN. Yes; we were pleased with the Job Corps crews we had and the Job Corps people we used.

Mrs. HANSEN. You were not able to utilize the Job Corps people because they were not in the area.

Mr. RASMUSSEN. That is correct.

Mrs. HANSEN. Will you please insert in the record the amount of money that was appropriated for the Job Corps and the potential value of their services. Also what it cost the Department to replace them this year.

(Information follows:)

FUNDS APPROPRIATED FOR JOB CORPS

Transfers to the Bureau of funds appropriated to the Office of Economic Opportunity for construction and operation of Job Corps Centers have been:

Fiscal year 1965	$4,791,160
Fiscal year 1966	5,898,111
Fiscal year 1967	5,561,375
Fiscal year 1968	5,062,460
Fiscal year 1969	4,278,300
Fiscal year 1970 (estimate)	320,000 [a]

[a] For protection and maintenance of 5 closed Job Corps Centers.

From the time that the BLM Job Corps centers opened in fiscal year 1965 until termination at the end of fiscal year 1969 the corpsmen completed conservation and recreation projects with an appraised value of $2,700,000. Work projects worth $1,100,000 were completed in fiscal year 1969, when only four of the original five BLM centers were still in operation. This indicates that the contribution to BLM was increasing as project planning and work execution became better coordinated.

Projects included:

1. Road and trail construction and maintenance.
2. Recreation site construction and maintenance.
3. Water developments—springs, pipelines, reservoirs, etc.
4. Forestry work—precommercial thinning, seed orchard maintenance, cone collection, et cetera.

5. Watershed protection and rehabilitation work—check dams, fences, etc.

In addition to the conservation and recreation project work directly related to BLM's operations, our Job Corps Centers also completed community projects with an appraised value of $186,000.

These benefits are in addition to the personal benefits to the corpsmen in education, job training and appreciation of their privileges and responsibilities as citizens.

I think Mr. Rumsfeld would appreciate having an evaluation of the effectiveness of his Job Corps activities.

ADEQUACY OF FIRE PROTECTION FUNDS

Mr. WYATT. In connection with fire protection, I notice you have an increase of $120,000. This is all in connection with the Boise Interagency Fire Center.

My question is whether or not the Director feels that there is adequate funding for fire protection and firefighting in the budget.

Mr. RASMUSSEN. By fire protection, you mean presuppression?

One of the big problems that we are faced with is adequate presuppression activities that are in effect prior to the actual fighting of a fire.

In other words, the recruitment of crews, the training of crews, the placing of helicopters under contract, the placing of airplanes under contract, all of these things we are woefully lacking.

Our problem in Alaska I think is directly related to the fact that under our present funding we start to fight a fire after it starts.

JOB CORPS WORK IN FIRE PRESUPPRESSION

Mrs. HANSEN. Is it not true that the Job Corps workers did a lot of fire trail work and prefire suppression work?

Mr. RASMUSSEN. Yes; some presuppression work was done by the Job Corps men.

Mrs. HANSEN. Would you insert an estimate in the record of the amount of work that has been done by the Job Corps personnel. Also what would it cost to replace the services performed by the Job Corps.

Mr. RASMUSSEN. We will try.

(The information follows:)

LOSS DUE TO JOB CORPS CAMP CLOSURES

Based on the appraised value of work projects completed in fiscal year 1969, it is estimated that closure of BLM's centers represented a loss of $1,500,000 worth of needed conservation and recreation projects in fiscal year 1970. This loss has not been replaced since BLM's appropriations for this work were not increased to offset the loss of the Job Corps contribution.

Mr. WYATT. I wonder, too, if it would be possible, Madam Chairman, to get an estimate in the record as to what it would cost to do an adequate job of firefighting which would include the fire presuppression.

It may be broken down as much as possible.

ALASKA FIRE SITUATION

Mr. BEIRNE. We feel that our needs are immediate. We are talking now about fiscal 1971 and that is next July. But in the meantime in

Alaska we face a situation that, with the pipeline, there is going to be increased activity, there is going to be more people up there.

Mrs. HANSEN. What do you estimate the fire costs are going to be due to the pipeline?

Mr. BEIRNE. I do not know it is particularly due to the pipeline, but the pipeline itself is going to bring visitors and where people go, fires start. The climatic condition up there has been bad, we have had very little snow this winter in Alaska. In addition, it is dry.

We could have an explosive situation the same as last year. Unfortunately, by the time that anything could be added in this budget, the fires will have started.

What we are faced with is being able to man and to train a crew before the fire starts. And that is in the current fiscal year.

Mr. WYATT. You do not have money for that now?

Mr. BEIRNE. We do not have money for it now.

Mrs. HANSEN. Why not?

Mr. BEIRNE. This budget we are working on was up last year.

Mrs. HANSEN. They did not foresee the lack of snow?

Mr. BEIRNE. I do not think this could be foreseen. Remember, this was a year ago we were up here on this. What we also face is that the pipeline companies will be using every available helicopter and unless we can put them under contract ahead of time, they will not be available for us when fires break out.

COST OF ALASKA FIRE PRESUPPRESSION

Mrs. HANSEN. What do you figure the cost to be?

Mr. BEIRNE. Both will cost somewhere around possibly a half-million dollars, including $300,000 for recruiting and training seasonal aides and $200,000 for helicopters.

Mr. WYATT. In the meantime, you mean between now and the 1st of July?

Mr. BEIRNE. We should have helicopters under contract ahead of time and we do not have the funds available to us in this fiscal year to do it.

Mrs. HANSEN. What is the value of the land that you might save if $200,000 is allocated for helicopters.

TIMBER LOSS IN ALASKA FIRES

Mr. BEIRNE. I think that our estimate of losses in Alaska last year was something like $14 million in timber values.

Mrs. HANSEN. Seventy to one.

Mr. BEIRNE. We need to get our seasonal aides on before the fire starts, train them, place the helicopters under contract. The only way I can see that the money is made available to us in time to do it this fiscal year would be to permit us to charge this to the fire suppression costs at once rather than waiting for the fires to break out. The total would amount to an additional half-million dollars.

REQUESTS TO BOB ON FIRE PROPOSALS

Mrs. HANSEN. Have you discussed this with the Bureau of the Budget?

Mr. BEIRNE. We have not.

Mrs. HANSEN. May I suggest you discuss it with them and send a report to the committee to be inserted in the record. It would seem to me rather foolish if they would prefer to destroy $14 million worth of timber to save $200,000.

Mr. WYATT. Would it not be appropriate to have them break that half-million down into what additional funds they need between now and the first of the year?

Mrs. HANSEN. I would hope so.

Mr. WYATT. I would like to ask them if it is in order to send a copy of their letter to the Bureau of the Budget to members of this subcommittee.

Mrs. HANSEN. That is right.

Mr. WYATT. So we can take individual action, if necessary, to be of assistance.

RECREATION PLANNING FOR LOWER COLORADO RIVER AND CALIFORNIA DESERT

Mrs. HANSEN. Please give the committee the justification for the $188,000 increase in recreation planning for the lower Colorado River and California desert.

Mr. RASMUSSEN. I would like to show you a few pictures of the lower Colorado first to get an understanding of the movement of people into this area.

BLM-BOR PLANNING WORK

Mrs. HANSEN. Let me ask one supplementary question.

Why does BLM have to spend this money when the Bureau of Outdoor Recreation spends large sums on recreation planning?

Mr. RASMUSSEN. Their planning is generally regional and nationwide planning. This is planning for a specific area. We would cooperate with them and ask their advice, but we would actually do the planning for that.

Mrs. HANSEN. How does it happen that the specifics always get left out of the budget? BOR makes the grand scale approach and then BLM makes the detail approach. Inevitably someplace between the time it leaves your Department and it arrives up here, there are several million dollars gone.

Mr. RASMUSSEN. In this particular case of this $188,000, $96,000 is for the recreation and planning of the lower Colorado and $92,000 for the California desert. These are the two areas that are receiving the largest amount of use and in increasing numbers.

Mrs. HANSEN. How many visitor days do you have in each area?

VISITORS

Mr. RASMUSSEN. We calculate in the lower Colorado something like four million recreation visitor days.

Mrs. HANSEN. What percentage of the total needs will this take care of?

Mr. RASMUSSEN. This planning effort will take care of I would say about ten percent of the planning effort that might ultimately be needed here.

Mrs. HANSEN. Who is going to take care of the rest of the needs?

Mr. RASMUSSEN. This allows us to identify the most urgent cases and the most urgent work.

Mrs. HANSEN. Is it not true that some of the less urgent needs becomes urgent within 2 years?

Mr. RASMUSSEN. Yes.

Mrs. HANSEN. So you are just postponing that today?

Mr. RASMUSSEN. In this particular case, we hope to be able to identify some of the real urgent ones now. On the California desert, we estimate about 5 million visitor days.

Mr. REIFEL. How far is this California desert area from San Diego?

Mr. RASMUSSEN. About 100 miles.

Mr. REIFEL. A short drive?

Mr. RASMUSSEN. It is within a couple of hours.

Mr. REIFEL. The reason I ask, I have relatives up there and they during the week take a trailer house out and get a spot before the weekend arrives so they will have a place to go.

Mr. RASMUSSEN. These are some of the pictures.

Mrs. HANSEN. In this picture of the shoreline congestion, how many trailers are there per square mile? What do you have to take care of pollution, of the sewage or the water supply?

Mr. RASMUSSEN. Mrs. Hansen, at the present time we have very little to handle these matters.

Mr. HANSEN. Very little. What do you mean?

Mr. RASMUSSEN. About $17,000 in fiscal year 1970. These pictures indicate the impossible condition we are getting into where the shoreline is completely crowded with people and the trailers and campers. This is one reason we need to get on with the planning and on with some construction.

CONSTRUCTION NEEDS

Mrs. HANSEN. It looks to me as if you need to get the planning done. You had better get into construction.

Mr. RASMUSSEN. This is why we have some construction funds requested.

Mrs. HANSEN. But what percent of the total area are you taking care of with your construction funds?

Mr. RASMUSSEN. On the Lower Colorado River only 1 or 2 percent of the total needs.

Mrs. HANSEN. The other 98 or the 99 percent are polluting the river and the land around them.

Mr. REIFEL. In the Black Meadow Landing where you have these trailer houses one sitting against another, what sanitation facilities are there or does all of the refuse go into the river?

Mr. RASMUSSEN. There are some sanitary facilities behind the trailer houses.

Mrs. HANSEN. What are you going to do with the aluminum beer cans I see all over the beach in the 11-mile strip?

Mr. RASMUSSEN. We are going to help pick them up.

Mrs. HANSEN. What provision is being made to dispose of them before they get to your pickup station? The American public is pushing for environment control and pollution control. Litter is caused by the American public, it is not caused by anybody from Mars or the moon or anything else. Taxpayers are revolting about the tax dollar and yet last year for two agencies we saw a $19.5 million expenditure to clean up litter. This does not include money from the other agencies, neither does it include money from the cities and the States in litter cleanup.

What are you doing in the preventive stage aside from the Johnny Horizon program? Here on this beach, the 11-mile strip, I see litter scattered all over.

When are you going to say to the people who have created this litter, "you are not coming back"?

Mr. RASMUSSEN. We have not been able to say that because we cannot always identify whose litter it is, and we have very many people who are doing surveillance work in this particular area.

Mrs. HANSEN. Would it not be better to provide a little more funding for surveillance than to spend twice as much to clean up afterward?

Mr. RASMUSSEN. I agree and this is why we are here with the program that we have.

Mrs. HANSEN. You cannot walk on the average American beach today because of the glass and the cans.

Why should the Government be forced to pay to clean up after Mr. and Mrs. Dirty America, particularly when we have thousands of people protesting about the United States not contributing to environment improvement?

Why shouldn't everybody be required to clean up their litter or be refused a permit to stay on these lands?

Mr. RASMUSSEN. I think this would be a very fine thing.

At the present time we have not been able to enforce this.

Mrs. HANSEN. Why?

Mr. RASMUSSEN. What we are doing here today is to present to you a problem that was given to us a year ago and some of our proposed solutions. We think the American public, if there are garbage cans and sanitary facilities, that they will use them.

Mrs. HANSEN. No, they will not. You known as well as I do that the American public is not interested in cleaning up at all. Except talking about it, they will not do anything individually. This is the trouble.

Mr. RASMUSSEN. In this particular area last year, we put a few men with a BLM patch on their shoulder and khaki-type clothes who were working on the cleanup crews, and we found out when they were in the area there was a different attitude.

Mrs. HANSEN. That is right.

It seems to me it is time to come through loud and clear that America as a democracy is reliant upon each individual citizen accepting his responsibility. That is democracy.

The cost of this program can be greatly reduced if each and every American would deposit his cigarette package, banana peel, orange peel, garbage sack in the containers that are provided.

You shouldn't always have to have a police force to enforce the duties of every American.

This is something I think has got to be attacked.

CALIFORNIA DESERT SANITATION PROBLEMS

Mr. RASMUSSEN. Here are some pictures of some of the California desert type of recreation; in this particular case that is a group of people who are holding motorcycle races and these are their camps. They are rather primitive recreation facilities, very little sanitation. They police their own in this particular case.

But again, I am bringing these to you to illustrate the problems that we are facing in the California desert and the other deserts, and this is why we are requesting some planning money and also some construction money.

Mrs. HANSEN. There is no use demonstrating against the quality of our environment until every demonstrator participates in cleaning up the environment.

Mr. RASMUSSEN. This would certainly make a better world to live in if we all took care of our own.

Mrs. HANSEN. If we want a better world, we have to do our part to make it a better world. Democracy is a mutual affair.

Mr. RASMUSSEN. I certainly agree on that.

TRANS-ALASKA PIPELINE INSPECTION

Mrs. HANSEN. You have an increase of $750,000 to provide for inspection surveillance and other work on the Alaska pipeline. We had earlier a good review on what you are doing and what you expect to do. If you have anything further to insert in the record at this time, please do so.

Mr. RASMUSSEN. Fine.

Mrs. HANSEN. I think TAPS is a good example of what Government may do in the way of cooperation in developing a resource with the utmost regard for the stability and the future of the American terrain. This is why this committee is tremendously interested in TAPS.

CADASTRAL SURVEY IN ALASKA AND OTHER AREAS

You have indicated no increase for cadastral survey in Alaska, with all of the land activity in Alaska, it would seem this work should have been accelerated.

There is also no increase for cadastral work in other States where trespass is a problem. Doesn't it make sense to accelerate this work?

Mr. RASMUSSEN. Again, we are asking here under our budget restraints.

Mrs. HANSEN. Why restrain the activities that mean the well-being of the American land?

Mr. RASMUSSEN. I can understand your concern on this.

Mrs. HANSEN. It would seem to me that America can be a better example to the world if it takes care of its problems rather than let its problems multiply.

Mr. RASMUSSEN. I hope the next time I appear, we have a more balanced program.

Mrs. HANSEN. I have no hope for you until somebody from the Bureau of the Budget has to sit across this table. You know it as well as I do. You have an accountant down there that looks at your budget and he has probably never been outside the confines of Washington, D.C. He decides how the Western States that go from the Rocky Mountains to the Pacific should look and what they need.

OIL AND GAS LEASING MAPS—OCS

On page 34 on your justification, you say:

The program also must accommodate the growing need for oil and gas leasing maps for the Outer Continental Shelf.

How do you reconcile this with your budgetary limitations?

Mr. RASMUSSEN. We do a certain amount of work in the Outer Continental Shelf in projecting identification of leasing areas and that is what this is for.

Mrs. HANSEN. How can you do it with a restrained budget?

Mr. RASMUSSEN. We are doing a minimum amount of this.

OIL SPILLS

Mrs. HANSEN. A minimum amount could mean a maximum spill.

Mr. RASMUSSEN. This is the survey to identify the various leasing areas rather than having anything to do with the actual operation of the gas and oil leases.

Mrs. HANSEN. In leasing areas it would seem to me there should be an ample amount of knowledge.

Mr. RASMUSSEN. I think we are getting more knowledge of the leasing areas as we go along.

Mrs. HANSEN. You had better not think, you'd better know, because the American public is going to lose patience.

The tankers should be regulated under international law, with the knowledge and cooperation of our U.S. Department of Commerce.

I have little pity for the tanker operators who are sailing under the Liberian or Greek flags in order to avoid maritime restrictions imposed by the United States. They spill oil on our shores and we pay the bill.

I think it is high time for the United States to discuss these problems at an international conference.

USE OF FIRE REHABILITATION FUNDS

Would you outline your expenditures of $600,000 for fire rehabilitation?

Mr. RASMUSSEN. The $600,000 for rehabilitation is used to rehabilitate burned areas after the fire.

Mrs. HANSEN. How many acres does that encompass?

FIRE REHABILITATION IN ALASKA

Mr. BEIRNE. We spent comparatively little this fiscal year. The areas burned are in Alaska and we just do not know enough about rehabilitation up there.

Mrs. HANSEN. That poses another interesting problem. In other words, they cannot be put back into a productive state until you do know more about them, and there is no money in the 1971 budget to provide supplying that knowledge?

Mr. BEIRNE. No.

Mrs. HANSEN. So they are going to sit there in spite of the need for timberland and in spite of the need for total forest use.

Mr. RASMUSSEN. Yes, they will.

Mr. REIFEL. Madam Chairman?

Mrs. HANSEN. Mr. Reifel.

COODINATION WITH FOREST SERVICE

Mr. REIFEL. Mr. Director, the Forest Service I am sure explores the field with respect to replanting and reseeding and restoring and to what extent does the Bureau of Land Management avail itself of that work?

Mr. RASMUSSEN. We avail ourselves of any of their research work that applies to the public land. In fact, their research is basically the same research that we use. Their overall basic research is part of our program too. We ask them to do certain things for us and they do them. We take their watershed management research and see how it applies to the public domain. We also use their forestry research and their range research too. We do use their research findings.

We have studies to amplify on particular areas of their research.

Mr. REIFEL. Do you, and I am sure you do, coordinate this work so there is a minimum of overlapping?

Mr. RASMUSSEN. Yes, we do. We work very closely with the Forest Service and with their research organization. They have their own problems in funding adequately their research organization. I am not sure they have sufficient money to do all the research needed.

Mr. REIFEL. Are the problems in Alaska with regard to the areas that are eroded or otherwise disturbed peculiar to that part of our Nation so that what the Forest Service is presently doing would not be applicable?

Mr. RASMUSSEN. Yes, that is true.

On the Alaska scene we are finding that just mere construction of a fireline may lead to a point of erosion. After a fire we go back and attempt to restore the fireline to a condition that will prevent erosion.

Mr. REIFEL. Do you have a representative from the Forest Service working with you in these areas where there is commonality with respect to problems of reforestation and rehabilitation of land?

And the other way around, do you have personnel working with the Forest Service people in similar areas to take advantage of each other's efforts?

Mr. RASMUSSEN. We do.

For instance, in Oregon we do not both separately work on rust resistant pine. Just one of us is working to develop a rust-resistant strain of pine.

This is an example of how we work together. On our range work we correlate our work with theirs. In fact, some of their research experiments areas are on public domain.

The Saylor Creek experimental project in Idaho is an example where they are doing research for us on public domain lands. We work together with them.

In Alaska, the Forest Service is working mainly in southeastern Alaska in the heavily timbered area and do not have much to do with the great tundra type areas in interior Alaska.

Mr. REIFEL. Thank you.

INCREASE FOR GENERAL ADMINISTRATION

Mrs. HANSEN. Please give the justification for the increase of $81,000 for general administration.

Mr. RASMUSSEN. Mr. Beirne.

Mr. BEIRNE. Madam Chairman, this is designed to permit us to service the increases that are requested elsewhere for programs. It represents roughly about 4 percent of the amount appropriated under this appropriation title.

Mrs. HANSEN. That is great except I have only seen 2 percent for the other activities.

Mr. BEIRNE. This is 4 percent of the appropriation. During the past several years there has not been any program increase in the general administration activity as such other than the pay costs.

Mrs. HANSEN. Please insert in the record a tabulation indicating for fiscal years 1969, 1970 and 1971, your total administrative expenses for management of land and resources. This information should include all administrative expenses prorated against the subactivities of this appropriation account, and should reflect the amount prorated in each instance.

(The information follows:)

PRORATION OF GENERAL ADMINISTRATION TO PROGRAM SUBACTIVITIES

	Fiscal year—		
	1969 amount available	1970 estimate	1971 estimate
Title lease and records service	$252,900	$279,000	$284,200
Records improvement	31,900	34,000	32,900
Land classification and mineral examination	210,400	220,000	241,900
Range management	223,100	244,900	244,300
Forestry	310,200	303,900	305,400
Soil and watershed	556,700	557,900	561,400
Fire protection	163,600	188,200	195,000
Recreation and wildlife	121,100	124,700	133,900
Alaska pipeline inspection	0	52,200	84,600
Cadastral survey—Alaska	85,000	88,500	89,300
Cadastral survey—Other	144,500	149,700	150,300
Fire rehabilitation	25,500	25,000	25,800
Total	2,124,900	2,268,000	2,349,000

Note: Assessments are not made against these subactivities for general administration.

CONSTRUCTION AND MAINTENANCE

Mrs. HANSEN. Next is Construction and Maintenance.

Please insert justification pages 39 through 45.

(The pages follow:)

CONSTRUCTION AND MAINTENANCE

Appropriation, 1970		$2,899,000
Unobligated balance from prior years		196,455
Total available for obligation		$3,095,455
Decreases:		
Construction of buildings and recreation facilities	$1,181,057	
Maintenance of buildings, recreation facilities and roads	1,914,398	$3,095,455
Subtotal		---
Increases:		
Construction of buildings and recreation facilities	1,015,455	
Maintenance of buildings and recreation facilities and access roads	2,275,000	
Total available for obligation		$3,290,455
Less: Unobligated balance from prior years		75,455
Budget Estimate, 1971		$3,215,000

Analysis by Activities

		Fiscal Year 1971				
Activity	Amount Available 1970	Estimated Total Available	Unobligated Balance from 1970	Budget Estimate	Total Available 1971 compared to total available 1970	Page ref.
1. Construction	$1,181,057	$1,015,455	-$75,455	$ 940,000	-$165,602	39
2. Maintenance	1,914,398	2,275,000	---	2,275,000	+360,602	42
Total.....	$3,095,455	$3,290,455	-$75,455	$3,215,000	$+195,000	

1. Construction: FY 1970, $1,030,000; FY 1971, $940,000; $90,000 decrease from the FY 1970 appropriation, exclusive of carryover funds. This program provides for the construction of (a) buildings and (b) recreation facilities.

(a) Buildings: FY 1970, $930,000; FY 1971, $300,000, a decrease of $630,000 from FY 1970 availability, exclusive of carryover funds.

The FY 1971 buildings construction program consists of partial completion of the fourth construction phase of the Boise Interagency Fire Center project at Boise, Idaho, $300,000. The Boise Interagency Fire Center (BIFC) was initiated in FY 1967 as a necessary facility in the effort to more efficiently combat range and forest fires in the western states and Alaska. Through the facilities at BIFC, the Bureau can organize, house, feed, and equip fire suppression crews for fire control on lands of the Bureau, Forest Service, Bureau of Indian Affairs, National

Park Service, and state governments. Since 1967, the BIFC has processed crews to assist in 309 fires both in Alaska and the western states. During the 1969 fire season, BIFC contributed major support to Alaska where about 5 million acres have burned; it participated in 85 BIM fires and 11 Forest Service fires.

Plan of Work: Since FY 1967, designated construction of the permanent facility has been underway. A recapitulation of the funding is:

FY 1967 (Initial Survey & Design)	$ 100,000
FY 1968 (Construction)	1,100,000
FY 1969 (Construction)	955,000
FY 1970 (Construction)	900,000
FY 1971 (Construction - proposed)	300,000
Balance for construction in future year program	675,000
Total project	$4,030,000

The features remaining to be constructed during FY 1971 are:

	Feature	FY 1971 Cost	Balance to Complete
1.	Ramp	45,000	210,000
2.	Hangar	-0-	425,000
3.	Shop	80,000	-0-
4.	Smokejumpers Training Tower & Obstacle Course	65,000	-0-
5.	Trailer Pad & Security Fence	20,000	-0-
6.	Site Development	60,000	-0-
7.	Engineering Supervision & Contingencies	30,000	40,000
	Total	300,000	675,000

(b) Recreation Facilities: FY 1970, $100,000; FY 1971, $640,000; an increase of $540,000 over FY 1970, exclusive of carryover funds.

Need for Increase: The overall supply-demand picture for public land recreation is bleak. By the end of FY 1970, the public lands sites will provide approximately 2,500 family units capable of accommodating 1,150,000 visitor days per year. Based on current recreation trends, it is estimated that by 1975 an annual capacity of 9,000,000 visitor days will be needed to provide the minimum basic requirements on the public lands.

Millions of Americans are now using the public lands for camping, picnicking, hiking, rock collecting, motorcycling, hunting, fishing, water sports and many other kinds of recreation. They find little or no development to accommodate their basic needs. Consequently, the land itself is abused, streams are polluted, trash is scattered over the ground, wildfires result from campfires built in fire danger areas, and the lack of toilet and sanitation facilities creates hazards to health.

As tourist mobility, income and leisure time increase, the number of visitors to

the public lands will climb to an estimated 50 million by 1975. Use of undeveloped areas of the public lands will increase causing abuse and damage to the resource to the detriment of all people who use or visit them.

The increase will provide facilities in areas where the supply of public facilities is deficient in relation to the existing demands. The proposed sites were selected with particular emphasis on areas which are within reach of the urban dweller.

Since the land administered by the Bureau of Land Management represents the largest acreage in the nation already in Federal ownership, the total development costs are greatly reduced.

Plan of Work: The FY 1971 projects are listed and described below:

FY 1971 Projects for Recreation Construction

Project	State	County	FY 1971 Cost Est.	FY 1971 Family Units
Superstition Mountain	Arizona	Pinal	$150,000	45
Lower Colorado River	Arizona	Yuma	80,000	--
California Desert (New York-Providence Mountains)	California	San Bernardino	125,000	45
Helena Complex (Holter Lake)	Montana	Lewis & Clark	74,000	35
Organ Mountain	New Mexico	Dona Ana	75,000	35
Survey & Design	All States	--	136,000	--
Total			640,000	160

Superstition Mountain - The Superstition Mountain has always attracted much interest because of the history and legend surrounding the past mining activity. The area is presently receiving heavy uncontrolled use. Facility development is planned to forestall destruction of the natural wilderness and to preserve and highlight the area's historical heritage. It will also alleviate the overtaxed facilities within the adjacent Tonto National Forest. Commanding a panoramic view of the mountains to the east and the desert valley to the west and south, the planned site is located about 30 miles from Phoenix; 100,000 visitor day use is projected within five years.

Lower Colorado River - Located within both the Los Angeles and Phoenix accessibility range, the Lower Colorado is experiencing an annual visitor day use of 4,000,000. Existing facilities are grossly inadequate and overuse is common. Refuse and human waste contaminate the waters in which people swim. Proper fire places are lacking, and the threat of wild fire is real. Initial development is planned to provide basic sanitary and regulatory facilities to alleviate the environmental problems.

California Desert - Development is planned in the New York-Providence Mountains, located within the densely-populated Southern California Metropolitan Complex accessibility range. Because developed facilities are lacking in the California Desert, recreational activities such as desert camping, hunting, hiking, bike riding and rock hounding are presently scattered over the entire area or concentrated in areas of convenience, creating sanitation and protection problems. Site

development is designed to provide visitor facilities which will accommodate users and protect the lands.

Helena Complex - The site is located at Holter Lake within 30 miles of Helena and 60 miles of Great Falls, Montana in a very popular swimming, fishing, and water skiing area. Present facilities are insufficient, unsanitary and poorly organized. Rising sharply from the lake is hazardous terrain. Site construction is planned to provide both safe and convenient facilities.

Organ Mountain - Located about 25 miles east of Las Cruces, New Mexico and about 50 miles north of El Paso, Texas, this area has retained much of its primitive, rugged tree cover, unusual in this part of New Mexico. Past heavy use which has caused sanitation problems and damage to the resources has prompted us to close off this high use area until facilities can be developed. Site development is planned to protect the public and to preserve the unique physical features of the area.

Funds are also requested to survey and design projects in advance of the fiscal year in which construction funds are made available. Advance design results in more orderly development and selection of the most economical design appropriate for the site.

(2) Maintenance: FY 1970, $1,869,000; FY 1971, $2,275,000; an increase of $406,000 over the amount available in FY 1970, exclusive of carryover funds.

(a) Maintenance of Buildings: FY 1970, $265,000; FY 1971, $265,000; no increase.

Program of Work: Many of the Bureau's buildings are old and require extensive maintenance. During FY 1971, the Bureau will maintain buildings with a total estimated acquisition value of $11 million.

(b) Operation and Maintenance of Recreation Facilities: FY 1970, $604,000; FY 1971, $985,000; an increase of $381,000 over FY 1970, exclusive of carryover funds.

	Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1)	+$381,000	+3	$567,000	4	To provide for clean-up of undeveloped recreation sites and expand the Johnny Horizon Anti-Litter Campaign.

Cost Factors Involved in Increase

(1) Three full-time permanent positions at an average annual salary of $9,700, $29,000; twelve man years of temporary labor at an average annual salary of $6,100, $73,000; contractual costs for dumpsite clean-up, $212,000; refuse containers, fencing materials, litterbags, decals, films, exhibits, and other clean-up supplies and promotional items, $67,000.

Need for Increase: Littering and unauthorized dumping are a national embarrassment and serious problem to the Bureau of Land Management. There are an estimated 1500 unauthorized dumpsites on the public lands, and over 50,000 miles of much-used, much-littered roads. Litter is ugly. It creates unsanitary conditions which can lead to serious land and water pollution problems. It can cause disease and extensive damage to the lands. Under some conditions, it can cause fires. A one-time cleanup of all known sites would cost an estimated $15 million.

Clean-up, however, is futile without an enlightened, tidy public. The Johnny Horizon anti-litter campaign is intended to educate the public to the practical and aesthetic cost of thoughtless disposal. Combined with a regular maintenance program, it is the most economical and effective method of cleaning the public lands.

The Johnny Horizon Campaign has found a response in a public increasingly concerned about environmental quality. It has received support in the publications: American Forests, The Clubwoman, Gems & Minerals, Camping Guide, American Rifleman, and Environmental Technology and Science, among others, and is attracting cosponsors among local governments, organizations, and private industry. The 11 million member General Federation of Women's Clubs has adopted the program as part of its conservation work, and some 3.7 million Boy Scouts will participate on an organized basis as part of the 1971 Boy Scouts National Good Turn effort.

The campaign's most outstanding accomplishment to date was the Johnny Horizon Countryside Cleanup Days in October, 1969. More than 30,000 people in 18 states participated. Led initially by volunteers of the California Outdoor Recreation League, the governors of Arizona, California, Colorado, Nebraska, Nevada, New Mexico, Texas, Utah and Wyoming issued Johnny Horizon proclamations. The Bureau has virtually no activities in two of these States, demonstrating that interest in the program brings public benefits beyond the Bureau's geographic limits. Hard dollar contributions in voluntary manpower and equipment amounted to at least $350,000.

It is important not only to sustain the momentum already achieved, but also to broaden the program in key areas such as the public school systems by providing films, classroom kits and other educational materials. An increase of $51,000 out of the total increase of $381,000 is included for the Johnny Horizon program.

Along with the public-participation campaign, the Bureau seeks to make a concentrated clean-up effort on public lands in Idaho, Nevada and Utah--where 596 undeveloped recreation sites, 352 unauthorized dumpsites, 25 abandoned mining camps, and 1,096 miles of roadsides are badly in need of attention. Lack of facilities, public carelessness, and inadequate maintenance have led to extensive land pollution. Local governments and organizations in these sparsely populated areas have been unable to cope with problems brought by summer visitors, autumn hunters, and the general public. Sporadic local campaigns followed by inattention and renewed littering accomplish little. Only a determined, prolonged, and thorough effort can eliminate the pollution danger and perhaps achieve a momentum which will sustain itself. An increase of $175,000 will provide initial clean-up and regular maintenance for 144 undeveloped recreation sites, 107 dumpsites, 4 mining camps and 307 roadside miles.

Another area having special problems is the Lower Colorado River between Arizona and California. Year-round use is estimated at some 4 million visitor days, higher than some of the most crowded national parks. Public use has far exceeded the government's capability to maintain the area. Consequently, the usual litter and unwholesome conditions that accompany over-use and underdevelopment prevails. A field inventory in February, 1969, revealed 93 dumpsites, mostly unauthorized. Those few sites authorized and under lease by BLM are not always being operated in accordance with the provisions of the lease. Open burning of waste is common. A thorough cleanup of the area is long overdue. The increase of $155,000 will provide funds to begin a cleanup program and to provide regular maintenance on a scheduled basis.

Program of Continuing Work: Routine facility maintenance is regularly scheduled to protect the original investment and to keep the facilities safe, sanitary and attractive for public use. In FY 1971 about 2,500 family units will be maintained.

In addition the Bureau will provide continuing cleanup on about 700 undeveloped

recreation sites and several miles of roadside.

(c) Maintenance of Roads: FY 1970, $1,000,000; FY 1971, $1,025,000; an increase of $25,000 over FY 1970 exclusive of carryover funds.

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1) +$25,000	--	$25,000	--	Maintenance on primitive recreation use roads in the Lower Colorado River area.

Cost Factors Involved in Increase

(1) Placement of waterbars, ditches, sloping and performance of other essential maintenance services on 75 miles of heavily-used roads, $25,000.

Need for Increase: Maintaining roads in the Lower Colorado River area is part of the Bureau's total road maintenance responsibility. The Lower Colorado area is experiencing in excess of 4 million annual visitor day use, more than the existing facilities can handle. Much of this visitation involves the use of motorcycles, four-wheel drive vehicles, "totegoats," and similar vehicles. The result is that primitive roads which now receive no maintenance are being seriously eroded which contributes to site destruction and increases the hazard to road users.

Lack of preventive maintenance on these recreation roads is also increasing the need for maintenance on the few existing standard roads, as eroded material clogs culverts and overtaxes drainage structures.

Program of Work: This maintenance program will concentrate efforts on those primitive roads which continue to be most heavily used and where erosion is causing the most serious down-stream damage to higher value roads. Water drainage features such as waterbars, crowns and ditches will be provided to protect these roads from further erosive destruction.

Program of Continuing Work: The Bureau's most heavily used roads and trails are maintained in a safe and passable state.

The FY 1971 program plans are for 5,000 miles of preventive and 800 miles of corrective maintenance. Substandard roads will receive nominal maintenance; appropriate ones will be programmed for future improvements or reconstruction. The Bureau has a maintenance inventory and annual maintenance plan which provides the basis for the estimates.

Personnel Summary

	1969 Actual	1970 Estimate	1971 Estimate
Total number of permanent positions.....	95	95	98
Full time equivalent of other positions.....	55	79	88
Average number of all employees.....	125	161	175
Average GS grade.....	8.7	8.7	8.7
Average GS salary.....	$9,740	$10,780	$10,780
Average salary of ungraded positions.....	$7,645	$ 8,256	$ 8,256

ITEMIZATION OF ESTIMATE

Construction and Maintenance

	Actual 1969	Estimate 1970	Estimate 1971	Increase (+) Decrease (-)
Program and Financing:				
Total obligations.....	$3,290,249	$3,020,000	$3,290,455	$+270,455
Unobligated balance available start of year.....	-396,704	- 196,455	- 75,455	+121,000
Unobligated balance available end of year..	196,455	75,455	---	- 75,455
Transferred from other accounts.....	---	---	---	---
Appropriation.....	3,090,000	2,899,000	3,215,000	+316,000
Obligation by Objects:				
11.0 Personnel compensation.....	1,084,000	1,437,000	1,540,000	+103,000
12.1 Personnel benefits: Civilian employees...	65,000	80,000	95,000	+ 15,000
21.0 Travel and transportation of persons.	74,000	85,000	90,000	+ 5,000
22.0 Transportation of things.....	110,000	110,000	110,000	---
23.0 Rent, communications, and utilities.....	39,000	40,000	50,000	+ 10,000
24.0 Printing and reproduction.....	21,000	20,000	30,000	+ 10,000
25.0 Other services.....	492,249	316,000	316,000	---
26.0 Supplies & materials.	240,000	214,000	240,000	+ 26,000
31.0 Equipment.....	60,000	60,000	60,000	---
32.0 Lands & Structures...	1,104,000	658,000	759,455	+101,455
42.0 Insurance claims & indemnities.....	1,000	---	---	---
Total Obligations.....	3,290,249	3,020,000	3,290,455	+270,455

UNOBLIGATED BALANCES

Mr. HANSEN. Please insert in the record your unobligated and unexpended balances, showing separate amounts for construction and for maintenance, as of June 30, 1969 and as of January 31, 1970.

(The information follows:)

	June 30, 1969	Jan. 31, 1970
Construction:		
Unobligated balance	[1] $108,057	[2] $158,956
Unexpended balance	[1] 682,859	[2] 746,402
Maintenance:		
Unobligated balance	45,398	722,373
Unexpended balance	368,230	964,865

[1] Does not include $43,000 in budgetary reserve from prior years.
[2] Does not include $75,000 in reserve consisting of $43,000 from prior year and $32,000 for Plains recreation site deferred due to administration's construction reduction program.

FUNDS PLACED IN BUGETARY RESERVE

Mrs. HANSEN. How much of the construction funds have been placed in reserve, Mr. Hite?

Mr. HITE. Construction cutback in 1970, Madam Chairman, affected the construction program of BLM by placing in reserve $2,036 million.

Mrs. HANSEN. Where was the $2 million?

Mr. BEIRNE. Under "Construction and maintenance," in recreation construction, there was $32,000. "Public land development, roads, and trails," there was $1.425 million.

Mrs. HANSEN. Why did you put it in the 1970 budget if you did not need it?

Mr. BEIRNE. We needed it. It was placed in reserve.

Mrs. HANSEN. Why would the Bureau of the Budget place these funds in reserve?

Mr. BEIRNE. This was a decision made by the administration.

Mr. HITE. Pursuant to the President's directive of the 4th of September.

I understand, Madam Chairman. All we can say for BLM is that there were exempted areas in construction timber roads and flood repair.

RECREATION NEEDS OF BLM

Mrs. HANSEN. We have heard testimony today stating what the recreation needs were. Wasn't part of the construction funds that have been placed in reserve for recreation activities?

Is that not correct?

Mr. BEIRNE. Yes.

Mrs. HANSEN. In other words, we are talking about environment 1 year but in the year that has just passed you have held up funds that could have been spent to eliminate some of the problems of the environmental difficulties. Is that not correct?

Mr. BEIRNE. Yes.

Mrs. HANSEN. Let's have the record straight on this. There are two kinds of inflation, dollarwise and in a proliferation of problems. If we

do not begin to solve some of our enviromental problems now, we are going to have an inflation of problems which cannot be met.

LISTING AND DESCRIPTION OF PROJECT DEFERRALS

I think at this point you might insert in the record a list of project holdbacks in BLM.

Mr. RASMUSSEN. We will do that.

Mrs. HANSEN. I want to know who is ruining the environment.

Mr. RASMUSSEN. It is not you.

Mrs. HANSEN. I know it, but let's have it all spelled out item by item.

(The information follows:)

PROJECTS DEFERRED DUE TO ADMINISTRATION'S 75 PERCENT CONSTRUCTION DEFERRAL

Project and State	Estimated cost	Project purpose
PUBLIC LAND DEVELOPMENT ROADS AND TRAILS		
Black Rock Road, Arizona	$158,600	Access for watershed management and recreation.
Squaw Leap Road, California	53,600	Recreation access.
Squaw Leap Trail, California	65,100	Recreation trail.
Squaw Leap Bridge, California	43,100	Do.
Butte Creek Trail, California	5,300	Do.
Chaffee Gulch Road, Colorado	93,500	Access for watershed management and recreation.
Shoshone Road, Idaho	69,100	Recreation access to reservoir.
Deep Creek Road, Idaho	52,500	Access for watershed management and recreation.
Cottonwood Road, Montana	87,200	Do.
Red Rocks Trail, Nevada	275,100	Recreation trail.
Baylor Pass Trail, New Mexico	32,600	Do.
Mescalero Sands Road, New Mexico	12,600	Access to developed recreation sites.
Pine Tree Trail, New Mexico	26,300	Recreation trail.
Quebradas Road, New Mexico	51,500	Access for watershed management and recreation.
Santa Cruz Trail, New Mexico	28,400	Recreation trail.
Owyhee Access Road, Oregon	56,700	Recreation access to reservoir.
Hatch Point Road, Utah	238,400	Access to watershed management, range use administration, and recreation.
Boulder Creek Road, Wyoming	43,100	Recreation access.
Muddy Mountain Loop Road, Wyoming	32,600	Do.
Subtotal, P.L.D.R. & T	1,425,300	
Construction and maintenance: Plains recreation site, Wyoming.	32,000	Sanitation and protection facilities for heavy recreation use area.
Oregon and California grant lands:		
Wildwood recreation site, Oregon	342,000	Additional facilities at heavily used recreation site.
Lobster Creek picnic area road, Oregon [1]	10,000	Access to recreation site.
Shadow Bay Road, Oregon [1]	50,000	Recreation access.
Magic Mile Chairlift, Oregon [1]	35,000	Modernization of existing recreation facility.
Lobster Creek picnic area, Oregon [1]	35,000	Facilities for heavily used recreation area.
Fish Lake Campground, Oregon [1]	65,000	Do.
Doe Point Campground, Oregon [1]	42,000	Do.
Subtotal, O. & C	579,000	
Grand total, fiscal year 1970 construction deferral	2,036,300	

[1] To be constructed by Forest Service.

STATUS OF COMPLETION OF BOISE INTERAGENCY FIRE CENTER

Mrs. HANSEN. Would you please give us the details on the $300,000 requested for the Boise interagency fire center project.

Mr. RASMUSSEN. This $300,000 will consist of $45,000 for partial construction of the ramp.

Mrs. HANSEN. How near completion is this?

Mr. RASMUSSEN. We have 1 more year after fiscal year 1971 to complete the Boise fire complex.

Mrs. HANSEN. Do you feel that the Boise fire complex is saving money in the firefighting program?

Mr. RASMUSSEN. Yes, I do.

Mrs. HANSEN. Then why don't you finish it? How many years have you been at it?

I have been appropriating money for it ever since I have been chairman of the committee.

Mr. RASMUSSEN. Three years.

Mrs. HANSEN. Why do you not finish this project?

How much would it take to complete it?

Mr. RASMUSSEN. An additional $675,000.

Mrs. HANSEN. How many acres of land is under the surveillance of the Boise fire center? What is the total value of the timber? What are the losses per year? Please insert this in the record.

Mr. RASMUSSEN. Thank you.

(The information follows:)

State	BLM protected acres[1] served by BIFC (thousands of acres)	Estimated values of BLM protected lands (thousands dollars)	BLM average acreage burned annually (acres)	Value of BLM timber lost FY 1969
Alaska	[2] 293,315	1,833,219	660,000	$14,173,400
Arizona	12,996	532,836	4,500	500
California	13,541	961,411	13,800	20,900
Colorado	8,465	169,300	3,100	3,200
Idaho	11,534	265,282	109,300	10,800
Montana	8,005	146,091	12,100	3,500
Nevada	48,231	593,241	46,200	0
New Mexico	12,961	194,415	300	0
Oregon	12,868	295,964	39,500	27,800
South Dakota	272	6,120	0	0
Utah	22,752	290,088	3,900	600
Wyoming	17,460	340,470	1,600	2,600
Total	462,400	5,628,437	894,300	14,243,300

[1] Does not include acres administered by other agencies which are served by BIFC: Forest Service—10,500,000 acres in Idaho, plus national infrared and radio equipment cache; Park Service—13,152,542 acres in Midwest, West, and Southern Region; Bureau of Indian Affairs—4,204,654 acres in Portland Area; and Bureau of Sport Fisheries and Wildlife—3,011,715 acres in region 1.

[2] Includes 16,000,000 acres of state lands protected under contract by BLM.

It is not possible to determine the savings in costs which will occur when the hangar is constructed. It can be stated that the effective operation of the Boise Fire Center as a central interagency fire control point cannot be achieved until the planes and maintenance services (principally Forest Service) are brought together at a central location. The hanger is necessary to the accomplishment of this centralization of air operations.

RECREATION CONSTRUCTION

Mrs. HANSEN. $640,000 is requested for recreation construction.

SUPERSTITION MOUNTAIN PROJECT, ARIZONA

Could you give us the details on the Superstition Mountain project?

Mr. RASMUSSEN. Superstition Mountain is in Arizona.

Mrs. HANSEN. How many visitor days do you have there?

Mr. RASMUSSEN. At the present time we project there will be 100,000 visitor days within the next 5-year period.

Mrs. HANSEN. What does the $150,000 do toward meeting the total need?

Mr. RASMUSSEN. This would meet about 30 percent of the need we project.

Mrs. HANSEN. You have a 70-percent balance.

LOWER COLORADO RIVER AREA

What about lower Colorado?

Mr. RASMUSSEN. The lower Colorado is most difficult to compute the total needs.

Mrs. HANSEN. Why?

If you are going to spend money on it, you ought to know what the total needs are.

Mr. RASMUSSEN. Again I would say 2 or 3 percent.

CALIFORNIA DESERT AREA

Mrs. HANSEN. What percent of the needs of the California desert does the $125,000 meet.

Mr. RASMUSSEN. I think again this could not be over 2 percent of the total needs.

HELENA COMPLEX, MONTANA

Mrs. HANSEN. The Helena complex?

Mr. RASMUSSEN. This is on Holter Lake within about 30 miles of Helena, Mont., and it is a very popular skiing, water skiing and fishing resort. The present facilities are insufficient and unsanitary, and poorly organized.

Mrs. HANSEN. What percent of the total will this supply?

Mr. RASMUSSEN. This is about 30 percent.

ORGAN MOUNTAIN, NEW MEXICO

Mrs. HANSEN. Organ Mountain?

Mr. RASMUSSEN. This is located about 25 miles from Las Cruces, N. Mex., and 50 miles north of El Paso.

We have poor sanitary conditions here and damages to the resources so that we had to close part of this area last year. This would be about 20 percent of the total needs there.

Mrs. HANSEN. I can see that in no instance are you supplying more than 30 percent of the needs to safeguard the environment or the people.

Mr. RASMUSSEN. That is correct.

MAINTENANCE OF BUILDINGS

Mrs. HANSEN. $265,000 is requested for maintenance of buildings. Why is this at the same level of funding as in 1970?

Mr. RASMUSSEN. This has been the minimum maintenance on our buildings.

CLEANUP OF ROADSIDE LITTER

Mrs. HANSEN. You have a sentence in the justifications where you say, "There are over 50,000 miles of much-used, much-littered roads. Litter is ugly. It creates unsanitary conditions which can lead to serious land and water pollution problems."

How much of your total need does this fulfill?

Mr. RASMUSSEN. I would estimate on the road that that is about 50 percent.

Mrs. HANSEN. So the other 50 percent of litter is going to stay there?

Mr. RASMUSSEN. Yes.

Mrs. HANSEN. So next year there is going to be 75 percent of the litter that will stay, and so on?

Mr. RASMUSSEN. Yes.

PROGRAM OF BUILDING MAINTENANCE

Mrs. HANSEN. What about your maintenance of buildings?

Mr. BEIRNE. The maintenance is slightly less than would be desirable. But it is not serious.

Mrs. HANSEN. What do you mean it is not serious?

Mr. BEIRNE. We are able, through annual inspection of the buildings, to take care of any of the more important requirements.

Mrs. HANSEN. How many buildings does this encompass?

Mr. BEIRNE. About 900.

Mrs. HANSEN. You don't have the same carpenter as I have, or this wouldn't take care of very much.

Mr. BEIRNE. We use our seasonal crews to take care of quite a bit of this.

Mrs. HANSEN. This isn't going to take care of very many buildings.

Mr. BEIRNE. We grant you that.

Mrs. HANSEN. How do you expect to set a shining example of how land and facilities should be maintained if you don't do a little better than average job?

Mr. BEIRNE. The answer is we can't.

JOHNNY HORIZON PROGRAM

Mrs. HANSEN. $381,000 is requested for cleanup of the undeveloped recreation sites and expansion of Johnny Horizon antilitter campaign.

I would like to commend your bureau for the Johnny Horizon program. I think it is one of the most imaginative and creative programs that you have put into effect. I only hope it can be expanded as the years go on.

Mr. RASMUSSEN. I would certainly hope so. This program has surprised us with its progress, its acceptance, and it is part of the environment that says to people, "This is your land. Let us keep it clean." This is a program that people can do themselves. It is kind of a do-it-yourself program.

Last year, in the final phases of it, we were surprised at how rapidly it spread through the various States and the amount of work that was done. We expect this year it will be quite a greatly enlarged program.

Mrs. HANSEN. What groups are working with you actively?

Mr. RASMUSSEN. The gems and minerals people, California Outdoor Recreation League, Outdoor Writers Association of America, and the General Federation of Club Women to name a few. We have nine Governors who declared countryside cleanup days in their States.

Mrs. HANSEN. Do you think we can get the demonstrators to join up too and carry an antilitter sack?

Mr. RASMUSSEN. It is certainly a source of manpower.

Mrs. HANSEN. I agree. Don't you think it would be very practical?

Mr. RASMUSSEN. I am not sure how practical it would be.

Mrs. HANSEN. How about the Girl Scouts and the Boy Scouts?

Mr. RASMUSSEN. This year there are probably 3.7 million Boy Scouts that will participate on an organized basis as part of their 1971 Boy Scout national good turn effort. The same cooperation exists with the Girl Scouts.

We also have the General Federation of Women's Clubs who have adopted the program as part of its conservation work.

Mrs. HANSEN. Off the record.

(Discussion off the record.)

ROAD MAINTENANCE—LOWER COLORADO RIVER AREA

Mrs. HANSEN. You have an increase of $25,000 for maintenance on primitive recreation use roads in the lower Colorado River area. Can you give us the justification on that and what percent of the total need that represents?

Mr. RASMUSSEN. Again, Madam Chairman, this is only a small percentage of the total need. It is estimated at about 20 percent.

Mrs. HANSEN. Such as?

Mr. RASMUSSEN. In this particular case, it was the maintenance of about 75 miles of heavily used roads.

Mrs. HANSEN. From where to where?

Mr. RASMUSSEN. There are portions of roads that lead to recreation sites or to areas within the lower Colorado River. I would have difficulty identifying each individual one, but we have about 75 miles that need extensive maintenance of this type.

Mrs. HANSEN. Why didn't you include enough in the budget for all the maintenance costs?

Mr. RASMUSSEN. Again, this was within the budget constraints that we are operating under.

Mrs. HANSEN. The Bureau of the Budget?

Mr. RASMUSSEN. Well, I think in this case it was us.

Mrs. HANSEN. The Department of the Interior?

Mr. RASMUSSEN. No, the Bureau. This is what we could fit within the allowance.

Mrs. HANSEN. The Bureau of Land Management?

Mr. RASMUSSEN. Yes.

Mrs. HANSEN. In other words, you don't care about the environment.

Mr. RASMUSSEN. Oh, yes, we do. That is maintenance of roads.

Mrs. HANSEN. Isn't it good to do the whole job?

Mr. RASMUSSEN. Maybe so.

Mrs. HANSEN. Where do you think there is a higher priority? Do you know of any higher priority than the maintenance of the lands owned by the United States being kept in a kind of condition that America can be proud of?

Mr. RASMUSSEN. I will agree on that.

Mrs. HANSEN. It would seem to me important that the roads be maintained.

Mr. HITE. Madam Chairman, I am sure if Mr. Rasmussen weren't operating against the constraint allowance figure, there would be more funds in there.

Mrs. HANSEN. I am trying to discover who is putting in all these restrictions. There is only one way to take care of these activities and that is to provide the necessary funding.

Mr. HITE. That is correct, Madam Chairman. I merely point out that Mr. Rasmussen was forced into an assessment of this.

PUBLIC LANDS DEVELOPMENT ROADS AND TRAILS

Mrs. HANSEN. Please insert in the record the justification pages 46 through 50.

(The pages follow:)

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Public Lands Development Roads and Trails

Contract Authorization and Liquidation Program

	Contract Authority Available	Current Obligations	Net Unpaid Obligations, Prior Year	Total Obligations	Expenditures	Net Unpaid Obligations Carried Forward
			Fiscal Year 1969			
Public Lands Development Roads and Trails (Total).....	$10,894,992	$2,868,561	$1,475,196	$4,343,757	$3,223,068	$1,120,689
			Fiscal Year 1970			
Public Lands Development Roads and Trails (Total).....	13,026,431	2,975,000	1,120,689	4,095,689	3,500,000	595,689
			Fiscal Year 1971			
Public Lands Development Roads and Trails (Total).....	12,640,000	3,837,000	595,689	4,432,689	3,537,000	895,689

PUBLIC LANDS DEVELOPMENT ROADS AND TRAILS

Liquidation of Contract Authorization

Analysis by Activities

Activity	Actual 1969	Estimate 1970	Estimate 1971	Increase or Decrease
Public Lands Development Roads and Trails.....	$3,500,000	$3,500,000	$3,500,000	$ ---

Status of Cash Authorization for Liquidation of Contract Authorization

	1969	1970	1971
Appropriation.....	$3,500,000	$3,500,000	$3,500,000
Unexpended balance brought forward.....	730,188	1,007,120	1,007,120
Total available.....	4,230,188	4,507,120	4,507,120
Less: Expenditures.....	3,223,068	3,500,000[a/]	3,537,000[a/]
Unexpended balance.....	1,007,120	1,007,120	970,120

a/ Estimated

Need for Liquidating Cash: The Public Lands Development Roads and Trails (PLDR&T) Program derives its obligating authority from the contract authority contained in the various Federal Aid Highway Acts; however, an appropriation of liquidating cash is required to make contract payments.

Since the first time that contract authority was provided in the Federal Aid Highway Act of 1962, the cumulative liquidating cash appropriation has been less than the cumulative amount of programmed budget authority. This approach is possible because of the time lag which usually occurs in construction projects between the date of contract obligation and the subsequent date of disbursement of funds to make progress payments under the contract.

The accompanying table shows the relationships among contract authority, the amount of programmed new budget authority (NBA) and the appropriation of liquidating cash.

RECAPITULATION OF PUBLIC LANDS DEVELOPMENT ROADS AND TRAILS STATUS OF NBA AND CASH

Fiscal Year	New Budget Authority Authorized by the Federal Aid Highway Acts (in $1,000's)	Programmed New Budget Authority (in $1,000's)	Liquidating Cash Appropriation (in $1,000's)
1963	2,000	-	-
1964	4,000	2,000	760
1965	2,000	2,500	2,500

RECAPITULATION OF PUBLIC LANDS DEVELOPMENT ROADS AND TRAILS STATUS OF NBA AND CASH (Cont.)

Fiscal Year	New Budget Authority Authorized By the Federal Aid Highway Acts (in $1,000's)	Programmed New Budget Authority (in $1,000's)	Liquidating Cash Appropriation (in $1,000's)
1966	2,000	2,000	2,000
1967	3,000	2,000	2,000
1968	5,000	3,000	2,600
1969	3,500	3,320	3,500
1970	5,000	4,000	3,500
1971	3,000	2,500	3,500
Total	29,500	21,320	20,360

Unprogrammed Contract Authorization at end of FY 1971 - $8,180 thousands
Unfunded Contract Authorization at end of FY 1971 - 9,140 thousands

Planned Use of Contract Authority - FY 1971. The Bureau obligation program will permit road grading of 115 miles, road surfacing of 89 miles, trail construction of 56 miles and construction of 5 bridges. In addition, 60 miles of historically significant trails will be marked and reestablished. The estimate also includes funds to accomplish survey and design for future roads and trails.

An adequate road and trail system is essential to the public use and proper management and protection of 453 million acres of public land administered by the Bureau. Most of the land is presently accessible only by primitive roads and many millions of additional acres are completely inaccessible because of lack of easements across surrounding private lands.

Construction standards vary from single-lane graded dirt roads for fire control to double-lane surfaced roads to meet multiple resource needs and intensive recreation access. The major portion of the existing transportation system consisting of approximately 50,000 miles does not meet present use standards and many can be used only seasonally. To rectify this situation, these roads should be improved or reconstructed to bring them to a design standard consistent with present day usage.

A summary of the programmed authority for FY 1971 by State is as follows:

Alaska	$ 53,000
Arizona	242,000
California	375,000
Colorado	210,000
Idaho	315,000
Montana	185,000

Nevada	$ 478,000
New Mexico	254,000
Oregon	239,000
Utah	402,000
Wyoming	192,000
Survey and Design and Easement Acquisition	892,000
TOTAL	$3,837,000

Personnel Summary

	1969 Actual	1970 Est.	1971 Est.
Total number of permanent positions	67	77	75
Full-time equivalent of other positions	35	33	25
Average number of all employees	113	103	93
Average GS grade	8.7	8.7	8.7
Average GS salary	$9,740	$10,780	$10,780

ITEMIZATION OF ESTIMATE

Public Lands Development Roads and Trails

	Actual 1969	Estimate 1970	Estimate 1971	Increase (+) Decrease (-)
Program and Financing:				
Total obligations.....	$ 2,868,561	$2,975,000	$3,837,000	$+ 862,000
Unobligated balance available start of year.....	-7,394,992	-8,026,431	-10,051,431	-2,025,000
Unobligated balance available end of year.....	8,026,431	10,051,431	9,214,431	- 837,000
Unfunded balance, start of year.....	8,140,000	8,140,000	9,640,000	+1,500,000
Unfunded balance carried forward.....	-8,140,000	-9,640,000	-9,140,000	+ 500,000
Appropriation to liquidate contract authorization.....	3,500,000	3,500,000	3,500,000	---
Obligations by Objects:				
11.0 Personnel compensation.....	1,046,000	952,000	880,000	- 72,000
12.1 Personnel benefits: Civilian employees...	58,000	54,000	47,000	- 7,000
21.0 Travel and transportation of persons	113,000	125,000	125,000	---
22.0 Transportation of things.....	67,000	60,000	60,000	---
23.0 Rent, communications, and utilities.....	10,000	13,000	15,000	+ 2,000
24.0 Printing and reproduction.....	1,000	1,000	1,000	---
25.0 Other services.....	137,561	175,000	175,000	---
26.0 Supplies & Materials.	51,000	50,000	50,000	---
31.0 Equipment.....	26,000	29,000	30,000	1,000
32.0 Lands & structures...	1,359,000	1,516,000	2,454,000	+ 938,000
Total Obligations.....	2,868,561	2,975,000	3,837,000	+ 862,000

UNOBLIGATED AND UNEXPENDED BALANCES

Mrs. HANSEN. Please insert in the record the unobligated and unexpended balances as of June 30, 1969, and January 31, 1970.

(The information follows:)

	June 30, 1969 [1]	Jan. 31, 1970 [2]
Unobligated balance	$859,431	$670,567
Unexpended balance	888,440	1,388,820

[1] Does not include $7,167,000 in budgetary reserve at June 30, 1969.
[2] Does not include $10,051,731 in budgetary reserve at Jan. 31, 1970. Of this amount $1,425,300 was placed in reserve as the result of the administration's 75 percent construction reduction program. $10,000,000 of this amount is available to temporarily cover fire fighting obligations.

FISCAL YEAR 1971 UNEXPENDED BALANCE

Mrs. HANSEN. You indicated an unexpended balance of $970,120 at the end of fiscal year 1971. Is this not an indication your 1971 appropriation can be reduced accordingly?

Mr. BEIRNE. Well, Madam Chairman, this simply indicates that the construction contracts will have been awarded but the payment will not have been required by that time. If they proceed a little more rapidly than we anticipate now, this would be less.

FUNDS IN BUDGETARY RESERVE

Mrs. HANSEN. $5 million of your fiscal 1970 contract authority, and $5 million of your fiscal 1971 contract authority were temporarily released from reserve to cover firefighting costs. What effect, if any, will this have on your roadbuilding program?

PROPOSED FIREFIGHTING COST SUPPLEMENTAL

Mr. BEIRNE. We will be coming before this committee, hopefully in the near future, with a supplemental request for about $24 million covering our firefighting costs. As soon as that bill is enacted, the funds will be restored to this appropriation.

Mrs. HANSEN. You might not have had as extensive firefighting costs if you had taken preventive measures in other budgets. Is this not correct?

Mr. BEIRNE. Correct

Mrs. HANSEN. So you delay until the day approaches when you have to borrow the money from some other program. Isn't that what it amounts to?

Mr. BEIRNE. That is right.

CONTRACT AUTHORITY IN RESERVE

Mrs. HANSEN. How much of your contract authority is currently in reserve?

Mr. BEIRNE. About $10 million.

Mrs. HANSEN. What is that percentagewise?

Mr. BEIRNE. That is about half of the budget for the last 6 years from fiscal 1966.

Mrs. HANSEN. Will you please insert in the record those projects that this would affect?

Mr. BEIRNE. I would be glad to.

Mrs. HANSEN. Also insert in the record the areas, the States, and the number of miles that this would affect.

Mr. BEIRNE. I would be happy to.

(The information follows:)

PROJECTS AFFECTED BY $10,000,000 PUBLIC LANDS DEVELOPMENT ROADS AND TRAILS RESERVE

State and Project	Units (miles)	Project estimate
Alaska:		
White Mountain Trail	W21	$53,000
Pinnell Mountain Trail	W12	350,000
Ketchen Dome Road	G16	288,000
Arizona:		
Haekel Road	G15	239,000
Mormon Trail Marking		2,000
Temple Trail Marking		2,000
Black Rock Road	G9	146,000
Seegmiller Road	G3	30,000
Crystal Hills Road	G6	20,000
California:		
Wildhorse Canyon Road	G12	115,000
Squaw Leap Road	S1	86,000
Squaw Leap Trail	W10	39,000
Squaw Leap Bridge	D1	30,000
Walker Ridge Road	G3	20,000
Butte Creek Trail Bridges	D3	25,000
Forks-of-Butte Road	G3	60,000
Red Mountain Road	G8	120,000
Hauser Mountain Road	G5	64,000
Merced Road	G3	55,000
Merced Trail	W15	50,000
South Yuba-Round Mountain Road	G1	18,000
South Yuba-Round Mountain Trail	W7	90,000
Hupa Mountain Road	G4	60,000
Berryessa Trail	W18	48,000
Rainbow Basin Rim and Nature Trail	W6	36,000
Trona Pinnacles Road	G8	80,000
Caliente Road	G12	140,000
Mixie Flat Road	G18	139,000
Buck Point Road	G2, S2	32,000
Noyes Valley Road	G10	60,000
Colorado:		
Chaffee Gulch Road	G5	10,000
---Do	S5	8,000
Calamity Ridge Road	G20, S23	512,000
Henson Creek Road	G4	280,000
Troublesome Road	G4	100,000
Powderhorn Access Road	S9	76,000
Colorow Mountain Road	G3	6,000
Idaho:		
Herd Creek Road	G14	195,000
Deep Creek Road	S12	120,000
Dempsey Meadows Bridges	D2	30,000
Big Knox-Bull Road	G9	240,000
Shoshone Road	S6	90,000
Salmon Falls Access Road	G1, S1	10,000
Herd Lake Trail	W2	14,000
Montana:		
Cottonwood Road	G7	80,000
Price Creek Road	S12	113,000
Fort Meade Complex Road	G1, S1	15,000
Hell Creek Spur Road	G23	206,000
Dry Fork Road	G22	128,000
Dry Fork Bridge	D1	30,000
Powderhouse Trail	W5	30,000
Fort Meade Trail	W6	27,000
Mariner's Roost Trail	W3	17,000
Ponderosa Road	G4	56,000
Middle 2 Calf Road	G12	102,000
Middle 2 Calf Bridge	D1	40,000
Calypso Jeep Trail	G13	100,000

State and project	Units (miles)	Project estimate
Nevada:		
Little Owyhee Road	S23	$175,000
Red Rock Road	G5	206,000
Red Rock Trail	W7	102,000
North Creek Road	S5	20,000
Mahogany Basin Bridge	D1	42,000
Sawmill Canyon Road	G3	22,000
Wheeler Pass Road	G18	278,000
Wildhorse Reservoir Road	G4, S4	49,000
Wildhorse Reservoir Bridge	D1	25,000
New Mexico:		
Pine Tree Trail	W4	26,000
Baylor Pass Trail	W5	33,000
Santa Cruz Trail	W3	22,000
Datil Well Road	S2	13,000
Ignacio Chavez Road	S7	23,000
Quebradas Road	G4	67,000
Dona Ana Road	G7	70,000
Datil Trail	W3	15,000
San Antonio Mountain Road	G3, S3	25,000
Rio Grande Gorge Trail	W3	25,000
Oregon:		
Owyhee Access Road	G1, S1	46,000
Deschutes River Road	G10, S11	235,000
Deschutes River Trail	W6	35,000
Chimney Rock Bridge	D1	77,000
Star Valley Road	G22	229,000
Owyhee B Trail	W10	50,000
Leslie Gulch Road	G14	153,000
Beaty's Butte Road	G19	144,000
Rock Creek Road	G12	110,000
Utah:		
Hatch Point Road	G17, S17	402,000
Little Sahara Road	G6, S7	126,000
Upper Zion Narrows Trail	W4	10,000
Sawmill Basin Road	G7	144,000
Half-Way Fairview Road	G7	51,000
Little Hole Trail	W4	10,000
Wyoming:		
Boulder Creek Road	G3, S3	44,000
Muddy Mountain Loop Road	G1	24,000
Miners Delight Road	G4	124,000
Little Mountain Road	G5, S5	51,000
Emigrant Trail Marking		4,000
Platte River Trail	W3	15,000
Construction total		8,454,000
Survey and design, easement acquisition		1,546,000
Total PLDR&T		10,000,000

Units symbols: G—Road construction; S—Road surfacing; W—Trail construction; and D—Bridge construction.

ROAD CONSTRUCTION PROJECT WORK PROCEDURES

Mrs. HANSEN. Briefly describe for the committee how your road construction work is performed. How much of it is done by the Bureau of Public Roads and what is the procedure you follow for awarding contracts for road construction, if and when you ever get them out of the deep freeze?

Mr. RASMUSSEN. In western Oregon, in connection with the management of the O. & C. lands, Coos Bay wagon road lands and the public domain, the road construction work and the maintenance is accomplished by the Bureau of Public Roads. In eastern Oregon and other public domain areas, the roads are designed, specifications are prepared and advertised by our people. After the project is awarded we supervise the construction.

MILES OF BLM ROADS

Mrs. HANSEN. Will you please insert in the record how many miles of public domain roads you have and how many miles of O. & C. roads you have?

(The information follows:)

The Bureau's developed road system presently consists of 47,749 miles of road on the public domain lands, and 5,069 miles of road on the O. & C. lands.

OREGON AND CALIFORNIA GRANT LANDS

Mrs. HANSEN. Please insert the justification pages 51 through 65.

(The pages follow:)

DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT

Oregon and California Grant Lands

Appropriation, 1970		$16,000,000
Unobligated balance from prior years (included in this unobligated balance is $1,124,103 for Forest Service)		9,654,091
Total available for obligation		25,654,091
Decreases:		
Construction and acquisition (included in this decrease is $2,994,683 for Forest Service)	$19,162,626	
Forest development, protection, and management (includes $79,420 for Forest Service)	4,702,047	
Operation and maintenance	1,764,756	
Emergency road repair	24,662	
Subtotal		25,654,091
Increases:		
Construction and acquisition (included in this increase is $3,296,683 for Forest Service)	16,897,626	
Forest development, protection, and management (includes $119,120 for Forest Service)	5,282,047	
Operation and maintenance	2,264,756	
Total available for obligation		24,444,429
Less: Unobligated balance from prior years		6,444,429
Budget estimate, 1971		18,000,000

OREGON AND CALIFORNIA GRANT LANDS

Analysis by Activities

	Amount available 1970	Fiscal Year 1971			Total available 1971 compared to total available 1970	Page ref.
		Estimated total available	Unobligated balance from prior years	Budget estimate		
1. Construction and acquisition.....	$19,162,626	$16,897,626	$-6,210,626	$10,687,000	$-2,265,000	53
2. Forest development protection & mgmt.	4,702,047	5,282,047	- 19,047	5,263,000	+ 580,000	61
3. Operation and maintenance.....	1,764,756	2,264,756	- 214,756	2,050,000	+ 500,000	63
4. Emergency road repair and reconstruction.....	24,662	---	---	---	- 24,662	---
Total.....	$25,654,091	$24,444,429	$-6,444,429	$18,000,000	$-1,209,662	

JUSTIFICATION

Appropriation Title

Oregon and California Grant Lands $18,000,000

Under this title an amount equal to 25% of the gross receipts from sales of timber and other products on the revested Oregon and California Railroad Grant Lands is appropriated for the construction, acquisition, operation, and maintenance of access roads and other improvements and for forest management, reforestation and protection of the BLM administered lands in Western Oregon.

As a result of increased O&C timber sale prices during the last half of FY 1969, the estimated FY 1970 new budget authority has been increased from that presented in last year's budget. Forest management and development was increased to provide additional sale volume in FY 1970 to help alleviate an acute national timber shortage. The comparison of the FY 1970 budget authority between the current and last year's estimates is summarized below:

ACTIVITY/SUB-ACTIVITY	ORIGINAL FY 1970 NBA ESTIMATE	CURRENT FY 1970 NBA ESTIMATE	INCREASE +
Construction & Acquisition			
(a) Access Roads	8,712,000	9,387,000	+675,000
1. BLM	(7,215,000)	(7,760,000)	(+545,000)
2. Forest Service	(1,497,000)	(1,627,000)	(+130,000)
(b) Recreation Facilities	525,000	700,000	+175,000
1. BLM	(385,000)	(440,000)	(+ 55,000)
2. Forest Service	(140,000)	(260,000)	(+120,000)
Forest Development, Protection & Management			
(a) Forest Protection	800,000	900,000	+100,000
(b) Forest Development	1,303,000	1,393,000	+ 90,000
1. BLM	(1,240,000)	(1,330,000)	(+ 90,000)
2. Forest Service	(63,000)	(63,000)	(-0-)
(c) Forest Management	910,000	2,120,000	+1,210,000
Operation and Maintenance			
(a) Roads	1,300,000	1,300,000	-0-
(b) Recreation Facilities	200,000	200,000	-0-
Total:	13,750,000	16,000,000	+2,250,000

The estimate for FY 1971 for this appropriation is $18,000,000, an increase of $2,000,000 over FY 1970, exclusive of carryover funds. This increase requires thirteen (13) additional positions for work programmed by the Bureau of Land Management.

1. Construction and Acquisition $10,687,000

The FY 1971 estimate of $10,687,000 is an increase of $600,000 over FY 1970 exclusive of carryover funds. The program is for construction of access roads and recreation facilities in Western Oregon.

The analysis of new budget authority, total availability, and the obligation program follow in tabular form on the following page.

1. Construction and Acquisition Activity - Analysis of FY 1970 and FY 1971 Funding by Subactivity and Agency

Subactivity and Agency	FY 1970 NBA Estimate	Deferred FY 1970 NBA	FY 1969 Carryover Funds Available in FY 1970	FY 1970 Obligation Program	FY 1971 NBA Estimate	FY 1970 NBA Deferred to FY 1971	FY 1971 NBA Deferred To Future Years	FY 1971 Obligation Program	Change in NBA FY 1970 to FY 1971
(a) Access Roads									
1. Bureau of Land Management	$ 7,760,000	$-4,946,799	$+7,946,799	$10,760,000	$ 7,670,000	$+4,946,799	$ -946,799	$11,670,000	$- 90,000
2. Forest Service	1,627,000	-675,062	+1,060,062	2,012,000	1,997,000	+675,062	-615,062	2,057,000	+370,000
Subactivity Total	9,387,000	-5,621,861	+9,006,861	12,772,000	9,667,000	+5,621,861	-1,561,861	13,727,000	+280,000
(b) Recreation Facilities									
1. Bureau of Land Management	440,000	-364,144	+21,144	97,000	620,000	+364,144	-21,144	963,000	+180,000
2. Forest Service	260,000	-224,621	+47,621	83,000	400,000	+224,621	-47,621	577,000	+140,000
Subactivity Total	700,000	-588,765	+68,765	180,000	1,020,000	+588,765	-68,765	1,540,000	+320,000
Activity Total	10,087,000	-6,210,626	+9,075,626	12,952,000	10,687,000	+6,210,626	-1,630,626	15,267,000	+600,000

(a) Access Roads - $9,667,000

The amount of $9,667,000 includes $1,997,000 for the Forest Service. The BLM amount of $7,670,000 is a decrease of $90,000 compared to the amount available for 1970 exclusive of carryover funds. In addition, $4,000,000 will be programmed from available FY 1970 authority carried forward, for a total program of $11,670,000. These funds will be used for survey and design, rights-of-way agreements, and acquisition of easements as well as construction, improvement, and acquisition of roads and bridges in support of the management of the O&C revested lands in western Oregon.

The access road system must be planned sufficiently ahead of actual sales to provide access to undeveloped areas of mature, over-mature, decadent, and scattered salvage timber stands to insure a well-balanced schedule of timber harvest. Access affords bidding opportunities to all prospective timber buyers.

During FY 1971 the BLM portion is planned at 50 miles of surfacing and 48 miles of grading, rock production for road repair and surfacing and construction of bridges and culverts.

The Forest Service road construction amount of $1,997,000, is an increase of $370,000 over FY 1970 exclusive of carryover. In addition, $60,000 in deferred FY 1970 projects will be programmed for a total program of $2,057,000.

(b) Recreation Construction - $1,020,000

The estimate includes $620,000 for BLM recreation construction, an increase of $180,000 over the amount available for 1970, exclusive of carryover funds. In addition, $343,000 in deferred FY 1970 projects will be programmed making a total program of $963,000. The Forest Service recreation construction amount is $400,000 an increase of $140,000 over FY 1970 exclusive of carryover. In addition, $177,000 in deferred FY 1970 projects will be programmed for a total program of $577,000.

Access roads have opened many previously remote areas with high recreational value. Increasing use of these areas by the public creates fire and pollution hazards which endanger both the resources and the using public. The program attempts to minimize or eliminate these hazards by providing potable water and sanitary picnic and camping facilities in carefully selected areas.

Analysis indicates that western Oregon will have a facility supply deficit of 260,000 OTU's (one-time-use) capacity by 1974. Approximately 50,000 additional OTU's of camping and picnicking capacity will be needed to meet the recreation demands of 1974. State, counties and other federal agencies are developing facilities to help meet this demand. The FY 1971 program will provide access to a stream side area with high recreation value. It will also provide 85 family units providing 383 OTU's of developed capacity at two other prime sites within a few hours reach of the most populated regions in Oregon. These facilities are primarily oriented toward camping and picnicking use but also recognize the demand pull of water bodies and their associated outdoor activities.

Details of the construction and acquisition program are shown in the following tables:

OREGON AND CALIFORNIA GRANT LANDS
Fiscal Year 1970 Program
Construction and Acquisition

Availability:		
Unobligated balance as of 6/30/69, brought forward (included in this unobligated balance is $1,107,683 for Forest Service)		$ 9,075,626
Estimated warranted authorization, FY 1970		10,087,000
Less: Unobligated balance, end of year FY 1970		6,210,626
Available for 1970 Program		12,952,000
Utilization:		
Bureau of Land Management:		
Planning, reconnaissance	$ 500,000	
Acquisition	1,140,000	
Recreation construction	97,000	
		1,737,000
Federal Highway Administration:		
Surveys	300,000	
Road construction	8,820,000	
		9,120,000
Forest Service:		
Construction or roads	2,012,000	
Recreation construction	83,000	
		2,095,000
		$12,952,000

DETAIL OF ROAD CONSTRUCTION PROGRAM, BLM LANDS, FY 1970

Road System	Project Name	Miles	Type	Cost Est.
Crabtree	N. Fk. Alsea	7	Gr. & Surf.	$ 700,000
Nestucca	Nestucca River Road	1	Gr. & Surf.	50,000
McKenzie	Martin Ridge	8	Gr. & Surf.	600,000
Molalla	Table Rock	8	Gr. & Surf.	750,000
Lake Creek	Greenleaf Creek Road	3	Surfacing	180,000
Rock Creek	Rock Creek	5	Surfacing	325,000
Cow Creek	Boulder Creek Road	8	Surfacing	400,000
Cow Creek	Union Creek Road	4	Surfacing	200,000
Grave Creek	Grave Creek	15	Surfacing	375,000
Applegate	Round Top	6	Grading	300,000
Glendale	W. Fork Cow Creek	2	Gr. & Widening	50,000
Glendale	Bobby Creek Road	5	Gr. & Surf. - Brg.	450,000
Glendale	Dad's Creek Road	1	Gr., Surf. & Brg.	150,000
Elk Creek	Elk Mtn. Loop	4	Gr. & Surf.	400,000
Elk Creek	Chalmer Ridge	5	Gr. & Surf.	900,000
Elk Creek	Elk Creek "B"	4	Surfacing	201,000
Elk Creek	Elk Creek "C"	6	Gr. & Surf.	490,000
N. Fk. Coquille	No. Fk. Coquille	2	Gr. & Surf.	200,000
South Remote	South Remote	2	Surfacing	190,000
		96		
Rock Production				1,506,000
Bridges & Culverts				403,000
Total Road Construction Program, BLM Lands				8,820,000
Road and Easement Acquisition				1,140,000
Survey and Design				300,000
Planning and Reconnaissance				500,000
Total, FY 1970 Obligation Program (includes carryover funds)				10,760,000

OREGON AND CALIFORNIA GRANT LANDS
Fiscal Year 1971 Program
Construction and Acquisition

Availability:

Unobligated balance, beginning of FY 1971	$ 6,210,626
Estimated warranted authorization, FY 1971	10,687,000
Less: Unobligated balance, end of FY 1971	1,630,626
Available for FY 1971 program	$15,267,000

Utilization:

Bureau of Land Management:		
Planning, reconnaissance	$ 500,000	
Acquisition	858,000	
Recreation construction	963,000	
		2,321,000
Federal Highway Administration:		
Surveys	300,000	
Construction of roads	10,012,000	
		10,312,000
Forest Service:		
Construction of roads	2,057,000	
Recreation construction	577,000	
		2,634,000
Total 1971 program		$15,267,000

DETAIL OF ROAD CONSTRUCTION PROGRAM, BLM LANDS, FY 1971

Road System	Project Name	Miles	Type	Cost Est.
Crabtree	North Shore	6	Gr. & Surf.	$ 700,000
Mohawk	Bowley Creek	2	Gr. & Surf.	150,000
McKenzie	Bear Creek	6	Gr. & Surf.	390,000
McKenzie	Johnson Creek	5	Grading	250,000
McKenzie	Horn Butte	6	Grading	240,000
Galice	Galice Creek	10	Gr. & Surf.	3,700,000
Galice	Galice Creek	2	Recon. & Surf.	250,000
Lake Creek	Deadrock Creek	3	Grading	150,000
Galice	County Line	9	Surfacing	280,000
Rock Creek	Bob Butte	1	Gr. Brg. & Surf.	160,000
Galice	Long Gulch	9	Surfacing	345,000
Glendale	Cow Creek "D"	8	Brg. & Recon.	325,000
Glendale	Hungry Hill	9	Grading	425,000
Sitkum	Weaver Road	5	Surfacing	300,000
		81		

Rock Production	$ 1,701,000
Bridges and Culverts	646,000
Total Road Construction Program, BLM Lands	10,012,000
Road and Easement Acquisition	858,000
Survey and Design	300,000
Planning and Reconnaissance	500,000
Total, FY 1971 Obligation Program (includes carryover funds)	$11,670,000

41-447 O - 70 - pt. 1 -- 21

DETAIL OF RECREATION CONSTRUCTION PROGRAM, BLM LANDS, FY 1971
FY 1971 NEW BUDGET AUTHORITY

Project	County	FY 1971 Cost Est.	FY 1971 Fam. Unit	Output Vis. Da.	Potential Cost Est.	Family Units
Alsea	Benton	$166,000	35	80,000	$166,000	35
Shotgun	Lane	225,000	50	94,000	$251,000	60
Swiftwater (Bob Butte)	Douglas	120,000	-- a/	15,000	$361,000	225
		$511,000				

The remainder of the program, $109,000, will provide for survey and design, recreation inventory and analyses and coordination and planning for future recreational demands in western Oregon.

a/ FY 1971 Development consists of access construction to Swiftwater site and provisions for minimum sanitation. Full site development is planned to follow in the next fiscal year.

FY 1970 DEFERRED PROJECTS TO BE CONSTRUCTED IN FY 1971

Project	County	FY 1971 Cost Estimate	FY 1971 Family Units
Wildwood	Clackamas	$342,000	90

2. Forest Development, Protection, and Management - Analysis of FY 1970 and FY 1971 Funding by Subactivity and Agency

Subactivity	FY 1970 NBA Estimate	FY 1969 Carryover Funds Used in FY 1970 Program	FY 1970 Obligation Program	FY 1971 NBA Estimate	FY 1970 Carryover Funds Used in FY 1971 Program	FY 1971 Obligation Program	Change in NBA FY 1970 To FY 1971
(a) Forest Protection (All Bureau of Land Management).....	$ 900,000	$ 86,000	$ 986,000	$ 950,000	---	$ 950,000	+$ 50,000
(b) Forest Development.	1,393,000	---	1,393,000	1,933,000		1,933,000	+ 540,000
1. Bureau of Land Management.....	(1,330,000)		(1,330,000)	(1,830,000)	---	(1,830,000)	(500,000)
2. Forest Service....	(63,000)		(63,000)	(103,000)	---	(103,000)	(40,000)
(c) Forest Management (All Bureau of Land Management).....	2,120,000	184,000	2,304,000	2,380,000	---	2,380,000	+ 260,000
Total.....	4,413,000	270,000	4,683,000	5,263,000	---	5,263,000	+ 850,000

3. Operation and Maintenance - Analysis of FY 1970 and FY 1971 Funding by Subactivity

Subactivity	FY 1970 NBA Estimate	FY 1969 Carryover Funds Used in FY 1970 Program	FY 1970 Obligation Program	FY 1971 NBA Estimate	FY 1970 Carryover Funds Used in FY 1971 Program	FY 1971 Obligation Program	Change in NBA FY 1970 To FY 1971
(a) Roads.....	$ 1,300,000	$ ---	$ 1,300,000	$ 1,800,000	---	$ 1,800,000	+$ 500,000
(b) Recreation Facilities.....	200,000	50,000	250,000	250,000	---	250,000	+ 50,000
Total.....	1,500,000	50,000	1,550,000	2,050,000	---	2,050,000	+ 550,000

(2) Forest Development, Protection and Management $5,263,000

As a result of increased receipts from O&C timber sales during the last half of FY 1969, the estimated FY 1970 new budget authority of $3,013,000 for this activity as shown in last year's budget has been revised to $4,413,000. The FY 1971 availability estimates are computed from the adjusted FY 1970 base.

(a) Forest Protection - $950,000

The estimate of $950,000 is an increase of $50,000 over the FY 1970 revised amount exclusive of carryover funds. BLM contracts for fire protection on approximately 2.4 million acres of O&C and public domain forest lands in western Oregon. These contracts are negotiated with the State of Oregon, the Forest Service and Clackamas County on a rate per acre which reflects each agency's costs for fire suppression and fire prevention in past years. State of Oregon costs are scheduled to increase in FY 1970 because of state personnel salary increases. Cost increases can also be expected with Forest Service and County fire protection operations. These operating costs will be reflected in FY 1971 protection contracts. The Bureau will also continue to contribute to pre-suppression and control measures through the removal of snags, slash disposal, fire-break construction, fire law enforcement and fire investigations on Bureau administered lands.

(b) Forest Development - $1,933,000

The estimate of $1,933,000 represents an increase of $540,000 over the revised FY 1970 amount of $1,393,000. BLM programs account for $500,000 of this increase with the balance of $40,000 attributable to Forest Service development work.

The BLM increase will be used to intensify forest development practices to insure maximum timber production. These practices will include:

(1) $320,000 for 7,000 acres of pre-commercial thinning. In this program the removal of trees from immature, overstocked stands will give the residual trees more room for growth and development. This will produce commercial sized timber in a shorter period of time with more useable wood volume than would otherwise be realized.

(2) $57,000 for site preparation and reforestation. Special reforestation efforts are required on difficult to treat, hardcore backlog areas covering an estimated 30,000 acres of commercial forest land. These non-stocked or poorly stocked areas require pre-treatment surveys to determine current site conditions which will provide the basis for selecting the best rehabilitation methods. The increase includes $5,000 for plans and surveys with an additional $52,000 for site preparation and reforestation on about 900 acres. With successful site treatment and re-stocking, these lands will contribute to the future O&C timber base.

(3) $88,000 to continue the search for genetically superior "plus" trees and to continue the development of the two major BLM seed orchards. Cuttings from "plus" trees are taken from carefully selected forest trees and grafted to planted root stock at the seed orchard. These cuttings mature quickly on their root stock and produce genetically superior seed for future reforestation work. The progency from these superior trees grow faster, exhibit better form and produce quality wood in a shorter period of time.

(4) $35,000 for stand conversion work. Stands of sub-commercial species, often found on some of the best forest lands, occupy sites which can be better utilized for the production of faster growing, higher valued coniferous trees. The existing stands will be removed, by timber sale when possible, and converted to a more desirable species composition.

In addition to the proposed $500,000 increase, a total of eight new positions are required to conduct the necessary surveys, to layout, prepare and administer forest development contracts, and to provide technical help in seed orchard work.

Forest Service

The Forest Service program of $103,000 is included in the Forest Development total of $1,933,000. The FY 1971 program is an increase of $40,000 from FY 1970. The funds are used for reforestation and stand improvement work on O&C lands under Forest Service jurisdiction.

(c) Forest Management - $2,380,000

The estimate of $2,380,000 is an increase of $260,000 over the amount available in FY 1970 exclusive of carryover funds. The original FY 1970 amount as shown in last year's budget was revised so as to provide more sale volume in FY 1970 to help alleviate an acute national timber shortage. The increase is necessary to maintain a level forestry program in a situation of rising management costs.

The program when combined with Forest Management, western Oregon in the Management of Lands and Resources Appropriation, provides for the layout, measurement, appraisal, sale and administration of the total available cut in western Oregon. This cut is determined from periodic inventories and the principles of sustained yield timber harvest.

3. Operation and Maintenance $2,050,000

The amount of $2,050,000 is an increase of $550,000 over the amount available for FY 1970, exclusive of carryover funds. It is to provide adequate maintenance of access roads and recreation facilities on Bureau lands in western Oregon.

(a) Roads - $1,800,000

The amount of $1,800,000 is an increase of $500,000 over FY 1970 availability exclusive of carryover funds. The total amount coupled with contributed maintenance funds will provide maintenance for some 6,200 miles of timber access roads. Approximately 450 to 500 miles of new road are built annually to develop timber and other resources. These roads must be kept in usable condition to insure an even flow of logs to the mills, particularly during the rainy season when inadequately maintained roads rapidly deteriorate. Washouts are costly both in repair and in the economic loss suffered by the mill operator and the logger.

The increase of $500,000 will allow accomplishment of an additional 100 miles of preventive maintenance, 10 miles of road surface improvement, and 8 miles of road reconstruction (corrective maintenance).

(b) Recreation Facilities - $250,000

An amount of $250,000 is an increase of $50,000 over the amount available in FY 1970 exclusive of carryover funds. The O&C areas are near population centers and are receiving more recreation use each year. Visitor days at western Oregon recreational facilities increased 30% in FY 1969; this trend is expected to continue throughout the 1970 decade. This increasing demand comes largely from the metropolitan areas of California and other surrounding states as well as additional pressure from in-state residents.

Heavy use increases the maintenance effort. This program provides adequate services such as disposing of garbage, servicing sanitation facilities, keeping drinking water safe and general repair and maintenance of facilities.

Of the total $50,000 increase, $16,000 will be used to maintain new recreation facilities to be completed in FY 1970 and the remaining $34,000 will be used to meet the increasing pressures at established day use and overnight sites.

Personnel Summary

Bureau of Land Management	1969 Actual	1970 Estimate	1971 Estimate
Total number of permanent positions	176	298	311
Full-time equivalent of other positions	21	56	58
Average number of all employees	209	345	359
Average GS grade	8.7	8.7	8.7
Average GS salary	$9,740	$10,780	$10,780
Average salary of ungraded positions	$7,645	$ 8,256	$ 8,256

Allocation Accounts	1969 Actual	1970 Estimate	1971 Estimate
Total number of permanent positions	128	130	128
Full-time equivalent of other positions	24	26	26
Average number of all employees	129	132	132
Average GS grade	7.9	8.0	8.0
Average GS salary	$9,095	$10,106	$10,106
Average salary of ungraded positions	$7,451	$ 7,716	$ 7,716

ITEMIZATION OF ESTIMATE

Oregon and California Grant Lands (receipt limitation)

	Actual 1969	Estimate 1970	Estimate 1971	Increase (+) Decrease (-)
Program and Financing:				
Total obligations.....	$10,697,958	$19,209,662	$22,580,000	$+3,370,338
Unobligated balance available, start of year.....	-1,634,129	- 9,654,091	- 6,444,429	+3,209,662
Unobligated balance available, end of year.....	9,654,091	6,444,429	1,864,429	-4,580,000
Appropriation.....	18,717,920	16,000,000	18,000,000	+2,000,000
Obligations by Objects:				
11.0 Personnel compensation.....	3,106,000	4,722,000	4,809,000	+ 87,000
12.1 Personnel benefits: Civilian employees.....	190,000	288,000	301,000	+ 13,000
21.0 Travel and transportation of persons.....	245,000	486,000	491,000	+ 5,000
22.0 Transportation of things.....	235,000	238,000	238,000	---
23.0 Rent, communications, and utilities.....	82,000	96,000	96,000	---
24.0 Printing and reproduction.....	8,000	9,000	9,000	---
25.0 Other services....	2,607,958	2,634,662	2,774,000	+ 139,338
26.0 Supplies and materials.....	497,000	573,000	573,000	---
31.0 Equipment.....	16,000	38,000	38,000	---
32.0 Lands and structures.....	3,971,000	10,125,000	13,251,000	+3,126,000
42.0 Insurance claims and indemnities...	---	---	---	---
Subtotal.....	10,957,958	19,209,662	22,580,000	+3,370,338
Portion of foregoing obligations originally charged to Object 32.....	-260,000	---	---	---
Total obligations.....	10,697,958	19,209,662	22,580,000	+3,370,338

UNOBLIGATED BALANCES OF C&C FUNDS

Mrs. HANSEN. You had $9 million carryover funds from 1969 to 1970; you have programed $6.2 million carryover funds from 1970 to 1971; and apparently, you estimate $1.6 million of the 1971 new budget authority will be deferred to future years. Please explain for the committee why these large amounts of carryover funds should occur each year.

Mr. BEIRNE. These have been largely roads that in the past have been deferred to stay within budgetary limitations.

Mrs. HANSEN. Why have they been deferred? Isn't this a part of the entire timber management picture?

Mr. BEIRNE. That is correct.

Mrs. HANSEN. Well, why would you defer them?

Mr. BEIRNE. The items you refer to on page 54 are road and recreation construction. This was the result of an increase of receipts for 1969. It was much more than we had anticipated, and we do not obligate the money until we know what the receipts are going to be. It is difficult when firm figures are not known until late in the fiscal year.

Mrs. HANSEN. Are you going to obligate them now?

Mr. BEIRNE. We are going to obligate them, yes; by as much as we can.

Mrs. HANSEN. What do you mean by as much as you can?

Mr. BEIRNE. We anticipate that we will have unobligated at the end of fiscal year 1971 for the total O. & C. appropriation of about $1,800,000. This represents largely the receipts in the final quarter of fiscal year 1970, which will be carried into 1971. And then the last quarter of 1971 carries over into 1972, because we can't make the adjustment until after the close of the fiscal year.

Mrs. HANSEN. Do you wish to ask a question, Mr. Reifel?

Mr. REIFEL. I will wait, Madam Chairman.

Mrs. HANSEN. Mr. Wyatt?

O. & C. EXPENDITURES FOR TIMBER MANAGEMENT

Mr. WYATT. For the record, Mr. Rasmussen, has there been any change in the proportion of the O. & C. expenditures that have been devoted to timber management as compared to previous years?

Mr. RASMUSSEN. In this budget we have, back in forest development and management, an additional $540,000 to accelerate the management practices in the O. & C. area. That is shown on page 62.

Mr. WYATT. Is it fair to say that your percentage of expenditures of the O. & C. funds by the various categories is substantially the same as it has been in the past?

Mr. RASMUSSEN. It is substantially the same. In the 25 percent funds there is an increase, and this $540,000 is a part of that increase. In addition, there are additional expenditures for construction and maintenance of roads and recreation sites, and forest protection and management.

Mr. WYATT. You have had excess income because of the big surge in prices in early 1969. In projecting this increase, have these funds been projected on approximately the same basis as other O. & C. funds have been in the past?

Mr. RASMUSSEN. Yes, they have.

Mr. WYATT. In other words, I would be concerned if there was a disproportionate amount of the surplus that was devoted to any particular use with a lessening proportion in any other use. That would be my concern.

Madam Chairman, I have no more questions.

ACREAGE AND TIMBER PRODUCTION—O. & C. COUNTIES

Mrs. HANSEN. I think it might be well for you to insert in the record the names of the O. & C. counties, the number of acres in each county, and the amount of their timber production. I think there are individuals who do not realize how much of the economy is related to good management and the economic well being of these O. & C. counties.

Mr. RASMUSSEN. We will be glad to insert that.

(The information follows:)

ACREAGE OF COMMERCIAL FOREST LAND BY COUNTY AND THE RELATIVE TIMBER PRODUCTION AS MEASURED BY ANNUAL SALES FOR FISCAL YEAR 1969

O. & C. county	BLM acres of commercial forest land	1969 fiscal year volume sold (thousand board feet)
Benton	55,248	46,962.5
Clackamas	59,311	22,297.3
Columbia	10,638	0
Coos	145,271	117,642.4
Curry	59,271	41,976.5
Douglas	620,557	386,980.1
Jackson	292,173	88,195.0
Josephine	246,342	42,060.6
Klamath	71,579	10,217.5
Lane	287,015	159,141.4
Lincoln	24,110	15,168.0
Linn	87,229	74,023.9
Marion	20,484	7,487.5
Multnomah	4,979	0
Polk	40,690	25,844.6
Tillamook	49,839	30,834.5
Washington	16,019	31.2
Yamhill	42,369	27,729.1
Total	2,133,124	1,096,592.1

Note: In the way of explanation, the summations by county reflect extrapolated data from 1959 forest inventory records. These records in most instances are for forest management units which overlap 1 or more counties. Consequently, the data by county may be subject to error. In the next several months data from a recently completed reinventory of forested western Oregon lands will provide more accurate statistics for both volume and area estimates. The tabulations do not reflect the O. & C. lands under the administration of the Department of Agriculture.

O. & C. STATUTE ON TIMBER SALE RECEIPTS

Mr. WYATT. Madam Chairman, before we finally leave this subject if I may, I would like to make this statement for the record.

Again, I appreciate Mr. Rasmussen's position and the Assistant Secretary's position and the Secretary's position, but I have said this before when the Secretary was here and I want to say it now at this point in the record. There is a statute setting up the distribution of the moneys from the timber sales. This statute was passed by Congress. It is still on the books.

O. & C. APPROPRIATION LANGUAGE

Last year the Bureau of the Budget forced you to try to start piecemeal repealing the statute by appropriation language in the appropria-

tions bill, a completely improper procedure. Any Member of the House or the Senate could raise a point of order and object to it. This was known by the Bureau of the Budget. This committee voted unanimously to remove this language and to object to the legislation by the Bureau of the Budget to repeal an existing statute on the books. The Senate Interior Appropriations Committee did the same thing. It was defeated on both sides.

PROPOSED BILL TO CHANGE O. & C. FORMULA

Yet I was absolutely appalled to find Interior going back at it all over again in this coming year. I personally went over and talked to some of the resource people in the Bureau of the Budget, and I was advised by them that the only thing that had changed was that Senator Proxmire had introduced a bill to change the formula, and I asked them if they were trying to tell me, that everything else being equal, that they were again resolving to repeal an existing statute on the basis that one Member of Congress out of 535 had introduced a bill and they were then assuming first that the administration would report favorably on this bill, and second, they were assuming that this bill would become law, passed by both Houses of Congress. They said, well yes, this is the situation.

I was assured by higher officials in the Bureau of the Budget that the reason it was back in was simply because of the horrible financial crunch, and they were just searching for money everywhere they could. But I still feel that there are some people in your organization—not you, Mr. Director, I understand this perfectly—but I think there are some people within your organization, and certainly there are within the Bureau of the Budget, who are determined to ignore the will of Congress very frequently, and openly expressed.

Mrs. HANSEN. Mr. Wyatt, I am convinced the Bureau of the Budget could care less whether the Congress exists or continues to exist. The Bureau of the Budget considers themselves the fourth branch of the Government.

Mr. WYATT. I couldn't agree with the chairman more. I think this particular exercise they have been engaged in now for 2 years in a row is probably the most beautiful example of their ignoring Congressional will and trying to legislate themselves that we have.

So I just want to say again for the record that I am looking for people who are trying to push to completely ignore the will of Congress on this thing, and I would appreciate your help. I think we have had your help in the past, to try to see that the formula is maintained until such time as there are hearings on specific legislation where the matter can be decided on the merits.

I will say further that there is a very strong case that can be made to sustain the proposition that these lands are held by the Federal Government in trust for the people of the State of Oregon for these 18 western Oregon counties. The legislative history shows it. The lands were revested at the request of the State of Oregon. They were not revested at the request of the Federal Government.

RESTRAINT ON O. & C. FUNDS

Mr. RASMUSSEN. Madam Chairman, I would like to make a comment on Mr. Wyatt's remarks.

First of all, the Bureau did not recommend any restraint on the O. & C. funds. Nor do I believe there is anyone in the Bureau who is making such an effort. Our recommendations were supported by the Department, that there not be any constraint.

So I cannot go along with the statement that there might be somebody in the Bureau who was trying to do what you said, because the Bureau did not recommend this. Neither did the Department.

Mr. WYATT. Mr. Director, I am encouraged by what you say.

Mrs. HANSEN. We know where the difficulty lies.

Mr. WYATT. I certainly accept it at face value, and I hope it stays that way.

CONSTRUCTION CUTBACKS

Mrs. HANSEN. We have no illusions. The Bureau of the Budget probably considers that the greatest indoor sport of the winter is sparring with the Appropriations Committees. Many of the items put in reserve were projects sponsored by this committee.

RANGE IMPROVEMENTS

We will insert justification pages 66 and 67.

(The pages follow:)

JUSTIFICATION

Range Improvements $1,841,000

Appropriation 1969	Appropriation 1970	Estimate 1971	Increase (+) Decrease (-)
$1,459,724	$1,769,000	$1,841,000	$72,000

Range Improvements, an annual, indefinite appropriation, is derived from the Range Improvement Fund established by law (43 U.S.C. 315). Included also are receipts from Bankhead-Jones Farm Tenant Act lands transferred from the Department of Agriculture by various Executive Orders. The increase results from the increase in grazing fees for the grazing year beginning on March 1, 1969, a portion of which is designated in the Act as the Range Improvement Fee.

The objective of this program is to support range management on deteriorated and declining range lands to restore and sustain forage production and complement the watershed treatment and wildlife habitat improvement programs. Lands valuable for forage production are usually also valuable upland watersheds and important wildlife winter ranges or habitat areas.

Program of Work: In FY 1971, the program of work includes the construction of 560 miles of fence and 386 water developments. These added improvements will aid implementation of development plans for lands which are important for forage production, as watersheds, and as wildlife habitat. Land improvements resulting from this increase will provide additional forage for livestock and wildlife. Continued effort is planned for maintenance of the existing range improvements.

Personnel Summary

	1969 actual	1970 estimate	1971 estimate
Total number of permanent positions	47	47	47
Full-time equivalent of other positions	24	45	49
Average number of all employees	65	88	92
Average GS garde	8.7	8.7	8.7
Average GS salary	$9,740	$10,780	$10,780
Average salary of ungraded positions	$7,645	$ 8,256	$ 8,256

ITEMIZATION OF ESTIMATE

Range Improvement (receipt limitation)

	Actual 1969	Estimate 1970	Estimate 1971	Increase (+) Decrease (-)
Program and Financing:				
Total obligations.....	$1,350,943	$1,769,000	$1,841,000	$+72,000
Unobligated balance available, start of year.....	- 140,162	- 248,943	- 248,943	---
Unobligated balance available, end of year.....	248,943	248,943	248,943	---
Appropriation.....	1,459,724	1,769,000	1,841,000	+72,000
Obligations by Objects:				
11.0 Personnel compensation.....	528,000	713,000	740,000	+27,000
12.0 Personnel benefits: Civilian employees..	29,000	38,000	40,000	+ 2,000
21.0 Travel and transportation of persons.....	29,000	35,000	38,000	+ 3,000
22.0 Transportation of things.....	64,000	75,000	78,000	+ 3,000
23.0 Rent, communications and utilities.....	6,000	7,000	8,000	+ 1,000
24.0 Printing and reproduction.....	---	---	---	---
25.0 Other services.....	457,943	636,000	672,000	+36,000
26.0 Supplies and materials.....	231,000	250,000	250,000	---
31.0 Equipment.....	6,000	15,000	15,000	---
Total obligations.....	$1,350,943	$1,769,000	$1,841,000	$+72,000

ADMINISTRATIVE PROVISIONS

Mrs. HANSEN. Please insert in the record page 68 of the justifications.
(The page follows:)

ADMINISTRATIVE PROVISIONS

Authorization is requested to acquire one aircraft as a replacement item only. This request will permit replacement of a Bureau-owned 1962 Cessna 180 which, because of age and logged hours, presently exceeds replacement standards.

This new aircraft, a Cessna 185 or equivalent, will be used at the Anchorage, Alaska fire control center. It will be used for fire surveillance and related fire-fighting support as well as general personnel and equipment transportation throughout Alaska.

Replacement aircraft to be acquired:

Number	1
Cost	$42,000

REPLACEMENT OF AIRCRAFT IN ALASKA

Mrs. HANSEN. Please justify your request for the replacement of the Cessna aircraft at a cost of $42,000. Where is this aircraft located?

Mr. RASMUSSEN. It is located in Alaska. Ordinary usage recommends that at about 3,000 hours an airplane be replaced. This airplane, which was purchased in 1962, has about 3,700 hours and should be replaced.

PERMANENT POSITIONS IN BLM

Mrs. HANSEN. The personnel information furnished the committee indicates a total of 3,965 permanent positions in fiscal year 1971. The committee is also informed that your personnel ceiling, imposed by the Bureau of the Budget for fiscal year 1971, is 3,639 permanent positions. Would the committee be correct in considering the difference between these two figures as "phantom positions"?

Mr. BEIRNE. No, Madam Chairman. While we are permitted to have 3,639 on board, there is always some turnover, some positions that are vacant while we are recruiting. We must have more positions in our table of organization than we can keep filled at all times. We can't possibly keep them 100 percent filled.

RECRUITMENT NEEDS

Mrs. HANSEN. What are the greatest areas of recruitment?

Mr. BEIRNE. In the stenographic line, I would say. This is where the greatest turnover is.

OSR AUDIT OF OPERATION OF BLM

Mrs. HANSEN. When was the last time your operations were reviewed by the Department's survey and review team?

Mr. BEIRNE. We have some audit teams come into our offices every year.

Mrs. HANSEN. What major exceptions, if any, were taken in the course of this review?

Mr. BEIRNE. There haven't been any exceptions taken in the last several years. In fact, we were commended in a recent one.

Mrs. HANSEN. Thank you.

Mr. Rasmussen, as usual, you and your staff have done an excellent job today. May I compliment you on your interest in the environment. I can't compliment those who have budgeted the money for the accomplishment of these ends to the same degree.

Mr. Reifel.

Mr. REIFEL. Madam Chairman, thank you very much. I want to join the chairman in her commendation of your answers to the questions raised during the hearing. You have done your usual outstandingly good job, as have other members of your staff.

You are outstandingly competent in the field in which you have complete jurisdiction. You were a little hesitant, and naturally so, when it comes to the Bureau of the Budget, which is somebody elses ken. I haven't any questions to ask. The record will speak for itself when it is printed.

The chairman has covered the field very well, and one in which she is intimately acquainted. Mr. Wyatt, who is another expert in the field of the Bureau of Land Management activities, is the gentleman to whom I will defer after my congratulatory remarks to you. You carry on under different circumstances and still with the same enthusiasm and good spirit and with a good record.

Mr. WYATT. Thank you.

Madam Chairman, I would like to thank Mr. Rasmussen for an excellent presentation, and also both him and his staff here in Washington and in the field for excellent cooperation in the past year in maintaining close liaison with our people in Oregon who are directly concerned with the O. & C. problem in particular and in the other problems where the necessity for cooperation and coordination is obvious. I think it has reached a very high level during this past year.

TUESDAY, FEBRUARY 24, 1970.

OFFICE OF TERRITORIES

AMERICAN SAMOA

WITNESSES

JOHN M. HAYDON, GOVERNOR
WILLIAM WOHLFELD, SPECIAL ASSISTANT TO THE GOVERNOR
CARL MEEUWSEN, DIRECTOR OF ADMINISTRATIVE SERVICES
SALANOA S. P. AUMOEUALOGO, PRESIDENT OF SENATE
FAINU'ULELEI S. UTU, SPEAKER OF HOUSE
TAGALOA TUIOLOSEGA, CHAIRMAN, SENATE APPROPRIATIONS COMMITTEE
ELIZABETH P. FARRINGTON, DIRECTOR, OFFICE OF TERRITORIES
HARRISON LOESCH, ASSISTANT SECRETARY, PUBLIC LAND MANAGEMENT, DEPARTMENT OF THE INTERIOR
RICHARD R. HITE, DIRECTOR OF BUDGET, DEPARTMENT OF THE INTERIOR

OPENING STATEMENT

Mrs. HANSEN. We are very pleased this morning to discuss the 1971 budget estimate of American Samoa. We have had a long and continuing relationship of great friendliness with the people of Samoa. It is with particular pleasure this morning that we welcome the Representatives from Samoa and Governor Haydon.

I may say it is a particular pleasure to welcome Governor Haydon this morning, because he is from my own State of Washington. We are very proud that a representative of the State of Washington is in one of our western areas in the Pacific.

INTRODUCTION OF WITNESSES

Governor Haydon, at this time would you introduce the members of the Samoan Legislature and your staff?

Governor HAYDON. Yes, Madam Chairman.

Salanoa S. P. Aumoeualogo, president of the Senate, Fainu'ulelei S. Utu, speaker of the house, Tagaloa Tuiolosega, chairman, senate appropriations committee, Seugogo B. Schirmer, chairman, house appropriations committee, William Wohlfeld, special assistant to the Governor and Carl Meeuwsen, director of administrative services.

Mrs. HANSEN. I have now the great pleasure of welcoming back to the committee the Director of the Office of Territories, Mrs. Farrington. It is a great pleasure to have you here. You are the more decorative member of the Interior Department who appears before the committee. We give you a very warm welcome.

Mr. Loesch, it's nice to have you here again.

Mr. LOESCH. Thank you.

BIOGRAPHY OF GOVERNOR

Mrs. HANSEN. Governor, please place in the record your biography.

Governor HAYDON. I believe it was attached to the statement.

JOHN M. HAYDON, GOVERNOR OF AMERICAN SAMOA

I was sworn in as Governor of American Samoa on August 6, 1969. Although I have had the pleasure of meeting members of the subcommittee individually, this is my first official opportunity to appear before the entire subcommittee.

Through earlier contacts with committee members and staff, an understanding was gained of many problems previously encountered. Meetings with Interior and other governmental officials gave me background sessions on territorial matters. Orientation went beyond official briefings as I met extensively with American Samoans and others knowledgeable about the problems and needs of American Samoa.

Out of these meetings, and much independent study, came a formulation of basic policies and priorities which could be put into effect immediately upon ar rival in American Samoa.

Now, for an assessment for you of the first 6 months of my tenure—both the accomplishments and the problems we continue to face—and our hopes for the future. This will be done by first examining broad policies and then specific program areas.

STATEMENT OF GOVERNOR HAYDON

Mrs. HANSEN. Governor Haydon, you have asked, in lieu of your general statement which we will place in the record at this point, to present a film.

(The statement follows:)

STATEMENT OF JOHN M. HAYDON, GOVERNOR OF AMERICAN SAMOA

COOPERATIVE GOVERNMENT

American Samoa was ceded to the United States in 1900. It was administered by Navy governors until 1951, when it came under the jurisdiction of the Department of the Interior, and civilian governors. During this period of time, a local legislature was established, which, at first, was largely advisory in nature. In 1967 the Revised Constitution was put into effect which gave the Legislature specific powers. With this background of political progression, American Samoa had truly "come of age" politically by August 1969.

This formed the foundation of a pledge upon taking office that American Samoans should have active and meaningful participation in decisions affecting their land, their well-being, and their government. I was determined to work with and for American Samoans in improving their economic, political, social and cultural environment. To carry out that pledge, a new working relationship was created which we call "Cooperative Government".

Perhaps the best way to describe how "Cooperative Government" differs from the past is to quote from a recent experience. During our budget hearings before the Bureau of the Budget last October, a legislative member of the Samoan delegation stated that the proposed budget truly reflected the needs and wants of the Samoan people. He went on to say that in the past, budgets were developed by the Chief Executive without consulting the Samoan people. He labeled this past practice "administration by Divine Right".

In contrast, the budget plan for fiscal year 1971 you are now reviewing, was developed in full cooperation with the Samoan Legislature. At the very outset, before beginning to prepare the budget, consultation was had with the President of the Senate and the Speaker of the House of Representatives. To make "Cooperative Government" work, we agreed that the Chairmen of the Senate and the House Budget and Appropriations and the Ways and Means Committees would work with the executive branch and its personnel in a Joint Budget Review Committee.

This was the first time that Samoans and palagis have worked completely together in developing the budget for American Samoa.

OTHER LEGISLATIVE/EXECUTIVE COMMITTEES

As part of "Cooperative Government", other Legislative/Executive committees have been established. These joint committees in education and personnel have encouraged closer working relationships between our two branches of government. Through the efforts of the Governor's Advisory Council on Wage Standards we have, as promised, equalized salaries on contract employee jobs for qualified Samoans. Phase two wage improvements are under study. A statement of these new wage policies is attached for the record.

The Governor's Advisory Council on Education was instrumental in evaluating the educational consultant contract with the University of Hawaii approved by the Legislature and the Secretary of the Interior. A copy of this contract was provided to the Subcommittee and another is submitted for the record.

I will discuss the work of these committees further in a later section.

Also, newly instituted since August 3rd, has been the open exchange of information on the status of fiscal affairs. About one-third of the Government's total program is financed from local revenues. American Samoan

taxpayers and their representatives now have a voice in determining how their money is to be spent. Taxpayers and their representatives, as well as the U.S. Congress and the Department of the Interior, are being kept fully informed on budgetary progress and problems. This is now being done by working closely with legislative leaders and the Joint Budget Review Commitee and through periodic reports to Washington.

Because of these mutual benefits, all of us in government will constantly be on the search for other ways in which the Executive and Legislative branches can better work together.

POLITICAL STATUS

"Cooperative Government" has additional, long-range implications and benefits. The complexities and magnitude of modern government are growing greater daily. Continued and rapid growth demands capable and knowledgeable elected representatives and careeer public servants. Knowledge and expertise being gained through "Cooperative Government" will help develop well-trained and knowledgeable Samoan legislators and public servants who will be able to assume a greater share of responsibility leading towards greater political autonomy.

This development is timely, for as you know, a Political Status Commission was established by the Legislature last year. Members of this Commission, consisting of legislators and concerned citizens have made first-hand examinations of other territorial governments. Commission members have met with political leaders and legislators in American and foreign territories, as well as with Department of the Interior and State officials and members of this Subcommittee. The Commission has also sought advice and opinions from the general public through open forums in Samoa.

Several meetings have been held with the Political Status Commission and its sincerity and thoroughness are impressive. Their report, which they plan to submit to this session of the Legislature, which opened on February ninth, will be highly significant. Most basic, this report will form the foundation for publicly clarifying questions concerning the present territorial status of American Samoa.

The report from the Political Status Commission will examine closely the present territorial status of American Samoa, various alternative approaches and their pros and cons. The report will form the basis for public evaluation and action and can become a landmark document in American Samoa's history.

President Nixon and Secretary Hickel are watching the progress of the Political Status Commission with much interest because, as they have said publicly, they are convinced the future of American Samoa and the United States lies in the continuation of a significant political relationship based on cooperative effort and mutual understanding, and that American Samoans should be as well fed, as well housed and as well educated as any other American. I am in complete agreement.

LOCAL GOVERNMENT

Future political development will be meaningless unless it has a broad, grass roots structure on which to build. The framework already exists, but it has been partially neglected in the past. I am referring to the district, county, and local governmental units now in-being. Local governmental units, under the jurisdiction of the Office of Samoan Affairs, have representatives in the remotest village. They form a vital link

between central government and the people. They should increasingly play a larger role as the governmental institution that helps people with agriculture, water supply, sanitation, land ownership, and other local matters.

As we move towards greater political development, the central government has an obligation to help local governmental units become more self-sustaining and self-reliant so problems can be solved at the local level. To help in this direction, the Legislature approved salary increases recommended for District Governors and pulenu'us in the fiscal 1971 proposed budget. These salaries still are small but should now attract more qualified Samoans to these posts.

A reorganization and strengthening of the Office of Samoan Affairs took place by supporting the Secretary as the primary official in dealing with village problems. His staff has been augmented by internal transfers. Functions of the District Governors have also been strengthened. In making appointments to vital posts in local government, I have asked the District and County Councils to seek leaders with initiative, imagination and administrative ability. These traits are essential if local government is to be dynamic and play an important role in total government.

GRASS ROOTS CONTACTS

A Governor must get to know and see first-hand the people and their problems. It cannot be done from behind a desk. There are 67 villages of which I have informally inspected all but three or four, and, to date, additionally, I have completed formal visits to 43 and will visit the remaining ones, including Swains and Rose Islands, in the near future. These village visits have helped tremendously in encouraging a two-way flow of communication between the territorial government and the villagers. It has given us a grass roots understanding of the people's most basic problems. For example, after bouncing over miles of eroded and rutted secondary roads, and going ashore through reefs in long boats, I am convinced that transportation to our remote areas must receive more emphasis. The proposed 1971 budget has $155,000 for secondary roads and $75,000 for dock facilities (in contrast, the 1970 budget which I inherited provided no funds for secondary roads and $33,000 for wharfs). In addition, arrangements have been made with the Corps of Engineers to survey long-range harbor needs. Based on their initial studies, we believe that safe, permanent moorings can be developed at Fagasa, Aunu'u and the Manu'a Islands. Planning and design has been undertaken, is now under study by the villages concerned, and should be ready for later years' budgets. Interim transportation of people and goods from our remotest villages has already been improved through the use of existing vessels. An air strip on Tau Island to serve medical emergencies and other transportation needs is absolutely essential and will be sought in a later budget request.

EQUALIZATION OF PAY

One basic policy has been the abolishment of the dual wage system since it was discriminatory and anti-productive. Shortly after taking office, a

Governor's Advisory Council on Employment Standards was appointed. This Council, composed of Samoans and non-Samoans, has developed guidelines for eliminating this discriminatory practice.

Under this system, qualified American Samoans have first choice for jobs. The pay for professional and managerial positions is set at the same base level as the palagi would have received. This means that if recruited locally, the Samoan gets the same salary less the 25 percent relocation allowance, that would have been given to the statesider. For stateside Samoan citizens recruited from the U.S., government housing and the relocation allowance are granted for two years to help them get resettled.

This is not "symbolic" employment which would be destructive. Qualification, full qualification, is the key because any compromise on ability to perform would be misleading and would have a negative effect on productivity.

I am happy to report that this policy is already paying off. A very qualified American Samoan has been made Director of the Department of Agriculture and several other qualified Samoans have been appointed to high positions in education, health, and administration. By offering equal pay for equal work, we are starting to attract back to American Samoa those Samoans who have good education and experience. Samoa needs them and they are delighted to return to their homeland and families. They would not return before at one-third the palagi salary. We are also saving in transportation costs and will benefit from greater continuity in these key positions. Our goal is not a contract employee, but a career employee. Currently, with most of our scholarship students failing, improved education is vital if American Samoans are to gain those qualities and the training which will enable them to administer their own government.

FISCAL CREDIBILITY AND GUIDELINES

Based on earlier discussions with members of this Subcommittee and other concerned officials, high priority has been given to the establishment and maintenance of fiscal credibility with the Congress, the Department of the Interior and the Samoan Legislature. We are determined that all levels of government in American Samoa as well as in Washington, will be kept fully informed of our progress, problems and all other matters of mutual interest. Our current budget is the first to show clearly the exact sources of all funds.

To carry out this policy, a directive was issued on August 14th stating that henceforth there were to be no obligations or expenditures made in operating or construction programs until (a) complete costs were known or estimated in advance; and (b) sufficient funds were budgeted and were available to cover all of those costs. All department and office directors were put

on notice there were to be no deviations from approved budgets unless written approval was first obtained. All officials and staff of the three branches of Samoan government were briefed on the guidelines developed jointly with the Congressional committees and the following policies were adopted:

1. An orderly budget process will be followed so that there will be a clear understanding as to what purposes and programs locally appropriated revenues will be used. Again, the format used in the proposed 1971 budget shows clearly for the first time the source of funding for each activity or program.

2. Federal grants from other Federal agencies will be used only if: (a) they do not displace programs normally financed by Interior funds; (b) only local funds are appropriated for matching purposes; and (c) there is no duplication or overlapping of activities or unnecessary bureaucracy.

3. The Congress and the Department of the Interior will be kept fully and currently informed of budgetary development and there will be no evasions, circumventions or deviations. A copy of our departmental order is provided.

In carrying out these policies, and in keeping with the expressed intent of the Legislature of American Samoa, a priority system has been established for appropriating local revenues. First priority is given to finance expenses of the Legislature. Second priority is for matching purposes for other Federal agencies' grants. Finally, any local revenues left over are used for operating expenses.

The long-range, primary objective of this policy is to reduce American Samoa's dependency on the U.S. Treasury. It is anticipated, as local revenues increase, they will be able to cover an increasing share of Samoa's operating needs. The goal is eventually to seek Interior funds only for major capital improvements which are too costly to finance from local revenues.

FISCAL ASSESSMENT

To accomplish the goal of establishing and maintaining fiscal credibility, it was essential first to determine the status of fiscal affairs in American Samoa. This was also essential because in August, American Samoa faced a very tight time deadline for preparing the proposed fiscal 1971 budget request. The Joint Budget Review Committee, of which I spoke earlier, played a key role in making this assessment. In addition to preparing the proposed 1971 budget, this Committee served a broader, equally vital task. It made an overall assessment of the objectives, needs, programs, and the quality of management and fiscal affairs in American Samoa. This assessment touched on all aspects of governmental operations.

The Joint Budget Review Committee found that over the years there had been construction overruns, deviations from previously approved budget plans, and insufficient funds set aside to make certain that vitally needed programs, which had already been authorized, would be started and completed within the budget authorized.

The Joint Budget Review Committee made as accurate an assessment as it could within the very tight time schedule available and found that construction projects had been overspent by almost $1 million. It found that because of these heavy overruns some needed projects which had been authorized previously were never even started. As a result, the Committee concluded that American Samoa was faced with deficits and unfunded needs totaling more than $2 million.

A large portion of this problem has been taken care of through internal shifts of local funds and a reprogramming of $775,000 which the Subcommittee recently approved. The proposed 1971 budget will also assist greatly in taking care of high priority needs which could not be covered by internal shifts and reprogramming.

Unfortunately, I cannot report that the situation is cleared up entirely. Our accounting records and other data are very inadequate and we continue to uncover questionable items. Our mid-year program review with the Joint Budget Review Committee has shown the need for shifting some funds to cover high priorities.

Progress has been made in correcting some of the problems and we will maintain constant vigilance. I am still greatly concerned about this situation and have taken steps to fill a long-vacant internal auditor position. He is newly arrived and will concentrate his major efforts on developing accounting systems while supervising a small staff of auditors.

In this regard, I would like to express my appreciation to the Committee for sending its survey staff to American Samoa. They arrived on February 1st and I am certain this very able group's report will assist us in straightening out our financial and managerial problems.

PROGRAM PRIORITIES

American Samoa is a beautiful land with waving palm trees, whispering winds and beaches. But, there is another side to this land of ours, one which visitors seldom see: the scarcity of safe drinking water; the slums; the bloated bellies of malnourished children; the treacherous mountain trails over which women and children hike to market and school, often in the dark with flashlights; and human sewage outlets despoiling the most beautiful bay in the South Pacific.

Through the film I have brought for this hearing, and through your own personal visits to American Samoa, I am certain you are well aware of

the problems we have and the difficulties we face in resolving them.

One of the primary difficulties faced in resolving these problems is the shortage of funds. A basic fact of fiscal life is that there never is sufficient money to satisfy all needs. Fiscal constraints and insufficient funds, however, do not make planning impossible. They make good planning more essential. By reducing unnecessary and expensive off-island travel, unproductive conferences, and through the elimination of intermediate organizational levels, greater efficiencies and reduced costs have already been made. Inefficient and costly warehousing procedures have been modified, resulting in less damage and lower prices. A copy of this internal management study is provided.

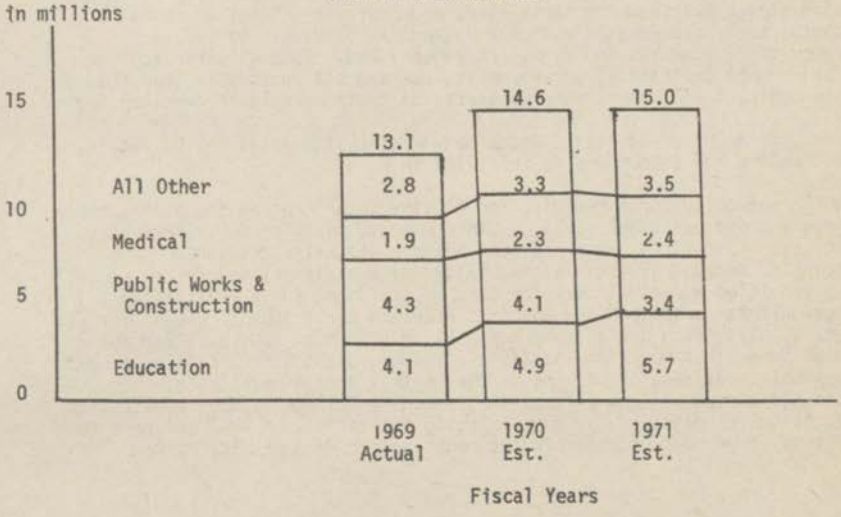
Other management efficiencies will come and these savings will be used to meet high priority needs.

Another element in determining program priorities, was a re-examination of objectives and needs. The Joint Budget Review Committee has been invaluable in this task and has assisted in a re-ordering of priorities in the proposed fiscal 1971 budget and as much as is feasible within the current fiscal year.

Essentially, the proposed budget before you seeks to relate highest program priorities to the real needs of the Samoan people. We must provide for a rapidly expanding population (among the fastest growing in the world with a growth rate of four percent annually). Consequently, there will be more children in school; more people getting ill and in need of medical treatment, and more people demanding employment. Recent press reports of cancerous side effects on animals of birth control pills will make family planning in American Samoa doubly difficult.

The relation of major program thrusts over a period of three years is shown graphically below:

PROGRAM DISTRIBUTION



This chart shows that education, medical services, and construction account for the bulk of the budget. It also shows that continuing emphasis is to be given to education and medical needs in American Samoa.

I would now like to discuss each of these major program areas individually and am prepared to review cost factors if the Committee desires.

EDUCATION

If there is a single governmental program that is basic to the advancement of any people, it is education. Regardless of cultural differences, education is the key to progress and the retention of traditional values. That is why education will continue to occupy a prominent position in governmental expenditures. In fiscal year 1969, barely $4.0 million was spent for this function; in the current fiscal year it increased to $4.9 million and in fiscal year 1971, it will be more than $5.7 million. Increases are related directly to increased enrollments: 8,000 in 1969; 10,000 in 1970 and 11,000 expected in 1971, and to improvements needed to provide a "full" educational system that can produce "complete" students.

Money in itself is not enough. It is essential we have strong leadership and professional expertise in the Department of Education in order to meet the needs of the people. With the guidance and assistance of the Governor's Advisory Council on Education, we now have that leadership. The new Director of the Department of Education began his duties February 1st. He was chosen for this post after extensive national recruitment and screening of all qualified candidates. His curriculum vitae is provided so that you may measure the calibre of his professional ability. The Director comes to American Samoa with a wealth of understanding and knowledge of the Pacific region and educational systems. To provide him with strong backing, the Legislature and Secretary Hickel approved contractual arrangements with the University of Hawaii to provide recruiting, research and consultative services. This will replace the former NAEB contractual arrangements. We are all optimistic that the new contract will be extremely beneficial to the people of American Samoa.

The Department of Education faces many difficult hurdles in the future, but we are now on our way to resolving them.

While searching for a new Director for the Department of Education, other programs did not stand still. Since August, planning for a community college in American Samoa has gone ahead. Existing sites have been selected because of their adaptability for administrative offices as well as providing a central core for teacher training, and a revitalized agricultural program. The historic Atauloma Girls School, vacant for six years, will teach agriculture and certain post-high courses. Samoana High School's campus for vocational, business, and other training needed by adults residing or working in the central area is available. Lee Auditorium will be part of the Community College by day and a public facility at night. By using existing facilities, we will not have to invest large sums of money in the construction of a physical plant.

Simple rehabilitation will give us our Community College buildings.

Library space has been expanded; and pre-school has been doubled in staff, thus allowing an increase of about 500 pre-schoolers in 1971 over 1970. The goal is for all 3,000 pre-school children to receive this training, taught in Samoan by trained village mothers. Seventy new teachers are now in training.

Vocational education will be reinstituted in secondary schools, and eventually in the upper elementary grades.

In looking to the future, the Director of Education will give primary emphasis to an examination of the techniques of using television as a teaching tool in our educational system. This medium of communication enabled American Samoa to leap the time barrier and bridge the gap between a highly inadequate educational system and the most modern of its kind in the world. But the current system is not producing completely capable graduates and will not do so if it continues its present methods. Educational television has been in American Samoa since 1964 and it is urgent that its methods be re-examined so a determination of how best to use this modern tool to attain our educational objectives may be made.

In the future, major emphasis will be given to adult education and manpower training. This will enable more Samoans to qualify for positions formerly held by palagis. An example of this is our maritime activities. Through on-the-job training and schooling, three Samoans have now qualified as inter-island tug masters. Six trainees will qualify as masters or engineers when they complete their current training. This program will become part of the community college.

MEDICAL SERVICES

We are fortunate in having in American Samoa the most modern and up-to-date medical facility in all of the South Pacific. We are not fortunate in the quality of medical care we are receiving. This is not said in a derogatory way against the medical staff now serving. They are hard-working, eager and dedicated people who have been hampered by a lack of sufficient and well-qualified staff. Modern medicine demands the most efficient and up-to-date methods. Only through constant re-training and upgrading of the staff can we hope to keep up with modern medical advances. Only in this way can our people receive the first-class medical service they deserve and need.

As with education, a key to resolving this problem, is the recruitment of a highly trained and skilled Medical Director. This type of person must not only have an extensive medical knowledge, but he must have a background of work and understanding of the problems peculiar to an isolated island in a tropical climate. He must be a leader, a good administrator, and be dedicated to upgrading all levels of health in American Samoa. An infant mortality rate of 34 per thousand live births cannot be afforded; neither can we afford one of the highest birth rates in the world. Family

planning is compatible with our socio-religious ethics because it assures that every child born is a wanted child, and that he will face a healthful and long life. The Medical Director will have to rejuvenate public health areas. Problems of diseases borne by stray dogs, rodents, and other predators, or caused by pollution, must be dealt with decisively. Villagers must be taught the basics of disease prevention. The proposed 1971 budget contains increased funds for these vital programs.

Last spring, there was a most unfortunate mishandling of Partnership for Health funds and as a consequence, American Samoa was deprived of the benefits of this program. Some projects were gotten back and since August, we have pressed ahead in this area, and are now programmed to use some $265,000 in the current fiscal year. An outline of this program is provided for the record. We are now planning for fiscal year 1971 funds and expect to receive a similar or greater amount next year. In using HEW funds, we are following budgetary guidelines by first obtaining the approval of the Samoan Legislature and by keeping the Department of the Interior and the Committees fully informed.

Our two-year, practical nurse training program will be upgraded to produce RN's and will come under the blanket of the Community College. We are also analysing the potential value of making our medical facilities a "teaching hospital".

INFRASTRUCTURE

Our proposed construction program for fiscal year 1971 continues to stress the building of basic infrastructure, e.g., water systems, sewage disposal systems, and roads. These are essential to the health and well-being of the people, and provide a base for future economic growth. Water transportation and harbor needs are vital if we are to avoid abandonment of outlying villages and islands.

The proposed 1971 budget program has major increases for school construction. These include elementary school classrooms for expanded enrollment; a much needed combination cafeteria-classroom so children will not have to eat lunch in the rain, and two play fields. Airport development is also to be stressed in order to be able to handle the bigger jets and expected increased air traffic. A master planning contract has been let and is underway.

Generator number six is expected to be in-place this spring and planning for future needs is now underway. On the basis of recommendations by a consultant from the Rural Electric Administration, substantial operating savings are anticipated. A copy of the first phase of his report is provided for your study.

In addition to actual brick and mortar construction, Public Works will give increased emphasis to planning. This is essential because there has been a history of construction being started without pre-engineering and design work. This problem came to light recently when our new Director of Public Works reported that approximately $3 million of fiscal 1971 and prior years' projects had not been designed. As a consequence, reliable cost estimates

for equipment, roads, utilities, and land acquisition are not always known and this could result in overruns, shortages, and delays in procurement.

As I mentioned earlier, projects will be released for construction only if funds are sufficient to cover all estimated costs. This requires design and engineering to be completed beforehand. To move rapidly on current and prior years' approved projects, a crash design-engineering program has been implemented. Staff architects, supplemented as necessary by outside experts, are giving these items highest priority. They will also concentrate on proposed fiscal 1971 construction. A reimbursable account for engineering, planning and design will be established and funded from construction project costs.

This preliminary engineering will assure consistency between the work to be done and the funds programmed. In addition, time-phased flow charts using critical path analysis have been developed so that we will know what our goals are and how they are being accomplished.

The Director of Public Works will attempt to use local contractors in government construction. In this manner, we hope to reduce construction costs while encouraging the growth of private enterprise in the territory.

ECOLOGY

Closely related to construction is the preservation of environment and ecology. Often in the past, construction projects were undertaken with little or no regard or understanding of the effects of blasting a reef, changing the course of stream beds, tearing down mountains or bulldozing away ancient village sites. Those of you who have been to Pago Pago are familiar with the pall of smoke that hung over the bay for six years while garbage was being dumped and burned in Aua. Pago Pago Bay, the most beautiful in all the South Pacific,is still a cesspool with fifty human sewage outlets emptying into it. Some new junked and abandoned automobiles mar the shoreline and beaches although all old hulks have been removed.

Pollution by man must be stopped. It is criminal for us to permit our beautiful harbor, our mountainsides and pure air to be soiled by man-made wastes. It is also totally unnecessary. With forethought, concern and a minimum of expenditure, we can dispose of our wastes. We can carry on needed construction without destroying our environment. We can preserve our ecology, our environmental quality and what has not yet been destroyed of American Samoa's culture and history.

If we are to preserve our natural heritage, we must start thinking and working actively now. While we do not have a professional ecologist or archaeologist in American Samoa, I have been successful in interesting the Smithsonian Institution, the National Park Service, the Office of Economic Opportunity and other agencies in sending us experts in these

fields. At minute cost to us, we have already been visited by leading experts and the Office of Economic Opportunity has promised to send us a VISTA volunteer skilled in ecology. The National Park Service will begin a six-weeks study of new archaeological finds in Olovalu Crater by the village of Futiga. This site will become a botanical and archaeological preserve, protected and open to all. Hundreds of garbage revetments have been constructed and anti-litter laws are being enforced.

These are solid steps being taken to preserve our natural heritage. This vital, but heretofore neglected program will be given continued emphasis. Additionally, a five-year plan for parks and recreation was developed cooperatively and is now under review by the Bureau of Outdoor Recreation. A copy for the record is provided. American Samoa's first museum is now open to the public at Government House. In addition to the visiting public, all American Samoans, for the first time in 66 years, can visit this building, which is now being registered by the National Park Service as a National Historic Building.

ECONOMIC DEVELOPMENT

The Economic Development Program for American Samoa, prepared by Wolf Management Services last February, outlined the status of economic affairs in American Samoa and presented several recommendations for improvement. We have used that report as a blue print and have gone beyond it whenever it seemed desirable to do so.

Through a grant from the Economic Development Administration of the Department of Commerce, a new Economic Development Planning Office will be established next month. This will be of great assistance in planning and stimulating orderly economic development and growth.

Next to tourism, probably the most promising avenue for economic development lies in our marine resources. This important segment of government has been grossly neglected. Our Fisheries Division, as it was called, was a little noticed part of the Department of Agriculture. To give this function the impetus it needed, it has been established as a separate and independent Office of Marine Resources. To develop an aggressive and imaginative program, a professional marine resource person with extensive experience and education in tropical fisheries has been recruited and is actively at work. The 12-mile fisheries limit has been extended to Samoa's territorial waters to protect local fishery resources for American Samoans. Ocean pollution legislation improvements are being sought .

The Fisheries Supervisor is determining how to obtain an adequate protein supply and increase employment opportunities in a fresh fish industry. He is projecting a project goal of 30 to 40 small commercial fishing vessels, employing approximately 150 fishermen within 10 years.

In addition to the fresh fish industry, we believe it is possible to exploit deep water tuna resources by modern purse seining boats. Hawaii, Guam, the Trust Territory and American Samoa will work on this problem together. This could result in a 100 percent increase in local tax

revenues and additional cannery employment for 300-500 Samoans. Also, to research successful day pole and line skipjack tuna methods carried on in Tahiti, both the Fisheries Supervisor and I recently visited that territory to examine at first-hand their fishery techniques. We are convinced that a great, untapped source of economic wealth swims at our doorstep and that we can put it to work. A ninety day fisheries experimental study of our waters by the Bureau of Commercial Fisheries was begun in early February. Fisheries technology techniques as they apply to Samoa's opportunities will be taught in our new community college.

In agriculture, a new Director, an American Samoan, is emphasizing agricultural growth in American Samoa. We have very limited tillable soil, but have not been utilizing the available lands to the fullest extent. Through increased farm extension services and working directly with the farmer on his fields, the level of agriculture production can be raised in American Samoa, decreasing our dependence on imported produce and crops. Just last month, I discovered by fortunate accident, that the government has a herd of 150 cattle which may be the nucleus of a new dairy or meat industry.

The dual benefits are lower food costs and more jobs for American Samoans. Already, local production has increased so significantly that imports of taro have practically ceased. Agricultural technology as it pertains to American Samoa's opportunities will be taught in our new community college.

REVENUES

In looking at the other side of the expenditure coin, revenues generated locally are expected to continue to rise; $5 million in 1970, and $5.7 million 1971.

Tourism is expected to increase, while the long-range fish catch may increase as expectations are met. Other sources of increased local revenue will come from better collection of income taxes due to the Government, enforcement of user charges, attraction of new capital investment, collection of bad bank and scholarship loans and more rigid bank loan policies.

In accordance with the Revised Constitution, the Legislature appropriates locally generated revenues. Local revenues account for approximately one-third of the total program and will play an increasingly larger role in total financing. This will have economic impact and implications for the future political status of the territory. The Legislature has shown itself a prudent overseer of these funds.

COMMON GOALS

I have tried in this, my first budget presentation before this Committee, to give you a complete accounting of our current status and an outline of the territory's future. We have problems, some of which were inherited and which have been resolved. There are others that remain, or which are newly arisen. Among these are immigration, transportation, highway safety, increased crime rates, out of date accounting systems, and many other pressing problems. Two special reports on Public Works and Accounting procedures made by Wolf Management Services present some major inherited problems. We are attacking the problems. The reports are provided for your information and the record.

In looking to the future, we can solve these problems which are, essentially, those of a developing area confronted with rapid population growth and an influx of outside influences. Our optimism is founded on the conviction that we are all striving for the same goals for American Samoa: to develop the resources that will enable the people of this American territory to be fed and housed and clothed and educated as well as anyone else in all the rest of the United States. In working towards this goal, we must make certain that the priceless Samoan environment, natural beauty and historical cultural customs and standards are guarded and maintained.

My first six months in office have convinced me it is vital that our relationships be based on cooperative efforts and mutual understanding. The Samoan people, their traditional and elected leaders, and the Federal Government -- all must share in our common goals.

I want to extend publicly to my Samoan colleagues my deepest admiration for their selflessness and dedication to their people. The Legislature of American Samoa has shown itself to be dedicated to the principles of democracy and to be above personal gain in its search for what is better for all of American Samoa.

Finally, I want to express my gratitude to Mrs. Farrington and to the Committee. You have all been most understanding in my neophyte period. I sincerely appreciate the assistance you have given me. In return, I pledge to you my continued efforts to carry out national, bi-partisan policies which seek long-lasting economic, educational, medical, political, social environmental and "human" improvement for our fellow Americans in American Samoa.

Our Samoan colleagues present today and I will be happy to elaborate further and to answer any questions.

FILM PRESENTATION

Mrs. HANSEN. Governor, if you will limit the film to as nearly a half hour as possible. We anticipate having a great many interruptions in the legislative day.

Governor HAYDON. The reason for using this film is that it takes you to Samoa and shows you Samoa as it is.

Mrs. HANSEN. I am all for audiovisual education.

(At this point a movie film on Samoa was shown.)

Mrs. HANSEN. Thank you very much for a very excellent presentation. It was a very graphic presentation.

I don't think this committee needs to make any apologies. We have tried to furnish the people of Samoa in the last several years an increasing amount of funding for their programs. We appropriate funds, but it is singularly inappropriate for us to try to be the administrators of any program.

COMMENTS OF THE CHAIRMAN

I may say that the problems we have seen in this movie are typical elsewhere. You don't have to go to Samoa to see these problems. You just have to visit some of our Indian reservations. Or you just have to visit some of our communities in the United States. This is what disturbs the committee. You talked about secondary roads. There are secondary roads in Mr. Wyatt's State and in my State which are not any better. And yet our construction program is down to nothing.

The problems shown in this film are the problems that concern this committee. When there is a cessation of construction there is a cessation of building. When there is a cessation of programing for the people of America and the people of Samoa it disturbs this committee deeply. This is why I have been tremendously concerned and this committee has been concerned about Samoa and the American lands belonging to our Indian peoples. In the Navajo country there are places where they have no roads at all. There are places where children have to walk 2 miles to school, running the risk of being frozen to death in winter.

This is why I think we should be more concerned with our school funding, our funding for sanitation, our funding for health, and our funding for hospitals. There are hundreds of problems in the United States that are not getting the proper attention. This is what deeply concerns this committee.

The committee has been tremendously disturbed about Samoa, the Trust Territory, and our Indian reservations. I think everyone on the committee joins me in recognizing the problems and in trying to meet their needs. Our litter on the American continent has suddenly become overwhelming. Every phase of American life is subject to attack. Who has done this? We have. We have been a Nation of spoilers since the very beginning of this country. As a country, we haven't taken the proper steps to dispose of our wastes. There was so much here and it was so beautiful. We always thought there would be ample "wide open spaces."

On an island, unfortunately, the problem is compacted.

I think at this time, Governor Haydon, it might be well for

you to introduce the very distinguished members of the Samoan Legislature.

Governor HAYDON. All right.

The president would like to speak first. Salanoa Aumoeualogo, as you know, is also a judge and served many years in America Samoa and has appeared before this committee in the past. Do you wish to speak first? Or Speaker, would you like to speak first?

Mr. AUMOEUALOGO. Shall I speak first?

Mrs. HANSEN. Mr. President, I am going to solve this by calling on you first. May I say, Mr. President, this committee is very happy to have you with us this morning and we are delighted to welcome you back. It has always been a great pleasure having you before the committee.

STATEMENT OF SALANOA S. P. AUMOEUALOGO, PRESIDENT OF THE SENATE

Mr. AUMOEUALOGO. Madam Chairman and members of the committee, it is a pleasure for us to be here. You realize that we always come down to the Capitol where all of the problems of the world are discussed and probably this is like where, all over the world, regardless of which country, everyone looks for aid. But, as you know, American Samoa is the only territory of the United States which is surrounded by the Polynesian Islands which are under the other nations—like Australia, New Zealand, France, and the United Kingdom.

I want to assure you of the fact that when we visit Tonga and Fiji, Western Samoa, they send their people down to American Samoa with the idea that when the people went to American Samoa they thought they had reached another part of California or New York or even they come down here to see the Capitol.

So it is a pride to the United States, and we are proud of that, because they feel that American Samoa is a place that is built up by the United States. I wish to assure that those people believe that we are in a better position than they are, and we ask you to build it up more and more, please.

Mrs. HANSEN. May I assure you, Mr. President, that is the desire of this committee. We are appreciative of your courtesy in coming today. Thank you, Mr. President.

Now the very distinguished Speaker of the House of Representatives, Mr. Fainu'ulelei Utu. This committee is extremely happy to welcome the legislative branch of the Samoan Government. I have been a member of the legislature in my own State of Washington.

Mr. Speaker.

STATEMENT OF FAINU'ULELEI S. UTU, SPEAKER OF THE HOUSE

Mr. UTU. Thank you, Madam Chairman.

Governor HAYDON. Speaker Utu is also the Director of Immigration in Samoa.

Mrs. HANSEN. Mr. Speaker, we welcome you.

Mr. UTU. Madam Chairman and the members of the House Appropriations Committee, I have very little to add to what the President has said. I think our 30 minutes of movie this morning gave you most of the problems we have.

But I would like to join the President in extending to you the appreciation of the people of American Samoa for the continued assistance of your subcommittee to our problems and to give us more funds.

I also want to assure you that both Houses of the legislature support the Governor in these programs to eliminate some of these problems you have seen in the movie. We hope that the Governor will continue to work with us. We may have some problems in Samoa, but we want to settle our own problems first before coming to you over here. We hope that sometime in the future some member of the committee might be able to check up on our work with our own people before you appropriate more money for us. I appreciate your assistance and I hope we will continue to work together in the future.

Mrs. HANSEN. Thank you very much, Mr. Speaker. I may say that a very distinguished member of our committee, Mr. Flynt from Georgia, made a trip to American Samoa in 1967 as a representative of this committee. Unfortunately, legislative duties prevented other members of the committee from visiting you last year. Last year Mr. Reifel and I took the time to go through one of our biggest Indian areas, the Navajo Reservation. Mr. Wyatt and I had planned to go to Samoa this winter, but both of us were involved in our own districts.

We do assure you that this committee will attempt to visit your land and pay our respects to your very distinguished legislature.

Thank you so much for your courtesy in coming. It is a real joy to have you present.

JUSTIFICATION MATERIAL

Please insert the justifications pages 17 through 78 in the record.
(The pages follow:)

3. AMERICAN SAMOA

GOVERNMENT OF AMERICAN SAMOA
PROGRAM DISTRIBUTION SUMMARY
FY's 1969 THROUGH 1971

	Actual 1969	Estimate 1970	Estimate 1971	Increase Over 1970	Source of FY 1971 Funds: Interior Budget Authority	Local Revenues: Local 1/ Appropriations	Local Revenues: Other 2/ Revenues	Other Federal Grants	Total
A. Direct Appropriations									
Governor's Office	$ 294,757	$196,175	$210,963	+$ 14,788	$210,963	-0-	-0-	-0-	$ 210,963
Judiciary	107,035	113,715	164,400	+ 50,685	164,400	-0-	-0-	-0-	164,400
Legislature	90,469	91,865	-0-	- 91,865	-0-	-0-	-0-	-0-	-0-
Total Direct Appropriation	492,261	401,755	$375,363	-$ 26,392	$375,363	-0-	-0-	-0-	$375,363
B. Grants									
1. Legislature	-0-	$ 42,135	$135,450	+$ 93,315		135,450	-0-		$ 135,450
2. Health, Education, & Welfare									
Dept. of Education	$ 4,107,887	$4,927,000	5,698,000	+ 771,000	$ 4,250,716	$ 591,000	$ 398,284	$ 458,000	$ 5,698,000
Dept. of Medical Serv.	1,874,868	2,318,394	2,438,000	+ 119,606	-0-	2,098,000	-0-	340,000	2,438,000
Public Defender	20,460	29,905	31,400	+ 1,495	-0-	31,400	-0-	-0-	31,400
Dept. of Legal Affairs	604,143	680,000	705,000	+ 25,000	43,000	342,253	219,747	100,000	705,000
Local Judicial	13,533	31,000	15,930	- 15,070	-0-	15,930	-0-	-0-	15,930
Civil Defense	-0-	16,600	17,200	+ 600	-0-	8,600	-0-	8,600	17,200
Parks & Recreation	17,460	19,000	25,200	+ 6,200	-0-	-0-	25,200	-0-	25,200
Office of Samoan Information	78,968	111,300	88,462	- 22,838	-0-	-0-	88,462	-0-	88,462
	$ 6,717,319	$8,133,199	$9,019,192	$+885,993	$4,293,716	$3,087,183	$ 731,693	$ 906,600	$ 9,019,192

GOVERNMENT OF AMERICAN SAMOA
PROGRAM DISTRIBUTION SUMMARY
FY's 1969 THROUGH 1971

	Actual 1969	Estimate 1970	Estimate 1971	Increase Over 1970	Source of FY 1971 Funds: Interior Budget Authority	Local Revenues: Local 1/ Appropriations	Local Revenues: Other 2/ Revenue	Other Federal Grants	Total
B. Grants									
3. Economic & Industrial Development									
Dept. of Agriculture	$ 331,285	$ 493,685	$ 490,680	$ - 3,005	-0-	$399,680	-0-	$91,000	$ 490,680
Local Government	81,766	92,245	99,500	+ 7,255	-0-	99,500	-0-	-0-	99,500
Office of Tourism	24,360	33,214	25,487	- 7,727	-0-	25,487	-0-	-0-	25,487
Development Planning Office	-0-	51,000	68,000	+ 17,000	-0-	15,000	-0-	53,000	68,000
Subtotal	$ 437,411	$ 670,144	$ 683,667	$ + 13,523	$ -0-	$539,667	$ -0-	$144,000	$683,667
4. Operations, Maintenance & Training Serv.									
Communicat ions	$ 177,511	$ 202,000	$ 212,027	$+ 10,027	-0-	-0-	$ 212,027	-0-	$ 212,027
Public Works	1,560,700	1,499,000	1,640,000	+141,000	1,640,000	-0-	-0-	-0-	1,640,000
Port Administration	340,710	400,000	403,880	3,880	-0-	-0-	403,880	-0-	403,880
Subtotal	$ 2,078,921	$ 2,101,000	$2,255,907	$ +154,907	$1,640,000	$ -0-	$ 615,907	$ -0-	$ 2,255,907
5. General Administration									
Audit Office	$ 9,945	$ 22,000	$34,000	$ + 12,000	$ 20,000	$ -0-	$ 14,000	$ -0-	$ 34,000
Administrative Services	643,556	667,200	712,200	+ 45,000	133,000	579,200	-0-	-0-	712,200
Executive Office	20,696	20,000	-0-	- 20,000	-0-	-0-	-0-	-0-	-0-
Subtotal	$ 674,197	$ 709,200	$ 746,200	$ + 37,000	$153,000	$ 579,200	$ 14,000	$ -0-	$746,200

GOVERNMENT OF AMERICAN SAMOA
PROGRAM DISTRIBUTION SUMMARY
FY's 1969 THROUGH 1971

	Actual 1969	Estimate 1970	Estimate 1971	Increase Over 1970	Source of FY 1971 Funds: Interior Budget Authority	Local Revenues: Local 1/ Appropriations	Local Revenues: Other 2/ Revenues	Other Federal Grants	Total
6. Construction	$ 2,726,395	$ 2,554,167	$ 1,777,921	$-776,246	$1,737,921	$ -0-	$20,000	$20,000	$1,777,921
Subtotal Grants	$ 12,634,243	$ 14,209,845	$14,618,337	$+408,492	$7,824,637	$4,341,500	$ 1,381,600	$1,070,600	$ 14,618,337
Total Grants and Appropriations:	$ 13,126,504	$ 14,611,600	$14,993,700	$+382,100	$8,200,000	$4,341,500	$ 1,381,600	$1,070,600	$ 14,993,700

C. Recap of Total Requirements

Grant Requirements	$12,634,243	$ 14,209,845	$14,618,337	$ +408,492
Less: Local Revenue	3,698,860	5,023,500	5,723,100	+699,600
Applied Carryovers	2,489,644	1,819,500	-0-	- 1,819,500
Other Federal Grants	332,000	832,600	1,070,600	+ 238,000
Net Grants Required	6,113,739	6,534,245	7,824,637	+ 1,290,392
Total Direct Appropriations:	492,261	401,755	375,363	- 26,392
Total Direct Apropriations and Grants:	$ 6,606,000	$6,936,000	$8,200,000	$+ 1,264,000

1/ Represents the portion for which the Samoan Legislature has appropriating authority.

2/ Represents local revenue generated from user fees and service related charges, and are considered as a lump sum which is allocated according to program needs.

Governor's Office: FY 1970 $196,175; FY 1971 $210,963; Increase $+14,788. This program is funded entirely by the Interior Budget Authority. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1) $+ 19,146	- 2 Samoan	$172,645	4 US CS 8 Samoan	Cost of normal step increases for stateside and Samoan employees.
(2) - 4,401		25,099		Decrease in funds needed for stateside travel.
(3) + 472		2,472		Increase in funds needed for other contractual services.
(4) - 429		3,571		Decrease in funds needed to replace equipment.
$+ 14,788	- 2 Samoan		4 US CS 8 Samoan	

Cost Factors Involved in Increases

(1) Two Samoan clerk typist positions which have remained unfilled for two years have been cancelled. The savings in these salaries have been more than offset by normal step increases for Samoan employees and the four Civil Service employees working in the Governor's Office.

Need for Increase

The Governor, as Chief Executive, provides leadership, establishes policies, administers and coordinates the Executive Branch of the Government of American Samoa. His duties are comparable to those of a State governor as well as mayor of a municipality. In addition, as a Federal official, he performs duties for other Federal agencies - - such as the issuance of passports. He is assisted by the Lieutenant Governor and two Special Assistants. The Governor's program in FY 1971 will emphasize improvement in operations and coordination of programs.

Chief Justice and High Court: FY 1970 $113,715; FY 1971 $164,400; Increase $50,685. This activity is financed entirely by Interior Budget Authority. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1) $+ 46,317	+ 2 US Contract - 1 Samoan	$ 142,608	4 US CS 2 US Contract 5 Samoan	Normal step increases and funds for 2 new stateside positions.
(2) + 1,000		8,809		Increase travel costs due to new stateside positions.
(3) + 1,140		4,680		Increase in utilities costs for expanded office and court facilities.
(4) + 200		1,250		Increase in funds for supplies
(5) + 2,028		6,128		To provide expansion in law library and office equipment for new employees
$50,685	+ 2 US Contract - 1 Samoan		4 US CS 2 US Contract 5 Samoan	

Cost Factors Involved in Increases

(1) In order to handle increased court litigations and reduce the backlog of civil cases, an associate justice and a law clerk have been added in the FY 1971 budget at a cost of $34,164. A court reporter position funded out of local judicial funds during FY 1970 has been transferred to the Chief Justice and High Court function for FY 1971.

Need for Increase

The judicial system of American Samoa consists of the High Court and five District Courts. The High Court has island-wide jurisdiction and includes Appelate, Trial, and Probate Divisions. Appeals may be brought to the Appellate Division of the High Court from the District Courts and the High Court Trial and Probate Divisions. The Chief Justice of American Samoa administers and supervises the Judiciary Branch and is independent of the Executive and Legislative Branches. The Chief Justice and associate justice are assisted by four Samoan lay judges who sit on all courts except the Probate Division. They are also assisted by a clerk of the High Court, a deputy clerk, and a law clerk.

Due to increasing population, increasing sophistication of the Samoan people, and increasing legislation, the volume of litigation and backlog of cases has reached a point that makes it extremely difficult for the Judicial Branch to handle more than the criminal calendar, the traffic calendar, and cases involving routine uncontested civil matters. At the present time the majority of the backlog of civil cases require extended periods of trial also require a great amount of research time by the justices. This has resulted in delays of up to two years in certain types of litigation brought up for trial.

Litigation involving Matai titles and land cases is very important to the Samoan community. Any extensive delays in hearings and settlement have economic and social impacts. The schedule below shows a comparison of the growth in the backlog of civil cases in American Samoa from calendar year 1962 through 1969.

BACKLOG OF CIVIL CASES

	1962	1965	1968	1969
January	15	45	196	239
February	13	46	214	217
March	19	41	205	213
April	20	55	***	216
May	20	51	***	222
June	18	46	***	285*
July	18	45	***	321*
August	20	50	210	
September	21	62	231	
October	22	73	240	
November	24	64	245	
December	22	62	259	

* The figures for June and July of 1969 are not a true reflection of the growth rate. During this period there were a number of debt actions filed against the same defendants on notes owed to the bank.

*** Figures not available.

Legislature: FY 1970 $91,865; FY 1971 -0-; Decrease $91,865. The decrease in Interior Budget Authority is because the legislative function will be financed entirely by local revenues in FY 1971 as shown below:

	Estimate 1970	Estimate 1971	+ or - over '70
Interior Budget Authority	$ 91,865	-0-	$ - 91,865
Local Appropriations	42,135	135,450	+ 93,315
Other Local Revenues	-0-	-0-	-0-
Other Federal Grant Funds	-0-	-0-	-0-
Total Program:	$ 134,000	$ 135,450	$ + 1,450

The program increase of $1,450 over FY 1970 consists of:

Increase (+) or Decrease (-) Amount	Position	Total Program	Total Position	Explanation
(1) $+ 3,036		100,421	1 US Contract 45 Samoan	Normal salary increases for the clerical staff
(2) + 1,500		17,800		Increase in travel funds.
(3) - 3,086		4,114		Decrease in funds needed to replace equipment.
$+ 1,450			1 US Contract 45 Samoan	

The Legislature of American Samoa consists of 18 Senators and 21 Representatives. The Senators are elected by Samoan custom while the Representatives are elected by popular vote. The Constitution provides that the President of the Senate and the Speaker of the House will receive $900 annually while the rest of the members receive $600 annually for the regular session. Under the revised Constitution, the local Legislature has the authority to appropriate local revenues that are derived from sources other than service connected functions.

The Legislature now is actively involved in all phases of budget preparation. This includes establishment of objectives and priorities, program planning and evaluation, presentations to the Bureau of the Budget and the Congress. In addition, the Legislature has authority to pass legislation having local application.

No program changes are anticipated in fiscal year 1971.

DEPARTMENT OF EDUCATION

FY 1970 $4,303,812; FY 1971 $4,250,716; Decrease $53,096. This activity is financed jointly by Interior Budget Authority, local revenues and other Federal grants as shown below:

	Estimate 1970	Estimate 1971	+ or - over '70
Interior Budget Authority	$4,303,812	$4,250,716	-$ 53,096
Local Appropriations	$ 56,800	$ 591,000	+$534,200
Other Local Revenues	$ 273,388	$ 398,284	+$124,896
Other Federal Grants	$ 293,000	$ 458,000	+$165,000
Total Program	$4,927,000	$5,698,000	+$771,000

The increase of $771,000 over FY 1970 consists of:

Increase (+) or Decrease (-) Amount	Position	Total Program	Total Position	Explanation
(1) +$345,109	+ 2 US contract +42 Samoan	$3,645,706	125 US contract 641 Samoan	Normal step increases plus additional employees.
(2) -$ 68,184		$ 209,616		Decrease in stateside travel and transportation costs.
(3) +$ 67,639		$ 170,561		Increase in electrical charges.
(4) +$ 38,954		$ 522,690		Increase in printing costs.
(5) +$120,220		$ 296,008		Increase for on-the-job training program and maintenance of equipment.
(6) +$102,262		$ 207,184		Increase to buy equipment for vocational training and the new Community College.
(7) +$165,000		$ 458,000		Increase due to expanded use of grant funds for vocational training and Community College programs.
+$771,000	+2 US contract +42 Samoan		125 US contract 641 Samoan	

Cost Factors Involved in Increase

(1) Four positions occupied by US contract employees in FY 1970 will be filled by Samoans in FY 1971 as Samoans became increasingly capable to handle teaching and administrative positions. However, six new stateside positions are needed in FY 1971 to expand the vocational training program and the community college. This results in a net increase of 2 stateside positions. The 42 additional Samoan positions are needed for increased student enrollment, thereby keeping the student-teacher ratio in a workable ratio of approximately thirty to one.

(2) Stateside employees will not attend as many educational seminars and in general, will require less travel.

(3) Most of this increase is due to the completion of the electrical power system for the Manu'a Islands. The high cost of electric power generation in Manu'a will significantly increase the overall utility costs for school operations in these islands. Expanding electric utility consumption which will be required for the growing educational system will also account for part of this increase.

(4) There will be many more lesson plans distributed to the schools in FY 1971 to provide more effective instruction as well as to meet the demands of a growing system. Printing costs will increase approximately $15,000 while material and supply costs make up the remaining increase.

(5) An intensive on-the-job training program will be initiated in FY 1971 at an approximate cost of $75,000. An increase in the use of motor pool vehicles to allow supervisors more frequent contact with the Samoan teachers will also result in an increase of vehicle rental costs. The remaining higher costs will be for increased maintenance costs of various electronic equipment, office machines, and office equipment.

(6) This increase is needed to purchase equipment for the new community college and vocational training program. After the program is started in FY 1970, there will be a re-evaluation of needs and specific equipment will be identified which will add most to the program objectives.

(7) An increase in other Federal grants is planned in order to continue the present programs as well as for the additional costs that will be incurred in the vocational training, on-the-job training, guidance and counseling, and pre-school programs. The Federal grants are primarily associated with the Department of Health, Education, and Welfare programs. The specific grants are as follows:

Grant	Amount	Purpose
ESEA Title I	$20,000	Special development of languages for vocational training.
ESEA Title I	$50,000	Pre-school program
ESEA Title II	$30,000	Library books

Grant	Amount	Purpose
MDEA Title III	$50,000	Equip and remodel laboratories and classrooms for vocational training.
Manpower Development Training Act	$90,000	Funds for on-the-job training
P. L. 88-210	$32,000	Salaries, equipment, and supplies for vocational training.
P. L. 87-688	$80,000	Equipment for vocational training.
National School Lunch Program	$88,000	Funds for School Lunch Program
Child Nutrition Program	$18,000	Funds for School Lunch Program
Total	$ 458,000	

Need for Increase

The purpose of the Department of Education is to provide a level and quality of education that will meet local needs and prepare individuals to compete wherever they may live.

FY 1971 represents the seventh year of operation of the Government of American Samoa's instructional television system. Twenty-eight consolidated elementary schools and four high schools are now in operation. The entire educational program was reviewed in late FY 1969 and FY 1970 and, as a result, some important program changes are contemplated.

More emphasis will be given to the early childhood program by increasing the number of village centers, staffed by part-time non-professional village teachers, from 35 in FY 1970 to 45 in FY 1971. This will allow an additional 1,000 four and five year old children to participate in the program, which will have a total enrollment of about 3,000 in FY 1971. The elementary program is well based and will continue about the same as in the past with normal increases necessary to meet natural increased enrollment.

Some significant changes will be made in the secondary and post-high school programs. More emphasis will be given to the preparation of the secondary student, who has not had the advantage of the full scope of the new system, for further education or for work in the community. A primary effort will be made to improve the communication skill of these students.

A community college program will be initiated in FY 1970 and it will be substantially increased in FY 1971. This program will provide a two-year supplement to the present educational system and will serve as a bridge for the student who is preparing himself for college or for a trade. At the present time, most of the Samoan students fail in the college programs because of their inability to communicate. The ability to communicate will be strongly emphasized in the community college program. This program will also include an extensive vocational training program for students who are not

college oriented to learn vocational skills that will prepare them for occupations in American Samoa or in any part of the world they choose to reside.

Teacher training has been conducted in an informal way and generally consisted of instruction received in the classroom along with the student being taught. We intend to make this a more formal type of training to allow the classroom teacher the opportunity of becoming more participative in terms of program development and to provide better application of teaching skills in the classroom. One of the major problem areas in a TV cored educational system is that there is an almost complete pre-emption of class time by the programmed system and it gives little opportunity to identify the good and effective teacher. In addition, there is difficulty in recognizing the different levels of student ability and permitting the teacher to adjust the level of instruction received to the student's capability. We intend to modify the present system to give particular attention to these problem areas primarily to the upgrading of the classroom teacher. Most of these teachers are Samoan and the majority do not hold educational degrees.

The growth in the number of students requires expanded services in the preschool program, television and library services, vocational training for secondary students, adult education and teacher training programs, the scholarship program, and the school lunch program.

MEDICAL SERVICES

FY 1970 -0-; FY 1971 -0-; Increase -0-. This department was funded entirely with local revenues and other Federal grants during FY 1970. The same type of funding will be used in FY 1971 as shown below:

	Estimate 1970	Estimate 1971	+ or - over '70
Interior Budget Authority	-0-	$ -0-	-0-
Local Appropriations	$1,978,394	2,098,000	+$119,606
Other Local Revenues	-0-	-0-	-0-
Other Federal Grants	340,000	340,000	-0-
Total Program	$2,318,394	$2,438,000	+$119,606

The program increase of $119,606 over FY 1970 consists of:

Increase (+) or Decrease (-) Amount	Position	Total Program	Total Position	Explanation
(1) +$100,403	+ 4 Samoan	$1,557,925	16 US Contract 352 Samoan	Normal step increase and the addition of 4 Samoan positions.
(2) -$ 22,812		$ 27,800		Decrease in stateside travel requirements
(3) -$ 17,260		$ 63,240		Decrease in electricity charges.
(4) - $ 400		1,350		Decrease in printing costs.
(5) -$ 2,000		$ 22,400		Decrease in contractual services.
(6) +$ 71,675		$412,099		Increase in cost of supplies and materials for normal operations.
(7) -$ 10,000				Decrease in funds needed to replace major items of equipment.
+$119,606	+ 4 Samoan		16 US contract 352 Samoan	

Cost Factors Involved in Increase

(1) This increase is for normal salary increments and for the addition of four Samoan positions consisting of a clerk, an ambulance driver, a pharmacy assistant, and an X-ray technician.

(6) Most of this increase can be attributed to the Food Services Division which budgeted an unrealistically low amount for FY 1970. This Division has an increase of $60,000 in FY 1971. Also, expected increases in the number of patients to be treated require increased amounts for medications and drugs.

Need for Increase

The responsibility and function of this department is to provide medical services for all American Samoans and educate them in public health and preventative medical care.

The new 150 bed hospital which was dedicated in 1968 provides American Samoa, for the first time, with a medical facility that can provide health care services comparable with at least minimal standards in the United States. Service to the people of Samoa has continued to grow as shown by the following data on number of hospital visits for a four-year period.

	Actual 1968	Actual 1969	Estimate 1970	Estimate 1971
In-patient days	46,904	49,718	52,701	55,863
Out-patient visits	82,786	87,753	93,088	98,599

In 1962, 21 percent of the Samoan population had filariasis (which can lead to elephantiasis), but this disease has now virtually been eliminated. Participation in the Partnership for Health Program will enable American Samoa to continue affiliation with the University of Hawaii and obtain the expertise which is needed to control the program on a continuing basis.

The FY 1971 program will emphasize the following:

a) Affiliation with the University of Hawaii to obtain specialists and needed professional assistance in developing medical programs.

b) Change the emphasis from one of "treatment" to one of "prevention".

c) Develop systems of services that can be largely operated by American Samoans.

d) Participation in the "Partnership for Health" program.

Public Defender: FY 1970 -0-; FY 1971 -0-; Increase -0-.
This activity was funded entirely by local revenues during FY 1970. This type of funding will continue in FY 1971 as shown below:

	Estimate 1970	Estimate 1971	+ or - over '70
Interior Budget Authority	-0-	-0-	-0-
Local Appropriations	$ 29,905	$ 31,400	$ 1,495
Other Revenues	-0-	-0-	-0-
Other Federal Grants	-0-	-0-	-0-
Total Program:	$ 29,905	$ 31,400	$ 1,495

The program increase of $1,495 above FY 1970 consists of:

Increase (+) or Decrease (-) Amount	Position	Total Program	Total Position	Explanation
(1) $+1,346		$24,931	1 US contract 2 Samoan	Normal salary increases for all employees.
(2) - 671		4,754		Decrease in travel.
(3) + 375		800		Increase in contractual services required during Legislature in session.
(4) + 445		800		Increase to replace one typewriter and necessary law books.
$+1,495			1 US Contract 2 Samoan	

Cost Factors Involved in Increase

(3) The Assistant Public Defender, who is also the President of the Senate, is also in charge of defending traffic violators. When he is absent for Senatorial duties, a Samoan Legal Practitioner must be hired as a substitute.

The Public Defender represents all defendants desiring such representation in criminal cases prosecuted by the Attorney General.

Department of Legal Affairs: FY 1970 $46,000; FY 1971 $43,000; Decrease $3,000. This department was funded jointly by Interior budget authority, local revenues, and Federal grants during 1970. This type of funding will continue in FY 1971 as shown below:

	Estimate 1970	Estimate 1971	+ or - over '70
Interior Budget Authority	$ 46,000	$ 43,000	-$ 3,000
Local Appropriations	$ 390,942	$342,253	-$48,689
Other Local Revenues	$ 143,058	$219,747	+$76,689
Other Federal Grants	$ 100,000	$100,000	-0-
Total Program:	$ 680,000	$705,000	+$25,000

The program increase of $25,000 over FY 1970 consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Position	Explanation
(1) $+41,728	+1 US Contract +1 Samoan	$527,100	2 US CS 2 US contract 128 Samoan	Addition of an assistant attorney general and a police captain & step increases.
(2) - 300		6,400		Decrease in travel costs.
(3) + 2,000		3,650		Increase in printing costs to implement a new traffic ticket system.
(4) + 8,250		10,000		Increase in vehicle maintenance costs.
(5) + 4,822		21,000		Increase in supplies for Fire Department and Police Investigation Division.
(6) - 31,500		32,000		Decrease in equipment replacement costs.
$+ 25,000	+1 US Contract +1 Samoan		2 US CS 2 US contract 123 Samoan	

Cost Factors Involved in Increase

(1) Two positions have been added in FY 1971 - assistant attorney general and police captain. The assistant attorney general position existed in prior years, but was dropped during FY 1970 because of budget

constraints. The present staff has been unable to cope with the constantly growing workload. New laws and more legal awareness on the part of the Samoans has accounted for most of the increased workload. There are an average of 6 criminal trials a month. In July 1969 there was a backlog of 25 criminal and 50 civil cases, and this backlog has steadily increased. At present there is a lack of high level supervisory personnel in the Police Department, and there are occasions when decisions must be deferred due to the unavailability of a proper official. The addition of a Police Captain to the force will remedy this problem. Other increases in salaries are normal step increments.

(2) Six of the eight cars in the Police Department have over 50,000 miles on them and require extensive repairs. Also included in this increase is repairs to communications, photographic, and office equipment.

(3) In FY 1970, $55,000 was budgeted for a fire rescue truck for use at the airport. Lack of a similar item in the FY 1971 budget accounts for most of the large decrease in FY 1971. Some of the savings are offset by the critical need to replace 4 police vehicles. At the present time, the Police Department has 8 sedans which are used for both patrol and investigative work. Four of the vehicles are not available about 50 percent of the time because they are in the garage for repairs. All four vehicles have over 50,000 miles and need to be replaced.

Need for Increase

The Legal Affairs Department provides essential services in the areas of legal, police, fire, and immigration activities in American Samoa. With rapid increases in population and tourism, this activity must extend its capability and effectiveness to protect lives and property.

The total budget of Legal Affairs for FY 1971 is $705,000. Included is approximately $100,000 of grant funds which will be used for training, equipment, research projects, code revision etc.

Local Judicial: FY 1970 -0-; FY 1971 -0-; Increase -0-.
This activity was funded entirely by local revenues during FY 1970. This type of funding will continue in FY 1971 as shown below:

	Estimate 1970	Estimate 1971	+ or - over '70
Interior Budget Authority	-0-	-0-	-0-
Local Appropriations	$16,081	$15,930	- $ 151
Other Local Revenues	$14,919	-0-	- $14,919
Other Federal Grants	-0-	-0-	-0-
Total Program:	$31,000	$15,930	-$15,070

The program decrease of $15,070 consists of:

Increase (+) or Decrease (-) Amount	Position	Total Program	Total Position	Explanation
(1) $-15,070	-1 US contract -6 Samoan	$14,880	7 Samoan	Salary of stateside court reporter transferred to Chief Justice Budget.
$-15,070	- 1 US contract - 6 Samoan		7 Samoan	

Cost Factors Involved in Increase

(1) This decrease resulted primarily from transferring a court reporter position to the Chief Justice and High Court budget in FY 1971. A new District Court statute eliminated the need for four Samoan Marshalls and two Samoan clerks. However, salary increases for the remaining positions offset the savings resulting from the eliminated positions.

The associate judges serve in an advisory capacity to the High Court on all matters relating to Samoan culture and custom. This office represents the Government of American Samoa by "assessors" at discussions between matai, usually involving land disputes.

Civil Defense: FY 1970 -0-; FY 1971 -0-; Increase -0-.
This activity is funded as follows:

	Estimate 1970	Estimate 1971	+or - over '70
Interior Budget Authority	-0-	-0-	-0-
Local Appropriations	$ -0-	$ 8,600	+$ 8,600
Other Revenues	8,000	-0-	-$ 8,000
Other Federal Grants	8,600	8,600	-0-
Total Program:	$16,600	$17,200	+$ 600

One half of the total program for this activity is financed by a grant available under the National Civil Defense Program, Public Law 920, 81st Congress, as amended; Public Law 85-606 which amended portions of Public Law 920; and Executive Order 10925 of August 1, 1961.
The program increase of $600 over FY 1970 consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Position	Explanation
(1) $+ 600		$ 5,866	2 Samoan	Normal salary increase.
$+ 600			2 Samoan	

The function of this office is to train the populace and prepare them for meeting emergency situations caused by civil riots, natural disasters, war emergencies, etc.

Parks and Recreation: FY 1970 -0-; FY 1971 -0-; Increase -0-.
This activity was funded entirely with local revenues during FY 1970. This type of funding will continue in FY 1971 as shown below:

	Estimate 1970	Estimate 1971	+ or - over '70
Interior Budget Authority	-0-	-0-	-0-
Local Appropriations	-0-	-0-	-0-
Other Local Revenues	$19,000	$25,200	+$ 6,200
Other Federal Grant Funds	-0-	-0-	-0-
Total program	$19,000	$25,200	+$ 6,200

The program increase of $6,200 over FY 1970 consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1) +$6,400	+ 2 Samoan	$23,100	1 US contract 5 Samoan	Addition of sports coordinator and janitor position.
(2) -$1,000		-0-		Deletion of travel to sports seminars.
(3) +$ 500		$ 700		Increase in utilities expenses.
(4) +$ 100		$ 300		Emergency costs related to visiting sports teams.
(5) +$ 200		$ 400		Purchase of janitorial and gardening equipment.
+$6,200	+ 2 Samoan		1 US contract 5 Samoan	

Cost Factors Involved in Increase

(1) One position of sports coordinator has been transferred from the Department of Education to Parks and Recreation for FY 1971. The other position is for a much needed janitor. These positions are budgeted at annual salaries of $4,600 and $1,800 respectively.

This office initiates and supervises recreational program for the territory and maintains all recreational areas and parks. These programs include activities for all ages, such as developing safe swimming areas, intramural sports, and specialized activities for different age groups (teen-age centers, Boy Scout areas, etc.) These activities are particularly important in an isolated area with limited alternative activities.

Office of Samoan Information: FY 1970 -0-; FY 1971 -0-; Increase -0-. This activity was funded entirely by local revenues during FY 1970. This type of funding will continue in FY 1971 as shown below:

	Estimate 1970	Estimate 1971	+ or - over '70
Interior Budget Authority	-0-	-0-	-0-
Local Appropriations	$27,000	-0-	-$ 27,000
Other Local Revenues	$84,300	$88,462	+$ 4,162
Other Federal Grant Funds	-0-	-0-	-0-
Total Program	$111,300	$88,462	-$ 22,838

The program increase of $22,838 consists of:

Increase (+) or decrease (-) Amount	Position	Total Program	Total Position	Explanation
(1) +$ 677		$66,354	2 US contract 9 Samoan	Normal step increases for all employees
(2) -$1,000		$ 1,200		Decrease in travel.
(3) +$3,000		$ 7,800		Increase in printing costs for the daily NEWS BULLETIN.
(4) +$3,000		$ 5,000		The cost of radio photo service which was transferred from Department of Education budget in FY 1971.
(5) -$28,515		$ 6,008		Decrease in equipment replacement.
-$22,838			2 US Contract 9 Samoan	

Cost Factors Involved in Increase

(3) The NEWS BULLETIN is distributed to all schools for teaching worldwide and local current events.

(5) $27,000 was budgeted in FY 1970 for a new antenna for the radio station. No significant equipment purchases will be required in FY 1971.

The Office of Samoan Information is responsible for all the information activities of the Government of American Samoa. This function includes supervision of the radio station, publication of a daily NEWS BULLETIN, compilation of the annual report, publication of special information pamphlets

and documents, and arranging visits of dignitaries and personnel from other news medias. This office has a particularly vital function during times of emergency. The radio station, which is the only communications medium that can reach all inhabitants, is used to alert people of typhoons, hurricanes, and other dangers.

DEPARTMENT OF AGRICULTURE

FY-1970 - 0 -; FY-1971 - 0 -; Increase - 0 -.
This department was funded entirely by local revenues or Federal grants other than Interior Budget Authority during FY-1970. The same type of funding will be used in FY-1971 as shown below:

	Estimate 1970	Estimate 1971	+ or - over '70
Interior Budget Authority	- 0 -	- 0 -	- 0 -
Local Appropriations	$442,685	$399,680	-$ 43,005
Other Local Revenues	- 0 -	- 0 -	- 0 -
Other Federal Grant Funds	$ 51,000	$ 91,000	+$ 40,000
Total Program	$493,685	$490,680	-$ 3,005

The program decrease of $3,005 consists of:

	Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Position	Explanation
(1)	+$ 28,113	+2 US Contract +6 Samoan	$ 284,140	4 US Contract 79 Samoan	Normal step increases and funding for a net of 6 new positions.
(2)	-$ 6,300		$ 10,300		Decrease in travel.
(3)	+$ 5,498		$ 10,300		Increase in rental charges for experimental farm land.
(4)	-$ 1,455		$ 1,750		Decrease for printing and reproduction costs.
(5)	-$ 1,490		$ 7,400		Decrease in other contractural services.
(6)	+$ 2,396		$ 76,550		Increase in supplies and material due to expansion of programs.
(7)	-$ 69,767		$ 7,740		Decrease in equipment replacement.

Increase (+) or Decrease (-)

	Amount	Positions	Total Programs	Total Position	Explanation
(8)	+$ 40,000		$ 92,500		Increase in Federal grants available for fisheries program.
	-$ 3,005	+2 US contract +6 Samoan		4 US contract 79 Samoan	

Cost Factors Involved

(1) Two additional stateside contract and 6 Samoan positions are included as recommended by the Wolf Management Report. The two stateside positions are for an agriculture information officer and a home economics specialist in the Extension Service Division. The six Samoan positions are in the Fisheries Division and are related to increased emphasis on the development of the territory's commercial fisheries potential.

(3) The present lease for the experimental farm will need to be renewed in FY-1971. It is expected that the annual rental rate for this facility will be significantly increased since the expiring lease of $150 a year was set thirty-five years ago.

(7) In FY-1970 the department purchased a caterpillar which cost about $61,000. This accounts for the major portion of the FY-1971 decrease over FY-1970.

(8) The territory's plan to expand its commercial fisheries activity accounts for this large increase. Additional funds in the amount of $40,000 are available from the Bureau of Commercial Fisheries under P.L. 88-309 for this activity.

The Department of Agriculture consists of the Office of the Director, Experimental Farm, Extension Services, Entomological Division, and Fisheries and Forestry division. The primary function of this department is to provide service to local farmers which will enable them to increase their crop output and to encourage others to plant available acreage.

The experimental farm will be gradually phased down and more emphasis will be given to clearing land and providing extension services to farmers. An active 4-H Club is sponsored. Inspectors from the Quarantine Section meet and inspect incoming or outgoing cargo on all aircraft and ships visiting the territory.

The fisheries program is attempting to develop and improve the commercial fishing potential. Three fourths of this program is funded by the Bureau of Commercial Fisheries with Federal funds available under P.L. 88-309. This program is to receive greater emphasis as it represents one of the better potential economic opportunities for this area.

LOCAL GOVERNMENT

FY-1970 - 0 -; FY-1971 - 0 -; Increase - 0 -.
This activity was funded entirely by local revenues during FY-1970. This type of funding will continue in FY-1971 as shown below:

	Estimate 1970	Estimate 1971	+ or - over '70
Interior Budget Authority	- 0 -	- 0 -	- 0 -
Local Appropriations	$ 91,410	$ 99,500	+$ 8,090
Other Local Revenues	$ 835	- 0 -	-$ 835
Other Federal Grant Funds	- 0 -	- 0 -	- 0 -
Total Program	$ 92,245	$ 99,500	+$ 7,255

The program increase of $7,255 over FY-1970 consists of:

Increase (+) or Decrease (-)

	Amount	Positions	Total Program	Total Position	Explanation
(1)	+$ 8,005	+ 1 Samoan	$ 95,570	87 Samoan	Additional clerk and increases for district governors and county chiefs.
(2)	-$ 750		$ 1,000		Decreases in contract services.
	+$ 7,255	+ 1 Samoan		87 Samoan	

Cost Factors Involved in Increase

(1) Three district governors salaries will be increased from $2280 to $3,600 per annum, and 14 county chiefs salaries will be increased from $1,040 to $1,440 per annum.

Need for Increase

The Local Government functions primarily as a link between the central government and the people in the villages. This office provides aid and supervision over the district governors, county chiefs, village mayors, and village policemen. They confer regularly with village chiefs and maintain records on census statistics. This office also conducts local elections. All functions are related to the goal of achieving a self-maintaining and self-reliant governmental system at the grass roots level.

OFFICE OF TOURISM

FY-1970 - 0 -; FY-1971 - 0 -; Increase - 0 -.
This activity was funded entirely by local revenues during FY-1970. This type of funding will continue in FY-1971 as shown below:

	Estimate 1970	Estimate 1971	+ or - over '70
Interior Budget Authority	- 0 -	- 0 -	- 0 -
Local Appropriations	$ 26,714	$ 25,487	-$ 1,227
Other Local Revenues	$ 6,500	- 0 -	-$ 6,500
Other Federal Grant Funds	- 0 -	- 0 -	- 0 -
Total Program	$ 33,214	$ 25,487	-$ 7,727

The program decrease of $7,727 consists of:

Increase (+) or Decrease (-)

	Amount	Positions	Total Program	Total Positions	Explanation
(1)	+$ 2,273	+ 3 Samoan	$ 17,632	8 Samoan	Additional Samoan positions and normal step increases
(2)	-$10,000		- 0 -		Decrease in promotion and publicity costs.
	-$ 7,727	+ 3 Samoan		8 Samoan	

Cost Factors Involved

(1) Increased revenue from special liquor tax will allow three additional positions in FY 1971 to expand the tourism program in American Samoa. The three positions are tourism research specialist, information clerk and receptionist.

(2) During FY 1970, $10,000 was budgeted for the publicity and promotion of the new Samoan Village in Pago Pago Park; a similar campaign is not planned for FY 1971.

Tourism is one of the most promising areas of income for American Samoa and is steadily increasing. It is the responsibility of the Office of Tourism to cultivate this income potential and still retain the culture and beauty of Samoa. A more vigorous publicity program will be conducted in FY-1971 with the addition of American Airlines providing service to American Samoa. The addition of this carrier is expected to have a beneficial effect on the number of tourists coming to the island.

Development Planning Office: FY 1970 -0-; FY 1971 -0-; Increase -0-. This activity was funded by local revenues and other federal grants during FY 1970. This type of funding will continue in FY 1971 as shown below:

	Estimate 1970	Estimate 1971	+ or - over '70
Interior Budget Authority	-0-	-0-	-0-
Local Appropriations	$ 11,000	$ 15,000	+ $4,000
Other Local Revenues	-0-	-0-	-0-
Other Federal Grant Funds	40,000	53,000	+ 13,000
Total Program:	$51,000	$ 68,000	+ $17,000

The program increase of $17,000 consists of:

Increase (+) or Decrease (-)

Amount	Position	Total Program	Total Position	Explanation
(1) $+ 4,000		$ 15,000	1 US Contract 3 Samoan	Increase due to late start of program in FY 1970.
(2) + 13,000		53,000		Increase in grant fund program.
$+ 17,000			1 US Contract 3 Samoan	

Cost Factors Involved in Increase

(1) The office was started in October 1969 and therefore only required funds for the last 8 months of FY 1970. The $4,000 increase results from the office being funded for a full 12-month period in FY 1971.

(2) The grant amount has also been increased to allow operations for a full 12-month period.

Need for Increase

Public Law 11-32 enacted by the Legislature of American Samoa created a Development Planning Office which was established in October 1969.

The Development Planning Office will serve as the focal point for all future planning in the government and private sectors. It will review all grant applications to other Federal agencies to insure that they fit into the overall economic plan for the Territory and meet the requirements of participation specified by the Department of the Interior and the U.S. Congress. This office will also coordinate a statistical system for development and analysis.

COMMUNICATIONS

FY-1970 - 0 -; FY-1971 - 0 -; Increase - 0 -.
This activity was funded entirely by local revenues during FY-1970. This type of funding will continue in FY-1971 as shown below:

	Estimate 1970	Estimate 1971	+ or - over '70
Interior Budget Authority	- 0 -	- 0 -	- 0 -
Local Appropriations	- 0 -	- 0 -	- 0 -
Other Local Revenues	$ 202,000	$ 212,027	+$ 10,027
Other Federal Grant Funds	- 0 -	- 0 -	- 0 -
Total Program	$ 202,000	$ 212,027	+$ 10,027

The program increase of $10,027 over FY-1970 consists of:

	Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1)	-$ 2,341	-2 Samoan	$ 119,236	32 Samoan	Elimination of 2 Samoan positions partially offset by normal step increases.
(2)	+$ 4,000		$ 36,000		Increase in utility costs and transmission expenses.
(3)	+$ 7,360		$ 43,930		Increase for reimbursement to FAA for technical services provided in the intergrated facility operations.
(4)	+$ 1,008		$ 9,911		Increase for the purchase of office and electronic supplies.
	+$10,027	-2 Samoan		32 Samoan	

Need for Increase

This program is designed to handle the rapidly increasing communication requirements of the Government and the public. Some forms of Communication work have been intergrated wherever possible with the FAA, but this department still handles the overseas telephone and radiograms services, ship-to-shore telegraph and telephone, local inter-and-intra-island radio circuits, police and fire protection, VHF system, aeronautical mobile utility VHF system, ETV HF and VHF systems, and public works HF networks.

Public Works Department: FY 1970 $1,459,000; FY 1971 $1,640,000. Increase $181,000. This activity is completely funded by Interior Budget Authority for FY 1971 as shown below:

	Estimate 1970	Estimate 1971	+ or - over '70
Interior Budget Authority	$1,459,000	$1,640,000	+ $181,000
Local Appropriations	40,000	-0-	- 40,000
Other Local Revenues	-0-	-0-	-0-
Other Federal Grant Funds	-0-	-0-	-0-
Total Program:	$1,499,000	$1,640,000	+ $141,000

The increase of $141,000 over FY 1970 consists of:

Increase (+) or Decrease (-) Amount	Position	Total Program	Total Position	Explanation
(1) $+ 139,343	+ 66 Samoan	$1,198,509	7 US Contract 406 Samoan	Normal step increases for all employees plus 66 Samoan positions.
(2) - 20,595		21,293		Decrease due to reduced stateside travel requirements.
(3) + 9,894		34,929		Increase in utility costs.
(4) + 8,146		23,541		Increase in contract services needed to maintain facilities.
(5) - 8,735		286,174		Decrease in operating supplies & materials.
(6) + 12,947		73,300		Increase for replacement of vehicles.
$+ 141,000	+ 66 Samoan		7 US Contract 406 Samoan	

Cost Factors Involved in Increase

(1) To meet the increasing operating and maintenance demands, 66 additional Samoan positions are needed in FY 1971. Some of the additional costs for these positions will be offset through a reorganization which will result in more efficiency consolidating various administrative personnel from divisions into the Office of the Director, and by consolidating the Engineering Division and Land and Survey Branches into one function.

(6) Two garbage trucks are needed to replace vehicles which are beyond economical repair. Increased costs for these two trucks will be offset by deferment of replacement of other less vitally needed equipment.

Need for Increase

In addition to supervising and directing the construction programs in American Samoa, the Department of Public Works is responsible for engineering, design, contract administration, and maintenance and operation of all Government facilities.

During the past seven years this territory has concentrated on the construction of new facilities such as the school system, hospital, airport, roads, water and sewer systems. Unfortunately, the operation and maintenance of these new facilities was never properly programmed. In addition, many buildings and other facilities inherited from the Navy are very old and require extensive maintenance.

The following information gives some indication of the increase in maintenance responsibilities in the past seven years, and the problems of maintaining old facilities.

(a) A total of 360 school buildings have been constructed. This includes classrooms for all the consolidated elementary schools and the four high schools plus other auxiliary school buildings. Most of these structures are adjacent to the ocean, and this, together with the tropical conditions in the territory, results in extensive maintenance costs.

(b) Over 40 miles of road have been paved and 30 miles of seawalls have been completed. More than 100 miles of road shoulders, for unpaved as well as paved roads, require constant maintenance. It is very important to keep these roads clear to provide transportation of children to school as well as for general use. The torrential rains in the territory result in expensive maintenance costs.

(c) 66 quarters are wood frame construction from 25 to 45 years old, and many are termite infested. About 100 family and bachelor quarters have been constructed since 1964, and these require periodic maintenance.

(d) A sewage disposal plant was completed in 1968, and this substantially increased operating and maintenance costs. As more sewer lines are completed, maintenance costs also increase significantly.

(e) A 150 bed hospital was opened in 1968, and it is very important from a health standpoint to keep all equipment and structures in good condition.

PORT ADMINISTRATION

FY-1970 - 0 -; FY-1971 - 0 -; Increase - 0 -.
This activity was funded entirely by local revenues during FY-1970. This type of funding will continue in FY-1971 as shown below:

	Estimate 1970	Estimate 1971	+ or - over '70
Interior Budget Authority	- 0 -	- 0 -	- 0 -
Local Appropriations	- 0 -	- 0 -	- 0 -
Other Local Revenues	$400,000	$403,880	+$3,880
Other Federal Grant Funds	- 0 -	- 0 -	- 0 -
Total Program	$400,000	$403,880	+$3,880

The program increase of $3,880 over FY-1970 consists of:

Increase (+) or Decrease (-)

	Amount	Positions	Total Program	Total Position	Explanation
(1)	+$ 9,174	-2 US Contract +4 Samoan	$ 212,070	5 US Contract 49 Samoan	Normal step increases for all employees.
(2)	-$ 400		$ 14,400		Decrease in travel.
(3)	-$ 5,160		$ 5,160		Decrease in funds needed for utilities.
(4)	+$ 300		$ 1,800		Increase in printing and reproduction costs
(5)	+$ 9,380		$ 65,350		Increase in maintenance costs for wharves, docks and harbor moorings.
(6)	-$ 928		$ 84,000		Decrease in operating supplies & materials.
(7)	-$ 8,486		$ 21,100		Decrease in equipment replacement costs.
	+$ 3,880	-2 US Contract +4 Samoan		5 US Contract 49 Samoan	

Cost Factors Involved in Increase

(1) Two former US contract positions (Tug master and Tug engineer) will be filled by Samoan personnel in keeping with this administration's policy to promote qualified Samoans.

(2) The airport revolving fund will be charged for airport utility expenses in FY-1971. This expense had previously been paid with Port Administration funds.

(3) In prior years the costs for maintaining wharves, docks, and harbor moorings were included in the Public Works Department budget. Port Administration will be responsible for this maintenance beginning in FY-1971.

The Port Administration provides all services associated with port and airport facilities, including customs responsibilities. It is also responsible for all water transportation requirements of the Government.

AUDIT OFFICE

FY-1970 - $11,000; FY-1971 $20,000; Increase $9,000.
This activity was funded jointly by Interior budget authority and local revenues during FY-1970. This type of funding will continue in FY-1971 as shown below:

	Estimate 1970	Estimate 1971	+ or - over '70
Interior Budget Authority	[illegible],000	[illegible].000	+9,000
Local Appropriations	- 0 -	- 0 -	- 0 -
Other Local Revenues	$ 11,000	$ 14,000	+$ +3,000
Other Federal Grant Funds	- 0 -	- 0 -	- 0 -
Total Program	$ 22,000	$ 34,000	+$ 12,000

The program increase of $12,000 over FY-1970 consists of:

Increase (+) or Decrease (-)

	Amount	Positions	Total Program	Total Position	Explanation
(1)	+$ 12,000		$ 33,531	1 US CS 3 Samoan	To provide for a qualified internal auditor and normal step increases.
	+$ 12,000			1 US CS 3 Samoan	

Cost Factors Involved in Increase

(1) Although a US Civil Service auditor position has been included in previous budgets, the salary had been set at only $10,000 which was too low to attract a well-experienced person. In order to improve the effectiveness of the Internal Audit Office and attract a qualified auditor, the salary has been increased to $19,000 per annum.

Need for Increase

A strong internal audit program is required in order to obtain greater managerial economy and efficiency within an organization as large and complex as the Government of American Samoa.

Administrative Services: FY 1970 $106,000; FY 1971 $133,000; Increase $27,000
This activity was funded jointly by Interior budget authority and local revenues during FY 1970. This type of funding will continue in FY 1971 as shown below:

	Estimate 1970	Estimate 1971	+ or - over '70
Interior Budget Authority	106.000	133,000	+ 27,000
Local Appropriations	$ 561,200	$ 579,200	+$ 18,000
Other Local Revenues	-0-	-0-	-0-
Other Federal Grant Funds	-0-	-0-	-0-
Total Program:	$ 667,200	$ 712,200	+$45,000

The program increase of $45,000 over FY 1970 consists of:

Increase (+) or Decrease (-) Amount	Position	Total Program	Total Position	Explanation
			6 US CS 6 US Contract	Normal step increases and 1 new position in the
(1) $+ 34,985	+ 1 Samoan	$490,646	77 Samoan	Income Tax Branch.
(2) + 13,280		38,980		Increase to provide for field tax audits in the United States.
(3) - 21,968		76,748		Contract employees will pay a portion of their utilities costs in FY 1971.
(4) + 171		9,300		Increase in printing costs for budget data.
(5) + 12,525		20,975		Increase due to transfer of Executive House Operations to Administrative Serv
(6) + 3,620		28,758		Increase in supplies and materials costs.
(7) + 2,387		46,793		Increase to replace office equipmen t and furniture.
$ + 45,000	+ 1 Samoan		6 US CS 6 US Contract 77 Samoan	

Cost Factors Involved in Increase

(1) One new Samoan position has been added to increase the effectiveness of the field audit group in the Income Tax Branch. Prior to FY 1970, only desk audits were made of income tax returns in American Samoa. We expect to increase tax revenues by as much as $100,000 per year through an effective and aggressive field audit program.

(2) Most of this increase is for costs of on site audits of several large firms in the United States which conduct business in American Samoa. Other increases are for travel costs of the comptroller and 2 staff accountants whose contracts terminate in FY 1971.

(3) At the present time all utilities are furnished free to contract employees. It is expected that contract employees will start paying utility costs in FY 1971.

Need for Increase

The Department of Administrative Services is responsible for the financial management of all government activities, including collection of revenues, disbursement of territorial and federal funds, budgeting for all government activities, administration of the Samoan Income Tax laws, and management of government business-type activities, such as the territorial liquor store and the Air Force cafeteria. Administrative Services is also responsible for all government supplies and materials, and for the provision of housing and furniture for contract employees.

Included in this Department's 1971 budget are Executive House operations. This activity was budgeted separately prior to FY 1971, but has been moved to Administrative Services for better managerial control. The funds provide for the operation of Government House, the residence of the Governor of American Samoa.

GOVERNMENT OF AMERICAN SAMOA

FY-1971 CONSTRUCTION PROGRAM

	Estimate 1970	Estimate 1971	Increase (+) Decrease (-)
1. Water Development	$ 378,167	$ 363,921	-$ 14,246
2. Road Program	330,000	255,000	- 75,000
3. Sewers	500,000	503,000	+ 3,000
4. Marine Railway	45,000	-0-	- 45,000
5. Public Health & Safety	30,000	35,000	+ 5,000
6. Manu'a Wharfage	33,000	75,000	+ 42,000
7. Gunther-Shirley-Lane Claim	178,000	-0-	- 178,000
8. Dock Repairs	70,000	-0-	- 70,000
9. Garbage Retaining Wall	40,000	-0-	- 40,000
10. School Construction	-0-	220,000	+ 220,000
11. Construction Equipment	-0-	76,000	+ 76,000
12. Airport Development	-0-	200,000	+ 200,000
13. Central Business Area Development	-0-	50,000	+ 50,000
SUBTOTAL	$1,604,167	$1,777,921	+$ 173,754
Satala Generator	950,000	-0-	- 950,000
TOTAL PROGRAM	$2,554,167	$1,777,921	-$ 776,246

WATER

FY-1971 request is $363,921. The basic aim of the water supply program is to provide a reliable and potable domestic water supply in American Samoa. The secondary aim is to provide fire protection in all areas of concentrated population. The Pago Pago Bay area and the Tafuna Airport areas now have this domestic and fire protection service available below the elevation of 200 feet.

The design objective of the water program is to reduce the sources of supply to the minimum number of reliable points and to tie these purified sources together with an "island-wide system", a main line which will link all population centers on the south side of Tutuila from Amanave at the western tip to Tula on the extreme eastern end of the island. Wells and large high elevation spring-fed reservoirs will be the sources of supply and primary

storage. This system will be completely financed by GAS. In high-density areas, there will be water lines to homes and businesses. Low population villages will have safe water piped to a central source.

In spite of 200 to 250 inches of rainfall per year, the supply of potable water for the territory is still inadequate and represents an urgent priority. About one half of the 1969 population base of 28,000 is still not served by safe water. Water rationing is still common, and the purity of water, as the result of excessive run-off, is often below minimum health standards. Existing open reservoirs are excellent breeding areas for insects and algae due to the heat and moisture conditions. Steep terrain and a volcanic rock base provide very few areas suitable for water catchments. The existing village systems are primarily supplied by one or more small catchments of streams, some spring fed and others supplied by surface runoff. This requires maintenance of over 60 water sources which makes proper purification control almost impossible.

It is planned to complete the basic water system within five years. This will then serve approximately 98% of the total population and permit opportunities for economic growth. The forecast is to service slightly less than 100% of the total population since a few areas cannot be serviced except at a prohibitive cost. As the system is constructed, it is planned to systematically reduce the sources of supply to a minimum number of reliable points and tie these together with an "island-wide system". Funds have been scheduled according to an ability to construct the projects. Prime emphasis will be given to developing wells and large high elevation spring-fed reservoirs in order to control purity of water as easily as possible. Local distribution systems fed from the "island-wide system" will be designed by the Government of American Samoa and financed on a cooperative basis with village or district water commission. House connections will be metered and fees charged which will supplement future water and sewer developments. The ultimate goal is to have Samoans, administer, operate and maintain the systems.

Projects to be constructed during FY-1971 are as follows:

1. Surface and Ground Water Studies $ 20,000

   This is a continuing exploration program to develop data on water supplies available on Tutuila and Manu'a. The total estimated cost is $40,000, half of which is paid by the U.S.G.S. Surface and ground water information necessary for design of water systems is obtained. Testing of wells to establish proper pumping rates is also included. Increasing emphasis is being placed on ground water development in order to provide a more reliable source and reduce the problems of contamination and excessive evaporation.

2. Village Water Systems $ 40,000

   This is a continuing program to provide potable water to villages either by upgrading existing systems or by providing more reliable sources. Concentration will be on villages on the main island of Tutuila that are isolated from the island-wide system.

3. Island-Wide Main and Storage $303,921

   This is a continuing project to develop a main from Amanave to Tula which will tie potable reliable sources together and provide sufficient storage for the anticipated dry cycle in the 1970's. The main will be extended west of Leone to Nua and east of Atu'u to Lulp and west of Fagaitua to Alofau during FY 1971. Ground water supply and tank storage will bring development in the area between Nu'uuli and Faga'alu. Seven outlying

vilages having a total FY 1970 population of about 1,400 will have increased storage and treatment added to their systems. This will increase the total number of people served by reliable water sources from about 22,400 in FY 1970 to an estimated 26,800 in FY 1971.

SEWERS

FY-1971 request is $503,000. The necessity for a territorial sewage system program has reached the point of emergency. The potential danger to the health of the people and beauty of the island are the basic justifications for proceeding as rapidly as possible towards completing this program.

At present, only 8% of the population is served by a sewerage disposal system. Raw sewerage is being dumped directly into Pago Pago Bay, reputedly the most beautiful harbor in the South Pacific. Nu'uuli lagoon, a prime area for recreational, hotel and industrial development, is seriously polluted.

Village collection systems are necessary, particularly in the population centers now having an excess of 1,000 people. Because of the underlying strata, septic tanks and leachfields or cesspools are not a permanent solution. Financially, they are not of advantage when the system can include 1,000 persons over 5,000 lineal feet of collection piping. This will be the situation for over 95% of the territory's population by 1975.

It is desirable to complete this sewerage system in conjunction with the water development within the next five years. As in the case of water development, the goal is to develop sewerage systems that can be operated and maintained by Samoans under a utility district concept.

Projects scheduled for FY-1971 are as follows:

1. Tafuna Treatment - Final Design $ 10,000

At present, the ground water is being polluted around the Government housing area through over-loading with septic tank effluent. Twelve cases of hepatitis recently occurred within a two-block area which are believed to have been caused from contamination of water. Constant pumping of septic tanks is now necessary at an extremely high cost. The adjoining lagoon, which is a prime recreational area, is already polluted from runoff through lava tubes from the septic tank area. Most Samoan families in the area are now forced to use outhouses, holes in the ground or the waters of the lagoon because of the lack of any other type of available facility. The Tafuna collection and outfall construction is to begin in FY-1970. Preliminary design of the treatment plant will also be done in FY-1970. The program will be continued by preparing final treatment design in FY-1971. Extension of collection lines and construction of the treatment plant will follow in FY-1972. This system will serve the airport area, future industrial complex, government housing and the villages of Tafuna and Nu'uuli. It has the largest population (7,825) outside of the Pago Pago harbor area.

2. Harbor Area Laterals $ 230,000

FY-1970 will see the completion of the harbor area main on the west side of Pago Pago Bay. This area is now serviced by a sewer treatment plant which is only operating at a 10% capacity. Laterals are now needed to permit households to connect to the system and to enable the treatment plant to operate more efficiently. In addition, this construction will reduce storm drain and stream pollution in these densely populated areas.

3. Pago Pago - Atu'u Main 263,000

This will complete Phase II of the sewer main which includes the major portion of the bay area, including the cannery complex. This area is the major contributor to the present pollution in the bay area. Dumping raw effluent also presents a danger in that it attracts sharks to the bay. All communities to be served by this main are now dumping raw sewerage into Pago Pago bay. The cannery complex including approximately 100 fishing boats is also following the same practice because of the lack of any other facility. The maps following this section show the present and proposed construction.

ROADS

FY-1971 request is $255,000. The rapid increase in traffic volume in the territory makes it imperative that the road system be improved. In the recent past the introduction of low cost foreign autos and trucks together with increased wages, has ballooned the number of vehicles from a mere handful to over 2,000 at present. A recent Bureau of Public Roads survey reveals that 1701 vehicles passed a specific point in one hour during the peak traffic period.

Large numbers of children still walk over trails from villages on the north side of the island or travel over dangerous jeep roads in order to go to school.

Many areas susceptible to agricultural development cannot be reached because of the lack of roads. The existing roads have not been designed in accordance with current highway engineering practices due largely to the steep terrain prevalent in the territory. Roads therfore have traditionally followed existing paths and jeep trails. Road construction in the past has emphasized the paving of roads but little or no regard had been given to the construction of guard rails and other safety features. As a result, many conditions exist such as excessively steep grades, inadequate sight distance on curves, which are extremely hazardous. Well over 50% of the existing roads have steep drop-offs of 10 feet or more, and no guard rails exist. Many accidents may have been minimized had barriers been available. A recent medical survey indicates an excessive number of treatments resulting from auto accidents.

The program for roads through FY-1974 includes the construction of 90.3 miles of primary and secondary roads. By the end of FY-1969 43.4 miles were completed. The first goal is to complete the construction of the primary road system before additional secondary roads are constructed. This will provide basic transportation facilities for the majority of villages on the island of Tutuila. About 25 miles of primary roads remain to be constructed.

No new paved roads are proposed for FY 1971. Primary attention will be given to the protection of existing paved roads and the improvement of secondary roads subject to wash-outs after heavy rains.

The proposed program for FY-1971 is as follows:

1. Highway Safety Features $ 45,000

In FY 1970 $20,000 is budgeted to initiate a regular continuing program for making roads safer for pedestrian and vehicle travel by constructing guard rails, removing overhead obstructions, providing warning signs and speed limit signs, and undertaking other safety features. There is an urgent need to continue this program in FY 1971, and the proposed $45,000 will enable the Government to complete the top priority safety feature items needed for the existing road systems.

2. Sealcoat Primary Roads $ 50,000

These funds will complete the sealcoating of all primary roads. This will be the first sealcoating these roads have had since they were constructed as long as five years age. As a result of deferring this project for the past two years, the asphalt is cracking and many sections are in danger of becoming a complete loss.

3. Secondary Roads - Tutuila $ 125,000

Drainage and basecourse improvements will be made with priority given to those roads which are not safe for bus traffic after heavy rainfall.

4. Secondary Roads - Manu'a $ 35,000

Drainage and basecourse improvements will be made on the Fitiuta-Ta'u road which is not safe for bus traffic after heavy rainfall.

PUBLIC HEALTH AND SAFETY

FY-1971 request is $35,000. This is a continuing program to provide safe pedestrian travel along the main roads through the villages. A very limited number of sidewalks now exist and these are only within the heavily populated areas. Even in these areas, sidewalks are extremely deficient. School children are now required to walk on the main roads at least in some portion of their way to and from school. Quite frequently deaths or serious injuries occur when a pedestrian is hit while walking on the road. It is a harrowing experience to drive at night, especially during heavy rain because of the danger of striking a pedestrian. The construction proposed is a token amount in a continuing program.

The seriousness of the situation is pointed out by the fact that the Territorial Legislature passed a joint resolution requesting more sidewalk construction.

SCHOOL CONSTRUCTION FY-1971 request is $220,000

All construction of school facilities is associated either with the normal increase in enrollment or serious deficiencies that now exist. Because of fiscal constraints, no new construction of classrooms was possible in FY-1970. It is now imperative to begin a minimum program in order to avoid serious classroom crowding.

The proposed program for FY-1971 is as follows:

1. Elementary Classrooms $ 100,000

Five classroom fales (two classrooms each) will be built and locations designated by the Department of Education to areas that receive the largest student enrollment growth.

2. Leone High School Cafeteria-Classroom $ 80,000

Students at this high school are now served their lunches outside since there is no suitable room for feeding purposes. This is extremely undesirable in view of the heavy rainfall. This facility will also be used for classroom purposes.

3. High School Athletic Fields $ 40,000

Safe play fields are non-existent at both the Eastern District and Manu'a High Schools. Fields will be graded and volleyball and basketball courts constructed.

CONSTRUCTION EQUIPMENT FY-1971 request is $76,000

The following equipment items are the absolute minimum needs to accomplish the water, road, sewer, and school construction programs shown above:

1.	Service truck	$ 16,000
2.	Back hoe	8,500
3.	Water pumps	6,000
4.	Spreader box	5,000
5.	Power broom	8,000
6.	Miscellaneous transit tools	6,800
7.	12-inch planer	1,000
8.	12-inch jointer	2,000
9.	Concrete vibrators	3,000
10.	Miscellaneous small tools	19,700
	Total equipment	$ 76,000

Manu'a Moorings

FY 1971 request is $75,000. Because of the unsafe sea and surf conditions, and lack of any safe landing facilities in the Manu'a Islands, $33,000 was provided in FY 1970 to make a study of their mooring problems. These funds were to identify sites where moorings were needed and economically feasible, and to construct one mooring. It is anticipated that the study will identify as many as six areas in these three islands where moorings are needed to enable the people to have safe, reliable sea transportation and to get their products to market. These moorings are also needed for Medical evacuations as the islands have only limited Medical dispensaries. No air transportation is available. 3,400 people are now living on the islands and they are the major producers of copra and other products which must be transported to Tutuila for shipment.

If safe transportation is provided, the people will be able to harvest and sell an additional amount of copra, vegetables and taro which should result in approximately $100,000 in increased revenue. The additional $75,000 is required to construct moorings at five additional sites (estimated at $15,000 each), which will make a total of six areas in the Manu'a islands where safe moorings will be available.

Central Business Area Development

FY 1971 request is $50,000. The Wolf Management report states, "Tourism is American Samoa's potential growth industry and it will do more. per unit of GAS effort and dollar of investment, to accelerate the Territory's economic development than any other single endeavor". (See the attached chart for Tourist projections)

A territory-wide, comprehensive tourism program will require extensive development. However, after consultation with Wolf Management specialists, government personnel, legislative committees and representatives of private business, it is evident certain Tourism related economic development projects can be started immediately-with rapid multiplier effects from extra tourist spending.

The most promising project for rapid pay-offs is the commercial development of the malae area which is located in the village of Pago Pago. A "Malae" is a large open area which is used for ceremonial and other public functions. Pagatogo village is one of the largest in the Territory and has traditionally been the "seat of the Government". It is located on Pago Pago bay and is immediately adjacent to the main dock where all tourist ships discharge passengers. Because of its location, it is the hub of commercial business and is the area most frequented by Tourists. The malae is presently ringed with small non-descript commercial enterprises and old run-down government buildings. There is virtually nothing that is geared to, or attractive to the tourist.

FY-1971 will present an opportune time to begin the development project because, as the result of centralizing all government offices in the old hospital which is being renovated, two of the largest buildings at the malae area occupied by the Government will be vacated. One building may be condemned and demolished in the future. Others can be rehabilitated and made available for commercial enterprises.

In order to provide continuity to the entire projects and to insure that the development proceeds in an orderly manner with maximum return, funds are requested to prepare a master plan of the entire malae area to define location, size and design requirements of future buildings, best functional uses, road and parking requirements, landscaping, etc. For those buildings that are scheduled for retention, to proceed on the government rehabilitation phase which will consist of wiring, plumbing, painting, exterior and roof treatment.

The proposed project for $50,000 will provide the base for future economic development in the bay area. It will be the beginning of specific projects that will have a major impact on increasing local revenues, which can then be used to finance additional economic development programs.

Airport Development

FY 1971 request is $200,000. The present airport was placed into operation in 1962. It consists of one modern jet airstrip 9000'x150', customs facilities, airline counter space, a small lunch counter, taxi strips, fueling pads and other normal airport facilities. At that time Pan American was only landing twice a week with Boeing 707 aircraft and Polynesian Airlines and Air New Zealand made infrequent stops, using primarily DC3 aircraft. Just recently, American Airlines has been granted air routes through American Samoa. Pan American has increased their flights to six days a week and will be landing Boeing 747 aircraft sometime after January 1970. There is also a possibility of Continental Airlines providing service in the near future. Air France plans to begin service in 1970. Military use of the airport has increased. Two small charter airlines have begun service using small single and two-engined aircraft. One of these has started a flight training school.

Tourist visits to American Samoa are expected to increase from 12,500 in 1968 to 45,000 in 1972. Most of these will arrive by air. More and more business people are visiting the Territory. The future potential of South Pacific islands is well known. The rapidly expanding population, coupled with increasing per capita income, is increasing air passenger travel and air freight shipments.

Studies by GAS, Federal Aviation authority and Wolf Management emphasize the inadequacies of the present airport facilities and recommend immediate corrective action in order to meet the most pressing immediate and future demands. As a first step, $50,000 is to be spent in FY 1970 to develop a master plan.

This comprehensive study will provide a well thought out plan for phasing-in improvements and modifications. As a follow-up to that plan, funds will be necessary for the most urgent needs. The following highest priority projects must be started as soon as possible in order to prevent a complete collapse of the present inadequate and unsafe airport facilities:

The proposed program for FY 1971 is as follows:

1. Rehabilitation of Old Runway $125,000

When the new airport opened, the small existing runway - 6000'x100' was closed, since then it has deteriorated. It is planned to reopen this runway to handle increased air traffic by patching existing holes and resurface the entire runway with an asphalt overlay. Sub-base tests made by the Military in 1969 indicate the base of the runway is satisfactory. Meeting the increased demand is not the only consideration. Safety is the major reason for this project. The old runway runs at a cross angle to the new runway and will permit an alternative landing strip when winds are not favorable for landing on the new strip. Flight cancellations because of cross winds are presently common in the case of lighter aircraft such as the DC'3. In the event of an on-runway accident no landings would be possible until the wreckage is cleared. The FAA report of 1966 on "Proposed improvements for Pago Pago Airport" states —"That cross winds at the airport do not favor a one-runway airport". The Wolf Management report confirms this recommendation.

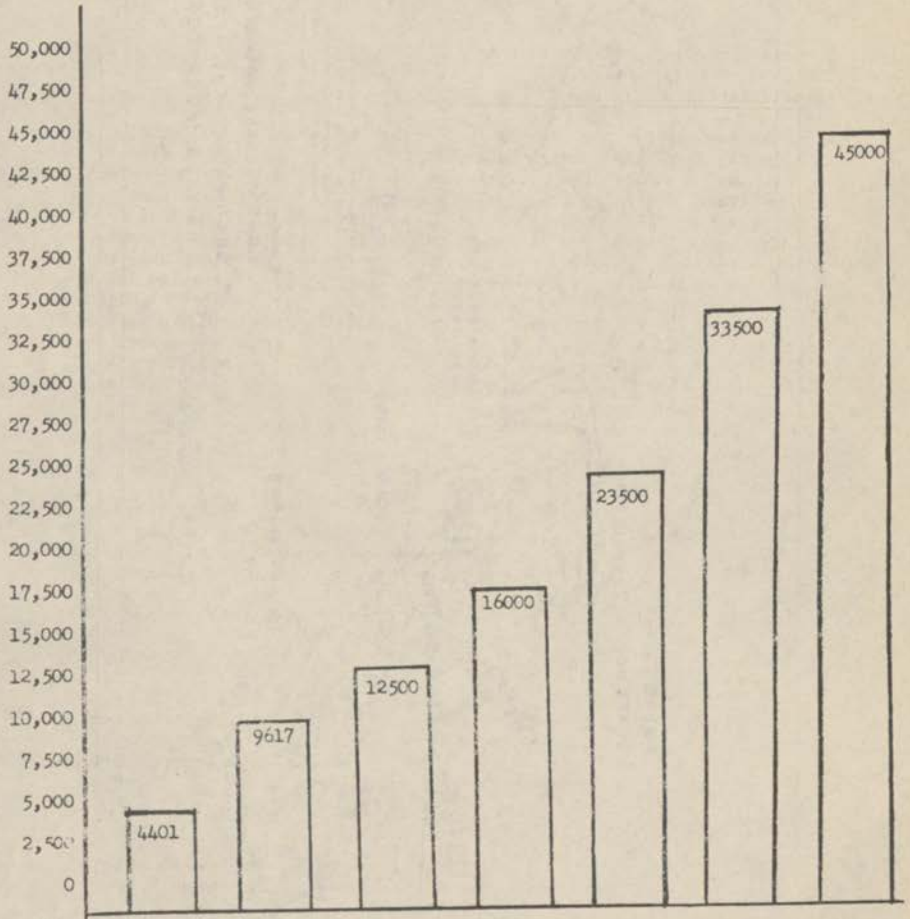
2. Widen Taxiways $50,000

Present taxiways will not accommodate the giant 747 aircraft. They must be widened and the radius must be increased where the taxiway meets the runway. Additional surface area must also be added in the aircraft parking area. If these projects are not done, the aircraft will have to discharge passengers and unload freight right on the main runway—causing potential hazards and delays to other incoming and outgoing aircraft.

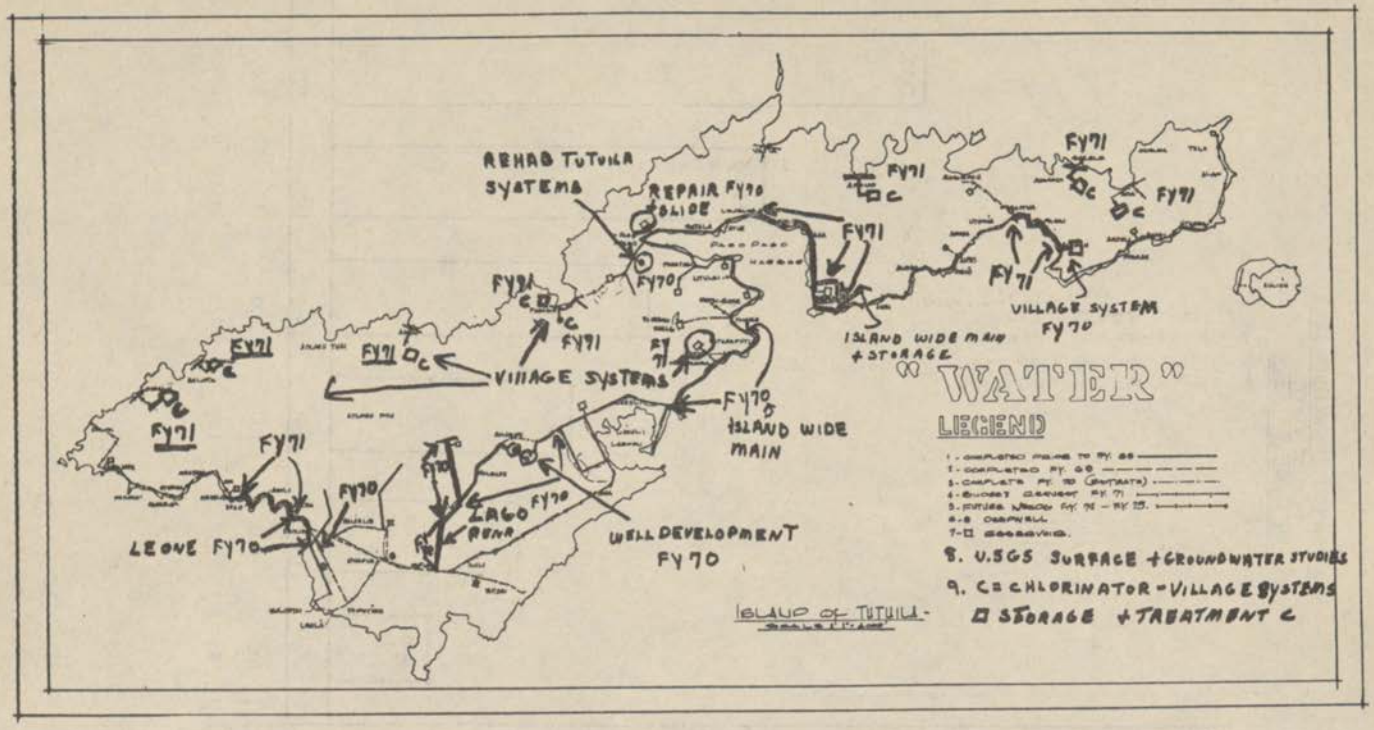
3. Airport Lighting $25,000

Due to widening taxiways and parking areas, lighting must be relocated and upgraded. Most of the existing lighting system will have to be modified because of the higher blast velocities of the larger aircraft and to bring them up to FAA requirements.

GOVERNMENT OF AMERICAN SAMOA
TOURIST VISITS
24 HOURS OR LONGER



No Visits	1966	1967	1968	1969	1970	1971	1972
Hotel Rooms....	100	100	100	100	100	300	400
Jobs in Tourism...	63	137	189	228	335	478	645


REHAB TUTUILA SYSTEMS
REPAIR FY70 SLIDE
FY71
FY70
VILLAGE SYSTEMS
ISLAND WIDE MAIN + STORAGE
VILLAGE SYSTEM FY70
"WATER"
LEGEND
FY70 ISLAND WIDE MAIN
LAGO FY70
LEONE FY70
WELL DEVELOPMENT FY70
8. U.S.G.S. SURFACE + GROUNDWATER STUDIES
9. C = CHLORINATOR - VILLAGE SYSTEMS
□ STORAGE + TREATMENT C
ISLAND OF TUTUILA

WATER

LEGEND

1 - COMPLETED PRIOR TO FY 69. ————————

2 - COMPLETED FY 69. — — — — —

3 - COMPLETE FY 70 (ESTIMATED) · · · · · ——— ———

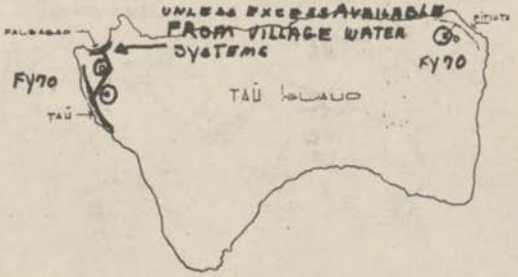
4 - BUDGET REQUEST FY 71. ——|——|——|——

5 - FUTURE NEEDS FY 72 - FY 75. ——|——·——|——

6 - ⊕ OBSERVELL

7 - ⊟ RESERVOIR

DISTRIBUTION SYSTEM & STORAGE NOT COVERED IN FY 70 OR FY 71 UNLESS EXCESS AVAILABLE FROM VILLAGE WATER SYSTEMS

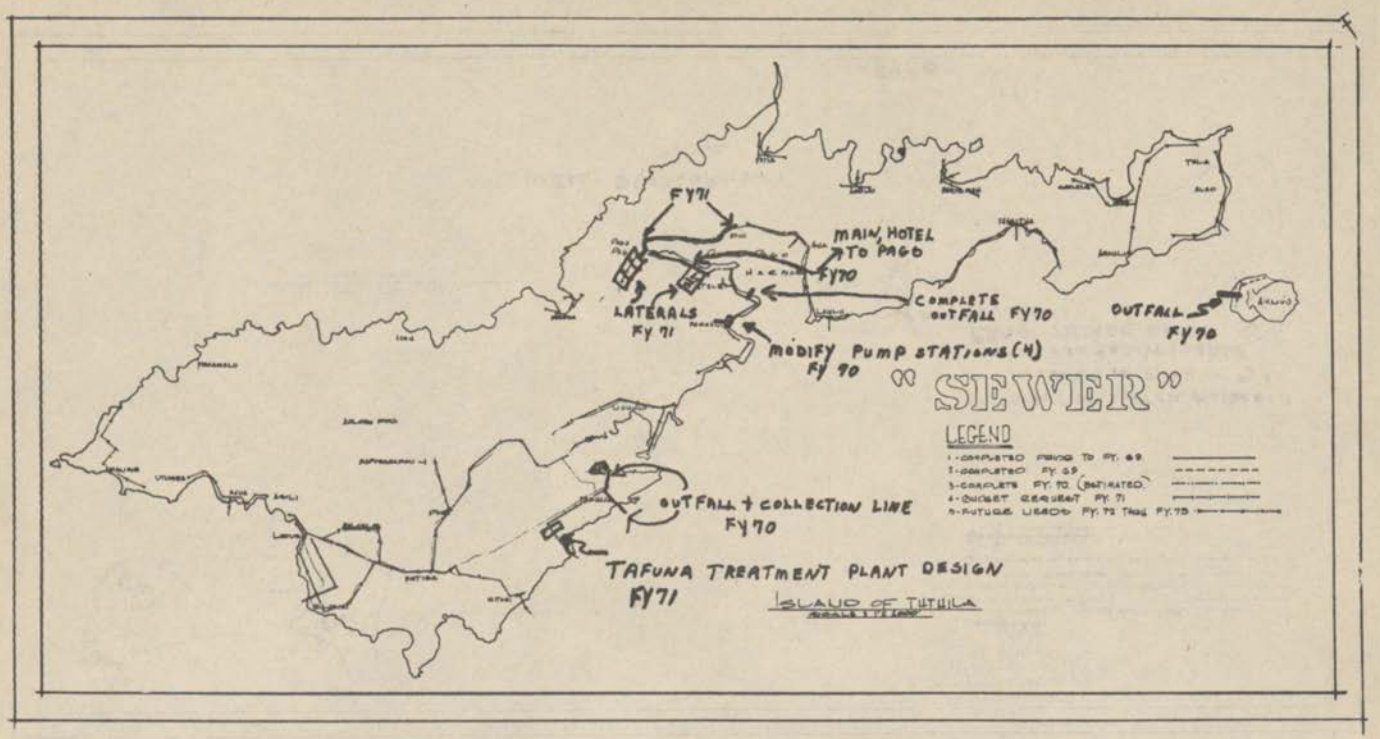


ISLANDS OF MANUA

Scale 1" = 2000'

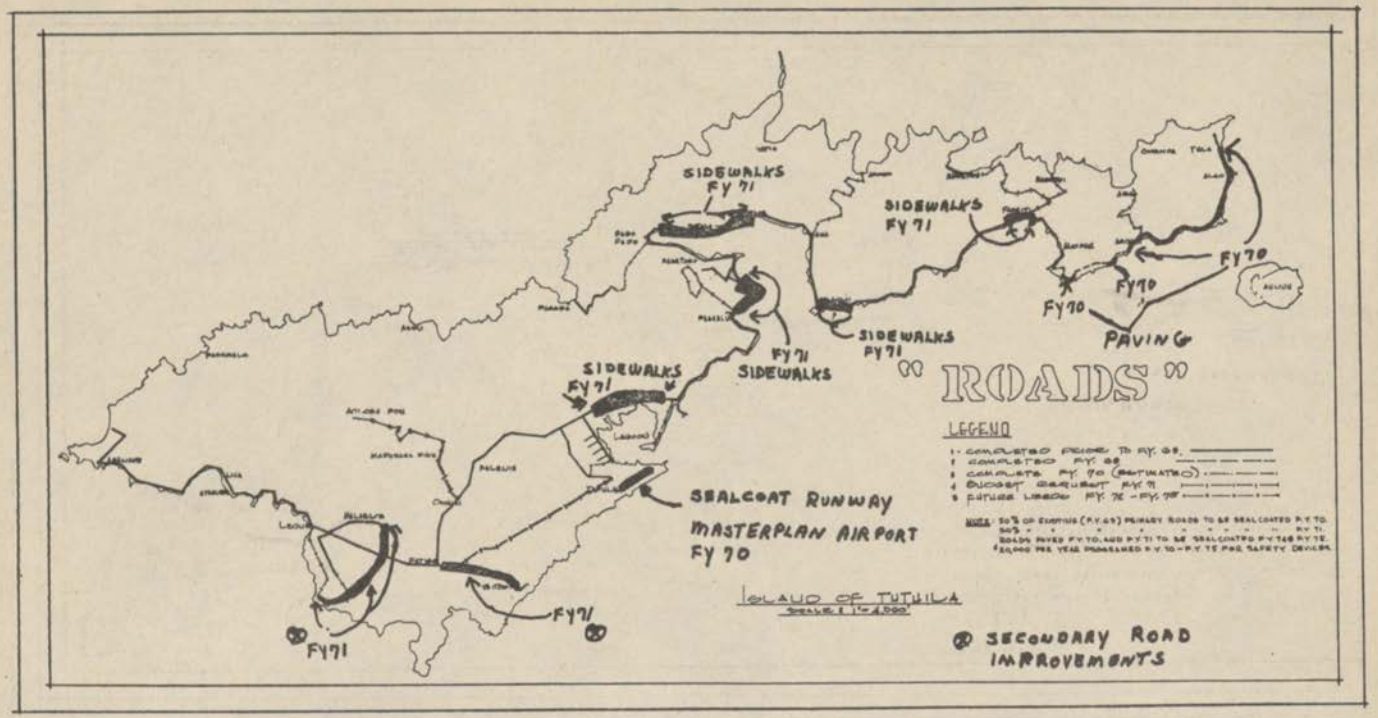
WELL DEVELOPMENT

Fy 70

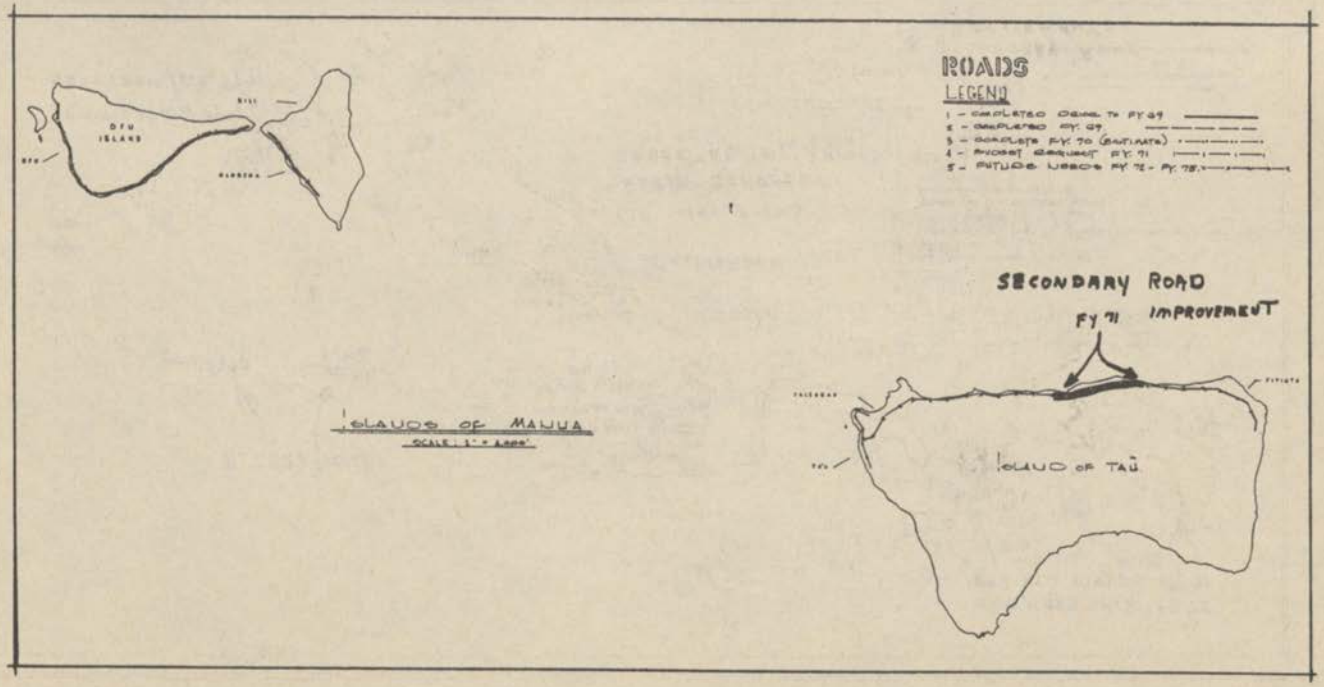

FY71
MAIN, HOTEL
TO PAGO
FY70
LATERALS
FY 71
COMPLETE
OUTFALL FY70
OUTFALL
FY70
MODIFY PUMP STATIONS (4)
FY 70
"SEWER"
LEGEND
OUTFALL + COLLECTION LINE
FY70
TAFUNA TREATMENT PLANT DESIGN
FY71
ISLAND OF TUTUILA

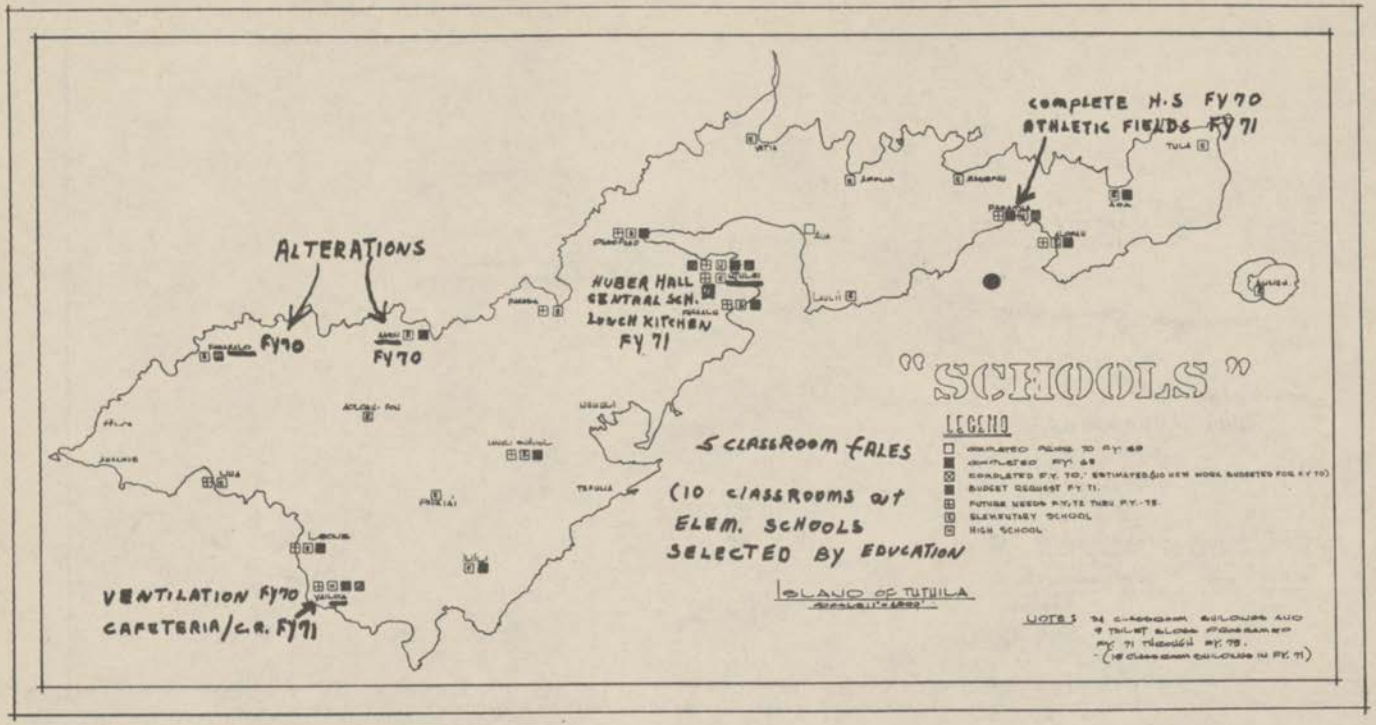
ISLANDS OF MANUA
AMERICAN SAMOA
SCALE 1" = 2000'

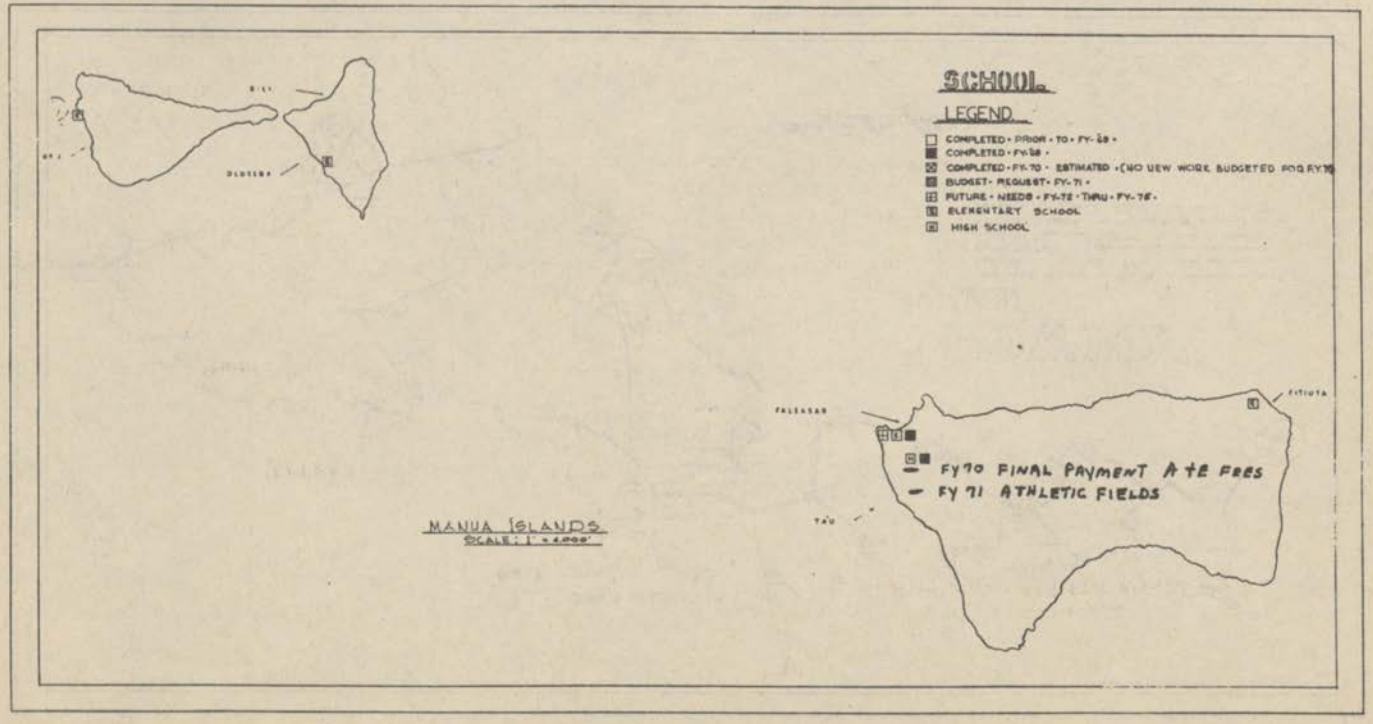
SEWER
LEGEND
• COMPLETED • PRIOR • TO • FY - 65 •
• COMPLETED • FY - 65 • (ESTIMATED) •
• BUDGET • REQUEST • FY - 71 •
• FUTURE • NEEDS • FY - 72 • THRU • FY - 76 •

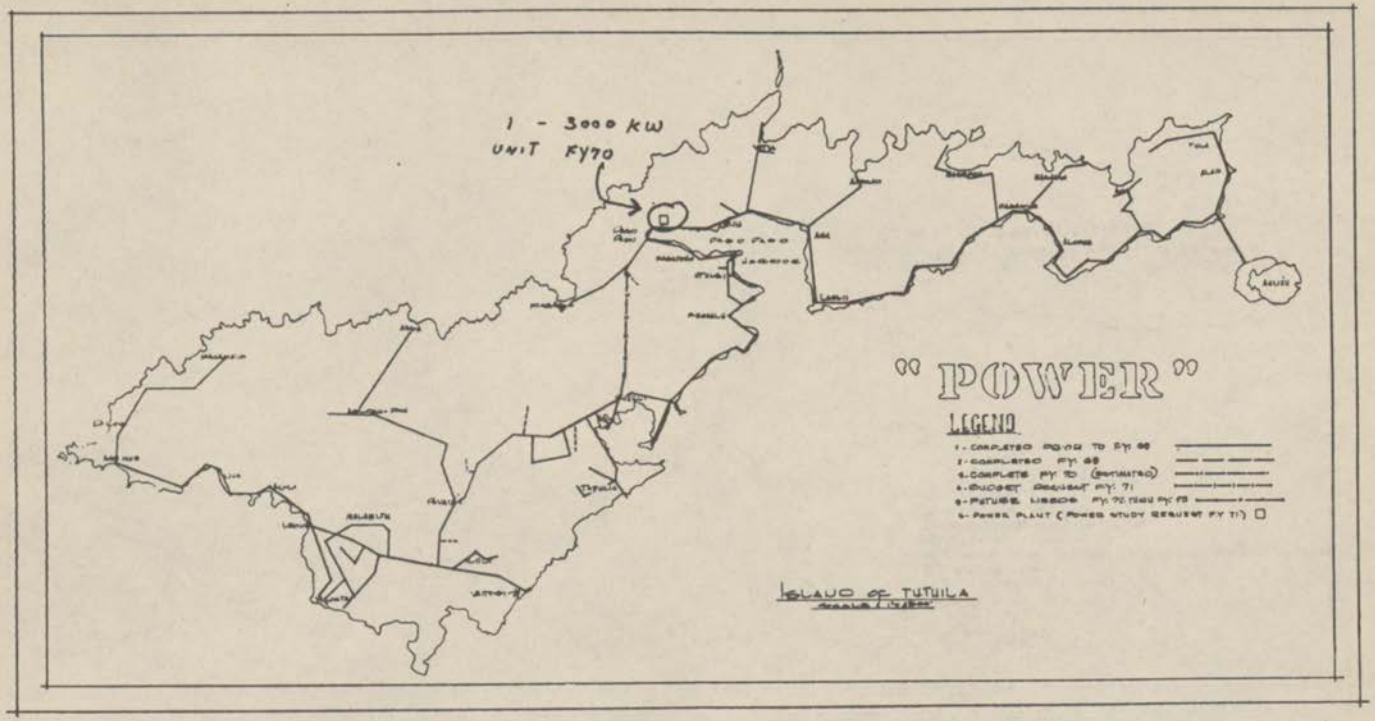

SIDEWALKS FY 71
SIDEWALKS FY 71
SIDEWALKS FY 71
FY 70
FY 70
FY 70
PAVING
SIDEWALKS FY 71
FY 71 SIDEWALKS
SIDEWALKS FY 71
"ROADS"
LEGEND
SEALCOAT RUNWAY
MASTERPLAN AIRPORT
FY 70
ISLAND OF TUTUILA
FY 71
FY 71
@ SECONDARY ROAD IMPROVEMENTS

41-447 O - 70 - pt. 1 -- 26

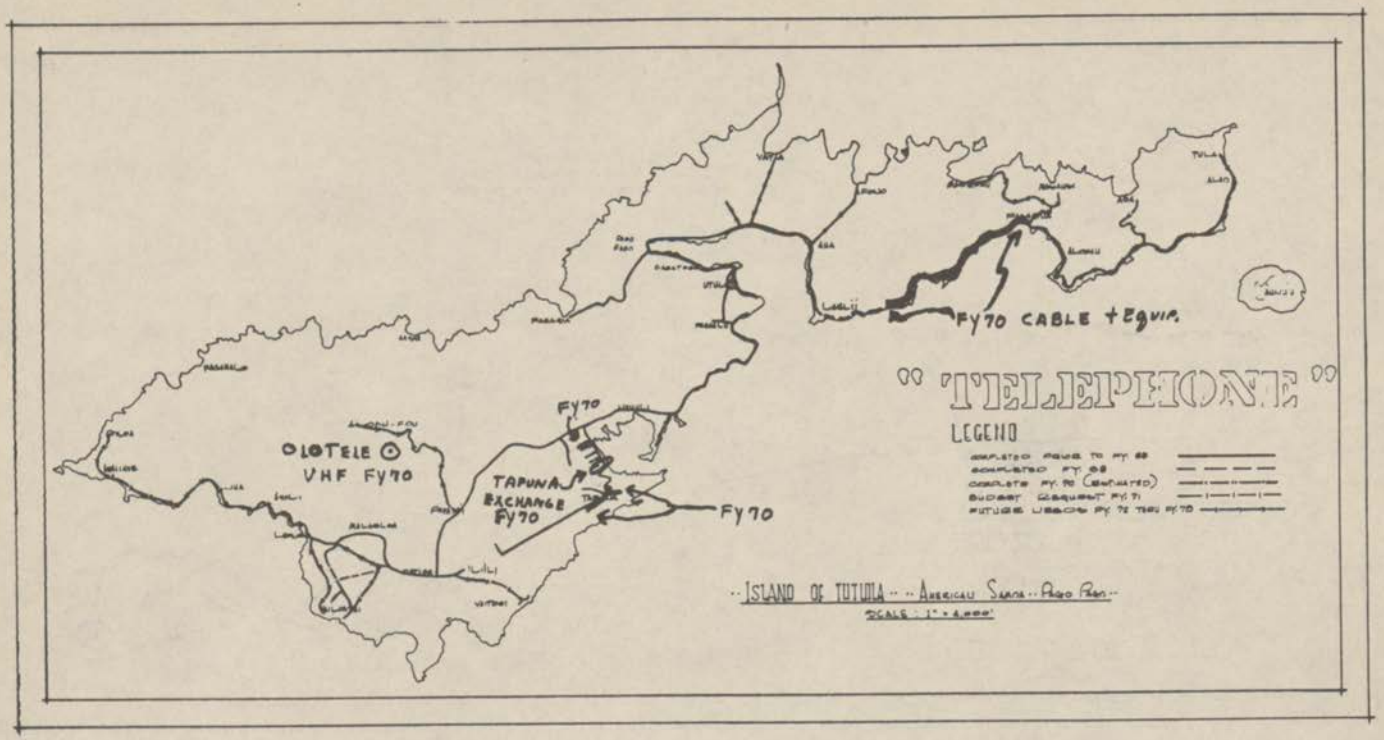



complete H.S FY 70
ATHLETIC FIELDS FY 71
ALTERATIONS
FY 70
FY 70
HUBER HALL
CENTRAL SCH.
LOUCH KITCHEN
FY 71
"SCHOOLS"
LEGEND
5 CLASSROOM FALES
(10 CLASSROOMS AT
ELEM. SCHOOLS
SELECTED BY EDUCATION
VENTILATION FY 70
CAFETERIA/C.R. FY 71
ISLAND OF TUTUILA


SCHOOL
LEGEND
COMPLETED - PRIOR - TO - FY- 69 -
COMPLETED - FY-69 -
COMPLETED - FY-70 - ESTIMATED - (NO NEW WORK BUDGETED FOR FY'70
BUDGET - REQUEST - FY- 71 -
FUTURE - NEEDS - FY-72 - THRU - FY-75 -
ELEMENTARY SCHOOL
HIGH SCHOOL
FY70 FINAL PAYMENT A TE FRES
FY 71 ATHLETIC FIELDS
MANUA ISLANDS
SCALE: 1" = 4,000'


1 - 3000 kW
UNIT FY70
"POWER"
LEGEND
ISLAND OF TUTUILA

LEGEND

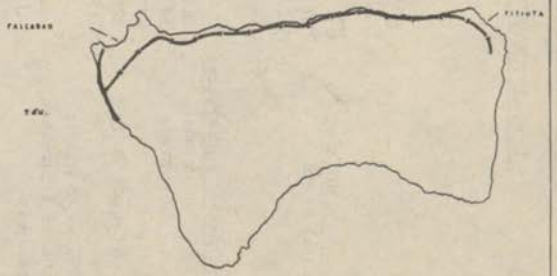

FY70 CABLE + Equip.
"TELEPHONE"
LEGEND
OLOTELE
VHF FY70
TAPUNA
EXCHANGE
FY70
FY70
FY70
ISLAND OF TUTUILA -- AMERICAN SAMOA -- PAGO PAGO
SCALE: 1" = 4,000'

TELEPHONE

LEGEND

- COMPLETED - PRIOR - TO - FY-68
- COMPLETED - FY-69
- COMPLETED - FY-70 - ESTIMATED
- BUDGET - REQUEST - FY-71
- FUTURE - NEEDS - FY-72 - THRU - FY-75

- MICROWAVE STATIONS PLANNED FOR FY 72 & 73



MANUA ISLANDS - AMERICAN SAMOA.
SCALE : 1" = 6,000'

GOVERNMENT OF AMERICAN SAMOA

LOCAL REVENUES BY SOURCE

	Actual 1969	Budgeted 1970	Budgeted 1971	Increase (Decrease)
Department of Agriculture				
Experimental Farm	30,200	35,000	40,000	5,000
Market	(2,700)	8,000	12,000	4,000
Other	12,900	11,000	10,000	(1,000)
Dept. of Administrative Services				
Income Tax - Individual	1,017,700	1,150,000	1,400,000	250,000
Income Tax - Corporate	1,561,900	1,650,000	1,850,000	200,000
Rents & Leases	194,700	246,800	250,000	3,200
Territorial Liquor Store	120,800	135,000	154,000	19,000
Print Shop	15,600	-0-	-0-	-0-
Profit on Sales to Public	-0-	-0-	-0-	-0-
Bank Dividents & Interest	23,500	44,000	44,000	-0-
Aerial Tramway	11,200	13,000	15,000	2,000
Other	20,000	15,000	15,000	-0-
Communications				
Radiograms	64,800	67,000	70,000	3,000
Overseas Telephone	68,100	73,000	80,000	7,000
Department of Education				
School Bus Operation	21,500	20,000	23,000	3,000
Other	3,800	4,000	5,000	1,000
Dept. of Medical Services				
Hospital Care	61,700	65,000	70,000	5,000
Laundry	17,700	18,000	19,000	1, 000
Pharmacy	7,600	8,000	10,000	2,000
Other	16,600	17,000	20,000	3,000
Dept. of Public Works				
Electric Utility	39,400	125,400	171,600	46,200
Water	24,000	28,000	30,000	2,000
Marine Railway	16,300	19,300	65,000	45,700
Telephone	33,400	50,000	70,000	20,000
Motor Pool	4,700	-0-	-0-	-0-
Other	1,300	3,000	5,500	2,500

GOVERNMENT OF AMERICAN SAMOA

LOCAL REVENUES BY SOURCE

	Actual 1969	Budgeted 1970	Budgeted 1971	Increase (Decrease)
Dept. of Port Administration				
Excise Taxes	726,700	735,000	750,000	15,000
Piers & Docks	156,100	150,000	175,000	25,000
Customs and Harbor Charges	159,100	150,000	160,000	10,000
Harbor Craft Operations	26,000	28,000	30,000	2,000
Airport Revenues	8,700	16,000	30,000	14,000
Other	400	1,000	1,000	-0-
Miscellaneous Other Revenues				
Licenses & Certificates	75,000	80,000	85,000	5,000
Court Fees & Fire	30,300	32,000	35,000	3,000
Travel Permits	19,200	21,000	23,000	2,000
Other	2,500	5,000	5,000	-0-
Grant Total:	$4,590,700	$5,023,500	$5,723,100	$699,600

GOVERNMENT OF AMERICAN SAMOA
LOCAL REVENUE ESTIMATES
FY 1971

Revenue Available for Appropriation by the Legislature of American Samoa

a)	Income Tax - Individual	$ 1,400,000
b)	Income Tax - Corporate	1,850,000
c)	Territorial Liquor Store Profit	154,500
d)	Excise Taxes	750,000
e)	Bank Dividends	44,000
f)	Licences and Certificates	85,000
g)	Court Fees and Fines	35,000
h)	Travel Permits	23,000
		$ 4,341,500

GOVERNMENT OF AMERICAN SAMOA

ELECTRIC UTILITY

STATEMENT OF REVENUES AND EXPENSES

	Actual 1969	Estimate 1970	Estimate 1971	Increase (Decrease)
Kilowatt Hours Generated	34,312,000	36,864,000	44,000,000	7,136,000
Kilowatt Hours Lost in Distribution	4,720,573	3,684,000	4,400,000	716,000
	29,591,427	33,180,000	39,600,000	6,420,000
Sales	$ 938,927	1,200,000	1,374,000	$ 174,000
Expenses:				
Personal Services - Stateisde	$ 32,787	$ 45,676	$ 45,200	$ (476)
Personal Services - Samoan	217,933	253,596	283,300	29,704
Personnel Benefits	13,950	12,940	16,600	3,660
Travel & Transportation - Persons	3,572	3,900	8,900	5,000
Transportation of Things	2,236	2,200	3,700	1,500
Rent, Communications & Utilities	563	1,784	2,000	216
Printing & Reproduction	255	2,000	2,500	500
Other Services	29,756	15,000	15,000	-0-
Supplies & Equipment	453,043	512,501	616,600	104,099
Equipment	5,432	65,000	48,600	(16,400)
	$ 759,527	$ 914,597	$1,042,400	$127,803
Depreciation (4% of Investment *)	140,000	160,000	160,000	-0-
	$ 899,527	1,074,597	1,202,400	$127,803
Net Revenues	$ 39,400	$ 125,403	$ 171,600	$46,197

* $3,500,000 in FY 1969,
$4,000,000 in FYs 1970 and 1971.

GOVERNMENT OF AMERICAN SAMOA

MARINE RAILWAY

STATEMENT OF REVENUES AND EXPENSES

	Actual 1969	Estimate 1970	Estimate 1971	Increase (Decrease)
Sales	$574,527	$675,000	$716,300	$41,300
Expenses:				
Personal Services - Stateside	$22,527	$30,000	$ 35,500	$ 5,500
" " Samoan	320,295	340,000	360,400	20,400
Personal Benefits	22,227	25,000	19,200	(5,800)
Travel & Transportation - persons	306	700	1,700	1,000
Transportation of Things	1,152	500	-0-	(500)
Rent, Communication & Utilities	16,778	18,000	22,800	4,800
Printing & Reproduction	117	500	500	-0-
Other Services	33,458	10,000	14,000	4,000
Supplies & Materials (see below)	140,016	210,980	175,000	(35,980)
Equipment	1,521	20,000	22,200	2,200
	$558,397	$655,680	$651,300	$(4,380)
Net Revenues	$ 16,130	$ 19,320	$ 65,000	$ 45,680
Supplies & Materials Cost of Goods Sold				
Beginning Inventory	$ 185,096	$223,838	$200,000	$(23,838)
Purchase	178,758	187,142	175,000	(12,142)
Goods Available	$ 363,854	$ 410,980	$375,000	$ (35,980)
Ending Inventory	223,838	200.000	200,000	-0-
Supplies & Materials Used	$140,016	$ 210,980	$ 175,000	$(35,980)

The amounts shown for supplies and material are the amounts used and not the amounts purchased. A wide variety of parts and materials are required by Marine Railway to service approximately 200 fishing vessels.

GOVERNMENT OF AMERICAN SAMOA

TERRITORIAL LIQUOR STORE

ESTIMATED REVENUES AND EXPENSES

	Actual 1969	Estimate 1970	Estimate 1971	Increase (Decrease)
Gross Revenues	$ 302,929	$320,000	$360,000	$40,000
Cost of Liquor Sold:				
Inventory - July 1	108,483	46,598	100,000	53,402
Purchases and Freight-in	97,150	190,702	180,000	(10,702)
Liquor Available for Sale	$ 205,633	$ 237,300	$280,000	$ 42,700
Less: Ending Inventory - June 30	46,598	80,000	100,000	20,000
Cost of Goods Sold:	$ 159,035	$ 157,300	$180,000	$ 22,700
Gross Profit	$ 143,894	$ 162,700	$180,000	$ 17,300
Operating Expenses:				
Personal Services - Samoan	$ 16,762	$ 18,000	$19,500	$1,500
Personnel Benefits	913	1,000	1,100	100
Travel & Transportation - Persons	740	1,000	1,000	-0-
Transportation of Things	-0-	500	300	(200)
Rent, Communications, & Utilities	18	1,200	100	(1,100)
Supplies and Materials	3,675	5,000	3,000	(2,000)
Equipment	986	1,000	1,000	-0-
Operating Expenses:	$ 23,094	$ 27,700	$26,000	($1,700)
Net Revenue:	$ 120,800	$ 135,000	$154,000	$19,000

GOVERNMENT OF AMERICAN SAMOA

PRINT SHOP

ESTIMATED REVENUES AND EXPENSES

	Actual 1969	Estimate 1970	Estimate 1971	Increase (Decrease)
Gross Revenues	$ 96,742	$ 80,000	$ 81,900	$ (1,900)
Operating Expenses				
Personal Services - Samoans	$ 27,370	$24,000	$ 30,300	$6,300
Personnel Benefits	1,412	1,200	1,600	400
Travel - Indigenous	19	-0-	-0-	-0-
Transportation of Things	-0-	500	-0-	(500)
Rent, Communications and Utilities	189	1,000	500	(500)
Other Services	50	2,500	500	(2,000)
Supplies & Materials	51,671	48,800	48,000	(800)
Equipment	389	2,000	1,000	(1,000)
Operating Expenses	$81,100	$ 80,000	$ 81,900	$ 1,900
Net Revenues:	$15,642	-0-	-0-	$(-0-)

THE BANK OF AMERICAN SAMOA
STATEMENT OF CONDITION
JUNE 30, 1969

ASSETS

Cash In and Due from Banks			$ 1,282,923
Investment Securities:			
U.S. Government Obligations	$ 1,158,509		
Less: Reserve for Depreciation:			
U.S. Securities	28,494	$ 1,130,015	
Time Deposits		1,950,000	
Investment in American Samoa Development Corp. (52,469 Shares, $10 Par Value)		524,690	3,604,705
Loans and Discounts		$ 2,433,895	
Less: Reserve for Losses: Loans		61,530	2,372,365
Accrued Interest Receivable			102,600
Furniture, Equipment and Improvements		$ 43,450	
Less: Reserve for Depreciation		33,940	9,510
Other Assets			14,992
Total Assets			$ 7,387,095

LIABILITIES AND CAPITAL

Due to Depositors:		
Demand	$ 2,418,849	
Time	2,683,546	$ 5,102,395
Accrued Interest Payable		32,940
Unearned Discounts & Loans		77,419
Other Liabilities		63,444
Capital Accounts:		
Capital	100,000	
Surplus	500,000	
Undivided Profits	1,505,377	
Reserve for Contingencies	5,520	2,110,897
Total Liabilities and Capital		$ 7,387,095

SUMMARY OF PERSONNEL SERVICES
UNITED STATES AND SAMOAN EMPLOYEES

	1969		1970		1971	
	No.	Amount	No.	Amount	No.	Amount
Direct Appropriations						
Legislature	43	$ 55,500	46	$ 97,385	46	$ 100,421
Chief Justice & High Court	9	86,244	9	99,291	11	142,608
Governor's Office	21	165,260	14	166,499	12	172,645
Sub Total	73	$ 307,004	69	$ 363,175	69	$ 415,674
Health, Education & Welfare						
Dept. of Education	686	$ 2,607,106	722	$3,313,797	766	$3,645,706
Medical Services	347	1,006,600	364	1,457,522	368	1,557,925
Public Defender	3	20,517	3	23,595	3	24,931
Local Judicial	12	13,160	14	29,950	7	14,880
Legal Affairs	151	441,559	130	485,372	132	527,100
Civil Defense	1	3,750	2	5,266	2	5,866
Parks & Recreation	-0-	-0-	4	16,700	6	23,100
Samoan Information	-0-	-0-	11	65,677	11	66,354
Sub Total	1200	$ 4,092,692	1250	$5,397,869	1295	$5,865,862
Economic & Industrial Dev.						
Agriculture	91	$ 225,440	75	$ 256,027	83	$ 284,140
Local Government	83	67,616	86	87,565	87	95,570
Office of Tourism	7	14,344	5	15,359	8	17,632
Development Planning Off.	-0-	-0-	4	11,000	4	15,000
Sub Total	181	$ 307,400	170	$ 369,951	182	$ 412,342
Operations, Maintenance and Transportation Services						
Communications	36	$ 109,376	34	$ 121,577	32	$ 119,236
Public Works	418	836,227	347	1,059,166	413	1,198,509
Port Administration	61	229,000	52	202,896	54	212,070
Sub Total	515	$ 1,174,603	433	$1,383,639	499	$1,529,815
General Administration						
Audit Office	4	$ 20,300	4	$ 21,531	4	$ 33,531
Administrative Services	116	413,416	87	455,661	88	490,646
Sub Total	120	$ 433,716	91	$ 477,192	92	$ 524,177
TOTAL:	2,089	$ 6,315,415	2,013	$7,991,826	2,137	$8,747,870

SUMMARY OF PERSONNEL SERVICES
SAMOAN LEGISLATURE

	1969		1970		1971	
	No.	Amount	No.	Amount	No.	Amount
Direct Appropriations						
Legislature	43	$ 55,500	45	$ 80,868	45	$ 81,555
Chief Justice & High Court	5	13,324	6	17,740	5	15,204
Governor's Office	15	33,086	10	37,915	8	39,195
Sub Total	63	$ 101,910	61	$ 136,523	58	$ 135,954
Health, Education & Welfare						
Dept. of Education	533	$ 1,190,836	599	$1,750,741	641	$1,953,587
Dept. of Medical Services	323	679,332	348	1,162,397	352	1,259,448
Public Defender	2	6,117	2	9,185	2	10,053
Local Judicial	12	13,160	13	18,400	7	14,800
Legal Affairs	144	357,255	127	426,022	128	454,370
Civil Defense	1	3,750	2	5,266	2	5,866
Parks & Recreation	-0-	-0-	3	6,300	5	12,180
Office of Samoan Information	-0-	-0-	9	37,327	9	37,156
Sub Total	1015	$ 2,250,500	1103	$3,415,638	1146	$3,747,540
Economic & Industrial Dev.						
Agriculture Department	84	$ 156,240	73	$ 222,507	79	$ 207,203
Local Government	83	67,616	86	87,565	87	95,570
Office of Tourism	7	14,344	5	15,359	8	17,632
Development Planning Off.	-0-	-0-	3	4,500	3	7,665
Sub Total	174	$ 238,200	167	$ 329,931	177	$ 328,070
Operations, Maintenance and Transportation Services						
Communications	34	$ 88,459	34	$ 121,577	32	$ 119,236
Public Works	405	667,952	340	950,211	406	1,080,517
Port Administration	55	160,000	45	129,296	49	154,795
Sub Total	494	$ 916,411	419	$1,201,084	487	$1,354,548
General Administration						
Audit Office	3	$ 8,300	3	$ 11,211	3	$ 12,995
Administrative Services	107	282,078	76	287,758	77	293,037
Sub Total	110	$ 290,378	79	$ 298,969	80	$ 306,032
TOTAL:	1856	$ 3,797,399	1829	$5,382,145	1948	$5,872,144

SUMMARY OF PERSONNEL SERVICES
UNITED STATES EMPLOYEES

	1969		1970		1971	
	No.	Amount	No.	Amount	No.	Amount
Direct Appropriations						
Legislature	-0-	$ -0-	1	$ 16,517	1	$ 18,866
Chief Justice & High Court	4	72,920	3	81,551	6	127,404
Governor's Office	6	132,174	4	128,584	4	133,450
Sub Total	10	$ 205,094	8	$ 226,652	11	$ 279,720
Health, Education & Welfare						
Dept. of Education	153	1,416,270	123	1,563,056	125	1,692,119
Medical Services	24	327,218	16	295,125	16	298,477
Public Defender	1	14,400	1	14,400	1	14,870
Local Judicial	-0-	-0-	1	11,550	-0-	-0-
Legal Affairs	7	84,304	3	59,350	4	72,730
Civil Defense	-0-	-0-	-0-	-0-	-0-	-0-
Parks & Recreation	-0-	-0-	1	10,400	1	10,920
Office of Samoan Information	-0-	-0-	2	28,350	2	29,198
Sub Total	185	$ 1,842,192	147	$1,982,231	149	$2,118,322
Economic & Industrial Dev.						
Agriculture	7	69,200	2	33,520	4	76,937
Local Government	-0-	-0-	-0-	-0-	-0-	-0-
Office of Tourism	-0-	-0-	-0-	-0-	-0-	-0-
Development Planning Office	-0-	-0-	1	6,500	1	7,335
Sub Total	7	$ 69,200	3	$ 40,020	5	$ 84,272
Operations, Maintenance and Transportation Services						
Communications	2	20,917	-0-	-0-	-0-	-0-
Public Works	13	168,275	7	108,955	7	117,592
Port Administration	6	69,000	7	73,600	5	57,275
Sub Total	21	$ 256,192	14	$ 182,555	12	$ 175,267
General Administration						
Audit Office	1	$ 12,000	1	$ 10,320	1	$ 20,536
Administrative Services	9	131,338	11	167,903	11	197,609
Sub Total	10	$ 143,338	12	$ 178,223	12	$ 218,145
TOTAL:	233	$ 2,518,016	184	$2,609,681	189	$2,875,726

Mrs. HANSEN. I would like to express my appreciation to the Director of Territories for the excellent job that has been done on the preparation of the justifications, not only for Samoa but also for the other parts of the territorial governments.

EDUCATION PROGRAM

During the hearings last year, the educational system was in a state of transition. I think it would be well at this point to have a detailed view of the current educational program.

Governor HAYDON. Madam Chairman, when I arrived in Samoa, I found that the National Association of Educational Broadcasters had quit some months before. The education system was in chaos. People were uncertain of their future. We had a contract before us which you discussed in the hearings last year, a proposed contract with the University of Southern California which I personally did not feel offered all that Samoa needed.

I attempted to get some other universities interested, particularly the University of Hawaii which has gone through a number of very similar problems with the Polynesian people and its own involvement. We eventually wound up with three proposals: One from the University of Southern California, one from the University of Hawaii, and one from Brigham Young University which was rejected. There was no desire to have a mixture of church and education in American Samoa by the Samoan people. And a fourth one was from ETV International which has set up systems which use television as a major form of teaching.

EDUCATIONAL CONTRACT WITH UNIVERSITY OF HAWAII

Eventually we entered into a contract with the University of Hawaii after approval by the Secretary of the Interior, a thorough review by Mrs. Farrington, and informed your committee as requested in the hearings last year. It is an entirely different kind of an approach because (1) it is not being done by people who are primarily concerned with getting some moonlighting educational activity—as you know many of the universities do. Many of these people have been to Samoa. They are interested in the Polynesian people. They are interested in their hearts as well as in their minds, and they are people who consider this a major challenge in American education to prove that television can be used and that other countries can benefit by it.

But at the present time, with a large percentage of our scholarship students failing within 6 months or a year, the system is not producing students who have much chance of employment if they aren't going on to the university.

In outlying States, where many of them must immigrate due to our high birth rate, they have very little chance of succeeding.

BIRTH RATE IN AMERICAN SAMOA

Mrs. HANSEN. What is the birth rate in American Samoa?

Governor HAYDON. It is 4 percent.

Mrs. HANSEN. How does this compare with 1950 and 1960?

Governor HAYDON. Our statistics indicate that—and I cannot vouch for the accuracy—but it is a small percentile decrease. The current information about the side effects of the pill in the area of cancer, I think, is going to stop us dead in our tracks in American Samoa. We get the news in Samoa too, and this is going to have a very negative effect on our family planning. I am sorry to see that news come out.

Mrs. HANSEN. I don't think we are ever sorry to see the truth come out, regardless of whether it is news or nonnews. If there are dangers, it is time that it was discussed by the medical profession so that they can take the proper steps in developing something that is better.

Governor HAYDON. I agree. My phrasing was not the best.

Let me say that there will be a heavy emphasis now on the interuterine loop rather than the pill until this question is settled.

Mrs. HANSEN. I think the American medical profession has a distinct responsibility at this time to make sure that measures are developed that are safe.

Mr. WYATT. Governor, what you no doubt meant, as I understand it, is that we have learned that these dangers exist in connection with the pill. Isn't that it?

Governor HAYDON. Yes. The effort to teach family planning is tough anyway, because the family in Samoa is first, and a man's strength and his prestige and power are based on a large family and it is a hard concept to sell.

CONTRACT WITH UNIVERSITY OF HAWAII

The contract with the University of Hawaii is at about the same cost as the previous contract with NAEB. Although it is very difficult, because of the lack of complete records, for us to pinpoint exactly what it did cost in earlier days under NAEB. But it is a great deal less than the University of Southern California offered and about $200,000 less than the ETV, Inc., offered.

Mrs. HANSEN. Did the legislature and yourself make the selection of the institution jointly?

Governor HAYDON. I appointed a Governor's Advisory Council on Education. We went through the original groundwork, represented by the house and the legislature, and then discussed it at great length. I personally appeared before the legislature and, along with staff, we spent many, many hours going over these three contracts. Of course, then it went to Mrs. Farrington and Secretary Hickel for final approval.

All things considered, there are so many extras offered by the University of Hawaii, and I know a copy of the contract was sent to you.

Mrs. HANSEN. That is right, we have it.

Governor HAYDON. And the in-service teacher education and the expansion and opening of a community college this fall, the first section of it, and many additional things that Samoa has never had in its system, plus a general up-grading of the techniques in the use of television in teaching. Because we have no intention of adandoning television. It is the most advanced system in the world in American Samoa, and they come from all over to study it. But it is not good enough yet.

EDUCATIONAL TV

Mrs. HANSEN. I think that educational television depends for its success upon the abilities of the classroom teachers. Educational television should be used as a tool but not as a replacement for the classroom teacher. Isn't this correct?

CERTIFICATION OF TEACHERS

Governor HAYDON. Yes. In response to that, one of the areas in which we will be working very heavily is in the development of a system of certification, whereby qualified teachers that we do have, Samoan teachers, can obtain sole certification without a college degree. Several of them have been with our system for 30 years and have no possibility of going back to college in order to get a degree and yet are extremely capable people. This is a portion of the work that the University of Hawaii will be doing.

PUPIL ENROLLED IN SCHOOLS

Mrs. HANSEN. You might place in the record at this point the number of children who were enrolled in the Samoan schools in 1950, 1960, and as of 1970.

(The information follows:)

1950—Not available.
1960—6,490 which includes 5,137 public and 1,353 private.
1970—9,425 which includes 7,592 public and 1,833 private.

LEVEL OF TEACHER EDUCATION

Mrs. HANSEN. You might also place in the record the level of teacher education in 1950, 1960, and 1970.

(The information follows:)

1950—No records of qualified and unqualified teachers. 1960—By U.S. certification standards, 17 teachers were qualified (contract employees) and 284 were unqualified (all Samoan). By Samoan certification standards (2-year teachers training school), 56 were qualified and 245 unqualified. 1970—By U.S. standards, 29 teachers are qualified (20 contract and nine Samoans) and 312 are unqualified By Samoan standards, 164 teachers are qualified and 177 are unqualified.

In looking at the hard, brutal facts, I think we will discover that progress has been made, even though we are not satisfied. Lack of satisfaction in anything we accomplish is, of course an American trait. This is something we should be very proud of and should retain, because working toward excellence is the answer to our many problems.

PRESCHOOL TRAINING PROGRAM

I am interested in your preschool training program. Dr. Johnston was in my office and she is indeed a very capable, enthusiastic person. What percentage of the children in Samoa have the advantage of preschool training?

Governor HAYDON. You know, I am not very good at mental mathematics.

Mrs. HANSEN. Have this inserted in the record.

Governor HAYDON. There are right now 1,100 in early childhood education out of a total of 8,730 students. Next year, fiscal year 1971, we will have 2,200 in early childhood education.

Mrs. HANSEN. I think it might be interesting to compare those youngsters who have been given the Headstart program in the United States to the Samoans in the preschool training program. I think you will find Samoa has probably a far better percentage in the program. I do compliment Samoa on this program because this is one of the answers to quality education. Education isn't going to work by itself.

Everybody in the United States today is concerned about the breakdown of education. There are three things that are basic: the family, the school, and the church.

It has become mandatory when you think about education to also think about the conditions of the home. You cannot build a good school system on poverty. This is basic. You are not going to have adequate education unless you have prepared your children for education.

Malnourished and deprived children are never going to build a great society.

Governor HAYDON. It would be roughly 22 percent out of our total enrollment in fiscal year 1971.

Mrs. HANSEN. That is good.

SCHOOLCHILDREN AND COLLEGE GRADUATES

Will you please insert in the record the percentage of the total school population in Samoa that are the equivalent of elementary school graduates, secondary school graduates, and how many are college graduates.

Governor HAYDON. We have this material for the record.

Mrs. HANSEN. Thank you.

(The information was not supplied in time for inclusion in the record.)

COST OF EDUCATION PER CHILD PER YEAR

Mrs. HANSEN. Will you also insert in the record what the cost of education is per child per year.

Mr. WOHLFELD. We have to work it out.

Mrs. HANSEN. You mean you do not know?

Mr. WOHLFELD. We have 8,700 children.

Mrs. HANSEN. Let's compare the amount you spent per child in 1950, 1960, and 1970.

Governor HAYDEN. The total budget for 1970 is $4.927 million for a total enrollment of 8,732.

SCHOOL ENROLLMENT FIGURES

Mrs. HANSEN. How many students did you have enrolled and how much did you spend in 1950 and 1960?

(The information follows:)

1951—$56.00; 1960—$56.00; and 1970—$524.00.
Above costs represent operating expenses only.

RECRUITMENT OF TEACHERS

Mrs. HANSEN. Do you have any further comment on the education system? How about recruitment of teachers?

Governor HAYDON. The recruitment of teachers will now be handled by a subcontract, within the total cost of this subcontract, by Stanford University, and our techniques will be supplemented by the use of Michigan and Michigan State, a number of universities in America which have had very good results with the utilization of television as a teaching tool.

After a great deal of recruitment we have been very fortunate in obtaining Richard L. Balch, who comes to us as vice president of the University of Hawaii in charge of continuing education. He is ex-Director of the Peace Corps in the Philippines, was dean of students and dean of men at Stanford University, now director of education, and started the 1st of February.

For the first time in Samoa we have a university level top professional man on the job and a team of university level people who have elementary-secondary schools. We are going into a complete institution of vocational training both on the technological level and community college, particularly in agriculture and fisheries.

EMIGRATION PROBLEM

We have an additional problem and that is, we have emigration and will have for many years to come. It simply will be years, if ever, before we can produce jobs for everybody born in American Samoa. So we must educate children so if they are not going to college they can go to Hawaii and compete for a job. They simply cannot at the present time.

SAMOANS IN HAWAII

Hawaii has a population of about 12,000 Samoans and the last figure Governor Byrnes gave me is somewhere between 4,500 and 5,000 are on public welfare in Hawaii. I think the percentage extends to San Francisco, Los Angeles, and Seattle.

We have to educate the youngsters who are not going on to college in technological fields and highly trained and skilled fields so they can compete for a job. They simply cannot at the present time.

Mrs. HANSEN. I can understand because we have had a problem right here in the United States.

BIOGRAPHY OF DIRECTOR OF EDUCATION

Governor HAYDON. If you so desire, we have the biographical sketch of Mr. Balch. I will be happy to submit it for the record.

(The sketch follows:)

Biographical Sketch of Richard L. Balch

PERSONAL

Born November 20, 1918, Evanston, Ill. Married to Patricia Richardson. Two children: Timothy J. and Pamela J. Address: 1137 Koloa, Honolulu, Hawaii 96816.

EDUCATION

Pasadena High School, Pasadena, Calif. A.B., Union College, Schenectady, N.Y., 1941. Graduate study at Union College and Stanford University, 1947–55. Visiting fellow at Harvard Business School, 1953–54.

GENERAL STATEMENT OF EXPERIENCE

June 1967 to present: Vice president, division of continuing education and community service. Responsible for all Federal training programs, college of general studies, and international programs.

June 1966 to June 1967: Director of Peace Corps in the Philippines. Responsible for direction of approximately 850 volunteers working in education and community service.

1964–66: Vice chancellor, student affairs, University of California at Irvine. Responsible for admissions, registration, counseling, student health, housing and food services, and special services. It is believed that by having one administrator in charge of all matters relating to student life, communication between faculty and students will be more direct and more frequent, and the battle will be waged more effectively to maintain human qualities in an increasingly impersonal world.

1961–64: Associate director for development, Stanford University. Returned to Stanford University at the invitation of President Sterling to assist in developing a systematic means by which faculty research could be supported by foundations. Primary responsibility involved coordinating the presentation of the research interests of individual faculty. Secondary concern involved the implementation of support to the current Stanford capital gifts campaign.

1955–61: Associate dean of students and director of athletics; associate professor, Massachusetts Institute of Technology. Responsible for the organization and supervision of the extra class life of MIT students. To accomplish the task, the title of director of athletics was used to overcome the historic stigma a dean of students at MIT had experienced. The responsibilities of this position entailed (1) the administration of a department employing 50 staff members serving the teaching needs of 4,000 students, (2) the building and revision of plant and facilities, and (3) the administration of a $350,000 budget.

The position of director of athletics at MIT was undertaken with the firm belief that coaching personnel know individual students in a totally different context than other members of a university staff.

Rather than enlarge the administrative personnel concerned with "knowing students," coaches have assumed the line-staff function and are now a part of the formally recognized part of education at MIT.

1949–55: Dean of men, Stanford University. Responsible for general deportment, academic and personal advising, business and industrial referral for those men not registered with placement, supervision of dormitory staff for men, adviser to fraternities, responsible for administration of financial aid, and member of academic committees on admissions, undergraduate awards, military affairs, and academic standing.

1947–49: Administrative assistant to the president, Union College. Primarily concerned with work in admissions by way of recruiting students, administering admissions testing, visiting secondary schools to screen technical and liberal arts students.

MILITARY SERVICE

1941–46: Served on a motor torpedo boat for 3 years in South Pacific. Attached to Bureau of Ordnance for 6 months and returned to sea duty aboard U.S.S. *Kearsarge* (CV) as assistant personnel and gunnery officer. Rank at discharge: Lieutenant (senior grade).

EDUCATION TELEVISION TECHNIQUES AND MAINTENANCE OF EQUIPMENT

Mrs. HANSEN. How is the maintenance on your television equipment? I understand a lot of work was necessary to bring the equipment up to a usable standard.

Governor HAYDON. Director Balch does not feel we need as much money for spare parts as originally indicated. We do need some equipment replacement. Things corrode very heavily down there.

Mr. Bob Berger, who is president of KVTH, I believe, in Hawaii, as a matter of public service will serve as our adviser. He is a wealthy man and has been very successful in the television business and wants to do public service, and he has committed himself to this service.

In addition, a technical firm is part of the service that will be used to make certain that our mechanical equipment is proper. Mechanical equipment, we run a TV station like any station in America. It is no different than KING–TV in Seattle. We have cameras and production people, and artists and writers and researchers, except it is for education.

TV TAPES DISCARDED

The material that has been used—unfortunately, we produce so many thousand tapes a year and throw almost all of them away.

Mrs. HANSEN. Why?

Governor HAYDON. It is beyond me. Why we do not save the work of inspirational teachers is beyond me, and I think you are going to see a drastic change in this system in Samoa.

Mrs. HANSEN. When did this throwaway begin?

Governor HAYDON. Since the start. It has been there for 7 years. We throw away roughly 99 percent of everything we produce on tape.

Mrs. HANSEN. Why?

Goveronr HAYDON. I do not know.

Mrs. HANSEN. It is extravagant, is it not?

Governor HAYDON. It is not only extravagant, it is a waste of those tapes made by inspirational teachers. The excuse is given me, it is changing so rapidly in Samoa we have to develop a new tape for everything. I do not believe this.

Mrs. HANSEN. I cannot imagine mathematics changing so rapidly.

Governor HAYDON. This is the recommendation of NAEB and I think you are going to see some rather distinct changes; when you have a good teacher you use him until he drops dead.

Mrs. HANSEN. It seems to me that you could utilize many of those tapes over and over. You update tapes, that is very true, but there must be some basic tapes that can be saved.

Governor HAYDON. Very few are saved. A handful. I was flabbergasted to find this situation. It will be changed.

TEACHER RECRUITMENT

Mrs. HANSEN. How many teachers and how many schools do you have in Samoa, also what is your pupil-teacher ratio?

Governor HAYDON. We have 125 contract teachers and 641 Samoan teachers.

Mrs. HANSEN. Are there some in the category of teachers' aides?

Governor HAYDON. I am sorry. These are total people under contract in the education department. Many people are not teachers, they are the people who help produce the material used to do the research and write the lessons. So many of the U.S. contract people are television teachers who are on camera and in effect are the teachers in the classroom.

SAMOAN TEACHERS IN EACH CLASSROOM

In addition, each classroom has a Samoan teacher from top to bottom and many of our schools have a palagi principal, a stateside American principal who lives there, and there has been a very fine change-over to replace the palagi teacher and principal by Samoan teachers, which we feel is far more valuable.

It is the purpose of the program to teach Samoans to teach their own children.

NUMBER OF TEACHERS IN 1970

In 1970 we need 257 teachers. We have 105 qualified teachers available. Our classroom load is running around 30. Some say the ideal percentage would be one teacher to 25 students, but I believe it is not a magic figure. I happen to believe the less students per teacher, the better.

Mrs. HANSEN. I think most educators would agree that when you have a language problem, you should have fewer students per teacher.

EIGHTY TEACHERS NEEDED IN SECONDARY SYSTEM

Governor HAYDON. We need 80 in the secondary system.

Mrs. HANSEN. Is your recruitment difficult?

TEACHER APPLICATIONS

Governor HAYDON. Surprisingly, we have at the present time over 800 applications to teach in Samoa, but quantity is not the answer, it is quality. There will be a whole new system, frankly, of analysis of teachers who wish to come, both intellectual and physical. There will be no more of this business of hiring a teacher with asthma and ship-

ping her off to American Samoa and having to ship her back home in two weeks because she cannot stand the climatic conditions.

The physicals taken of these people will be geared to Samoan conditions and then come to Samoa and be reviewed by the medical staff before the teacher is employed. This has never been done before. As a consequence, we have gotten many people not suited physically to serve in Samoa.

SAMOAN CONDITIONS TO EMPLOYMENT

It is hot, sticky, we have problems with water, dysentery, and things like that. So many people have come who have been unable to stay because they could not qualify physically. Many have come who really do not qualify mentally. They need a psychiatrist to analyze them or psychologist to make certain they can withstand the type of living we have in the tropics.

It is a very small place, it is very congested from the human stand, there is very little else to do. If you do not have outside interests, you can really languish in Samoa.

We have been sent many wrong people. It reminds me a great deal of Alaska when we had a lot of people fleeing from financial and marital trouble and this sort of thing.

SCREENING OF POTENTIAL EMPLOYEES

Mr. FLYNT. Governor Haydon, in connection with that, has any effort been made to have these people screened in the United States both as to emotional stability and physical and medical capability with the island before they come over?

I know you just suggested they should come over before they are finally hired and thoroughly agree with that, but I think you have some very fine people here in the United States who have been there before who might serve on a consulting basis or otherwise, to screen these people before they go.

Governor HAYDON. We are not suggesting they physically come to Samoa. We want their medical records to come to Samoa so our doctors can examine them and make certain they are suited. I do not believe there has been any analysis in the area of the emotional stability in past years, and we intend to have this now because it is a strange place and it has strange requirements, and it is not living in San Jose or Seattle or Pittsburgh.

I like it myself. A lot of people do, but it is hard to get some people out there.

Mrs. HANSEN. Do you realize there is today in America a great gap between those of us who live in the smaller areas of the United States and those who have grown up in cities?

If you have a city oriented person going to a land like Samoa, which is primarily rural, there are problems to be encountered, similar to the problems of rural people who come into the cities.

This is one of the problems we have with the American Indian going abruptly into the pattern of the city life.

RECRUITING IN HAWAII

Governor HAYDON. We are attempting to do as much recruiting as possible out of Hawaii where they have similar problems and climate.

Mrs. HANSEN. This frustration in reverse causes the American ghetto.

Mr. WYATT. The reverse of it would be taking someone who has been born and raised in Samoa and putting him in the heart of the ghetto in New York City. It is just about as broad a difference.

Governor HAYDON. He would suffer a great deal of cultural shock.

SCREENING OF POTENTIAL EMPLOYEES

Mr. FLYNT. Do you not think it might be better to use the services of competent people who have served in Samoa to physically interview and screen these people in the hopes that you could get an even better evaluation through them than you might from records?

Governor HAYDON. Yes, sir, that is exactly what we are doing in subcontracting with Stanford. They have had an ongoing program with Samoan teachers for several years in which large groups of teachers come each summer to Stanford and are taken to plants and factories, in other words, taught about America by the faculty at Stanford. About 800 applications are now in the hands of the screening group at Stanford University, and they will be doing all of the recruiting.

Even if I find a great teacher or Mr. Wohlfeld finds one from his area, that application will be sent to Stanford to go through a standard screening process.

In addition, there will be orientation before they begin in our system either in Hawaii or Samoa itself. We are going to try and eliminate this very costly thing of sending the wrong people to Samoa.

EQUALIZATION OF PAY

Mrs. HANSEN. You no longer differentiate between salaries for the Samoan teachers and stateside teachers?

Governor HAYDON. No, ma'am, except they must have the same teaching qualifications.

Mrs. HANSEN. All things being equal there is no more discrimination?

Governor HAYDON. It is the same salary.

There is discrimination in those teachers who replaced palagi before I ever came to Samoa, and who are not yet receiving the same pay as the equal stateside teacher. Anybody we recruit, if qualified and they are Samoan, they get the same pay as stateside.

Mrs. HANSEN. Why can you not abolish this inequity?

Governor HAYDON. This is stage 2. It is also economics. We cannot throw the tremendous impact of everybody at once on the economy or we would go into an inflationary thing that will just stagger us.

Phase 2 are these people who have been treated in this fashion, and phase 3 is a reclassification of everybody and equalization of wages throughout.

I believe we are the first territory to put in this system, however, of offering equal opportunity, and frankly, they are starting to come back.

We just got an accountant, and the first full Samoan doctor will be coming in 9 months. This is the only way to get qualified Samoans back to Samoa.

Mrs. HANSEN. The other was an unconscionable practice.

(Off the record.)

MAJOR PROBLEMS FACING NEW GOVERNOR

Mrs. HANSEN. Governor Haydon, you were appointed 6 months ago. What do you consider as your major problem during the next year?

Governor HAYDON. It is a mixture to me of education and health and I feel education is now underway. The major problem at the present time is our health system. We have the finest hospital in the South Pacific, as I said before, and administratively it is in absolute chaos.

Mrs. HANSEN. What is the cause of that?

Governor HAYDON. The best words I can use are "poor administration." Our laboratory procedures are unbelievable, the hospital is filthy, it needs a complete shakeup from top to bottom and a complete change of personnel.

Mrs. HANSEN. Can you do it?

Governor HAYDON. Yes. It is underway. But it took recruitment to find a man.

To me, everything starts with a highly dedicated professional person. I am not a doctor, I know what is wrong with the hospital, but it takes a doctor to administer the hospital.

Mrs. HANSEN. It takes a hospital administrator.

Governor HAYDON. We have a hospital administrator, a young Samoan man, but he is not a doctor. He can administrate but he needs direction from on top from a physician who is a top hospital administrator, and we will get one on March 1.

Mrs. HANSEN. I often wonder today if we are training enough hospital administrators in the United States. I suspect we are falling way behind.

I think oftentimes the medical profession gets a great deal of blame for something they are not to blame for. It is not just a lack of training facilities, it is the lack of people taking this type of training.

Governor HAYDON. The man coming took his first two degrees from Harvard School of Medicine, practiced privately for 11 years and went back and took a master's in public health from Minnesota. He is ex-director of health in the State of California and has served with braceros from Mexico.

A very interesting background of working with people in depressed areas and training entire staffs of hospitals right up to the director. He is the ideal kind of man and we have lucked out in finding him.

GRANT PARTICIPATION

Mrs. HANSEN. What are the prospects for the development of local business enterprises?

Governor HAYDON. I think under headnote 3–A there are some very definite possibilities which Samoa has never sought out. We have

received a grant finally from the Economic Development Administration.

Mrs. HANSEN. What is the size of that grant?

Governor HAYDON. $53,000 for staff and all services participated in by EDA, and a smaller part by us on a matching basis.

Our new economic development director arrived on the job day before yesterday. We have just got our grant about 3 weeks ago.

UTILIZING SBA

Mrs. HANSEN. How about Small Business Administration?

Governor HAYDON. We have not utilized SBA. I am not even sure at this point we are under the legislation, Mrs. Hansen. This is one area where we have lots of problems finding what laws apply to us and which ones we are qualified for. However, we have found a number of new programs that no one in Samoa ever seemed to realize before we are qualified for.

LAW ENFORCEMENT ADMINISTRATIVE ACT

The Law Enforcement Administrative Act, for example, which we have instituted. We were the only territory or State in America not under this act. You saw our jail, you know why we need it.

MANPOWER TRAINING ACT

The Manpower Training Act we have gone into and it will be in conjunction with on-the-job training in our new community college. Apparently no one had known before we were qualified for Manpower Training Act and we have signed our agreements with the Department of Labor and HEW.

Both agreements are signed and we are started on that now. It is very hard for us to determine all of the programs. Frankly, we do not want all of them.

Mrs. HANSEN. Is this going to overlap programs?

Governor HAYDON. No, ma'am.

Mrs. HANSEN. That is one thing the committee has been concerned about. This would only proliferate your housing problem. If you are a part of Interior, we want your directors to be in charge of the direction that these programs take.

USE OF STUDY TEAMS

Governor HAYDON. As Mrs. Farrington will tell you—and she has been of great assistance to us in accordance with the guidelines established with this committee—we have made no violation. That is our Bible down there, frankly, and we have had the greatest help from the Department in bringing people in for a month or 3 weeks so we can suck them dry of expertise and send them back home.

On electrification we have had a study made and are now implementing it. They have been in for a month on the first stage in land management. We have a garbage team coming in, as I mentioned earlier, from HEW, and we work together with the Department.

Mrs. Farrington gets these people for us. It is the nicest system because they make no demands upon us in terms of this permanent housing or the building up of staff.

SOCIAL SECURITY EXPERTISE NEEDED

The only person we want in American Samoa, I believe I mentioned this to you in correspondence, is, there is a crying need for a permanent person from Social Security. They are sending a man from Hawaii for 2 weeks every other 2 weeks. We really need a man down there for a purpose.

Mrs. HANSEN. I understand that.

HOUSING PROBLEM

Governor HAYDON. Housing will continue to be a problem. If the Director of Education determines we have too many people in production because of this discarding of the tape system we use, this might open up some of our governmental housing down there for people.

The only permanent people that are coming in are from VISTA, a couple of lawyers to work with indigent Samoan people, an ecologist coming on March 15 from VISTA. I am looking for a museum curator from VISTA because our museum has gotten so big, my wife needs some help in cataloging and collecting and normal museum operation. We are really watching this business. Federal agencies are very generous in their offers to us and we have the guidelines of the committee and we live by these guidelines.

Mrs. HANSEN. The committee is interested, as you will recall, in making sure you have all of the opportunities.

BALANCED ECONOMIC DEVELOPMENT

Mr. REIFEL. Madam Chairman, while talking about economic development, I hope, Governor Haydon, you will look down the road a generation or two. All of the things that you hope to correct and need to be corrected, as indicated in the pictures, will raise the level of living of the American Samoan to a point where the income must come from someplace to support it.

In looking down the road, you ought to determine what is the economic possibility, practical, not off-the-cuff, top-of-the-head notions, so that those things can be supported. If they cannot be supported by the local economy, then how much money is it going to take to subsidize in order to maintain potable water, clean up the area, all of that? Otherwise, it is going to be a cruel hoax on the people.

Mrs. HANSEN. A very good question.

Mr. REIFEL. It happened to the American Indians from the time this country was formed. It is still happening. We still are perpetrating a cruel hoax on some of the American Indians by making them believe there are resources on their reservations to support the kind of level of living we are talking about. We have a lot of romanticists running around the country trying to keep the Indians on the reservation.

I grew up in a community where we had no running water, no electric lights, but in visiting it last summer, never did I believe that in

this little community there would be a sewer system, running water, electricity, modern homes, but not one iota of an economic opportunity to support it.

Heavens knows they need those homes for those children, but if we are going to build them there, then we ought, it seems to me, to look down the road far enough to say if there is no economic development to support those homes and those families in those kinds of homes at that level of living, let's be prepared to give them whatever it takes out of the Federal Treasury and the State treasury, if we can get it, to maintain that. Otherwise, all we have is, in a little time, broken-down, unkempt environment that is worse.

PRODUCTION OF JOBS

Mr. LOESCH. It all comes down in the end to the necessity of the production of jobs. If you cannot do that in Samoa, in the trust territory, in Indian reservations, anywhere else, it is not going to fly. There is just no way.

Mr. REIFEL. This is an area where the American Samoans, the trust territories, and the American Indians, are a Federal responsibility. And we ought as legislators or as administrators or executives to recognize that fact and help the American public to see it.

Mr. LOESCH. This also is true, but it is difficult to see how any people in the categories you enumerate can have a happy and satisfactory life if they are on a handout no matter——

Mrs. HANSEN. You would be surprised how many people thoroughly enjoy it. I think what Mr. Reifel is trying to say, is that it is time you looked at your design for living to make a complete and orderly plan. You are not going to be able to take the Samoan away from the country he loves and the environment he wants. When you have recreated for him this land of beauty, you also have to include a plan for his economic development or he will deteriorate into frustration. This is what we have seen.

Mr. REIFEL. It seems to me it is just a purely humane consideration.

Mrs. HANSEN. It is.

ECONOMIC OPPORTUNITY PLANNING

Mr. REIFEL. That we take any group, Samoans or Rosebud Sioux Tribe, to which I belong, and say what are the economic opportunities here as we look down the road. And if it is going to support X number of people and that is all it can support, then what is the problem, what do we do? Do we gear our educational system so that we have a design that results in the draining away of those who would be surplus as employables at Rosebud Reservation or American Samoa?

I think unless planning is total in that regard, it is just an exercise in futility for the administration, but worse than that, it is a cruel hoax on the people who may be led to believe there is something there that we are going to build up, and find the population is increasing and the economic opportunities are deteriorating while at the same time we are artificially raising the level of living, that cannot be supported and we ought to face it. We are out there in the Pacific in the trust territory and in American Samoa, we are in a glass house, the front door of the world, and we ought to see it in that respect.

POPULATION STATISTICS

I do not see in the report any population statistics, population growth over a period of years, or the number that are there at the present time, a breakdown of the population as to age groups.

Governor HAYDON. There are some statistics, Congressman Reifel, in our annual report. Frankly, I think they are highly erroneous and part of the responsibility of our new economic development and planning office is the gathering of statistics.

I would like to respond to your question as briefly as I can because I am in complete accord with you, I would not play a hoax on the Samoan people for anything.

I have said repeatedly in Samoa we must be realistic about our opportunities. We have them, we have some very definite economic opportunities right down the road. The first is not in a cloud nine development of the tourism, but realistically controlled, environmentally controlled development of tourism, and the service industries and retail industries that grow around it.

I am not going to play any part in educating Samoan kids to be busboys and waitresses in American Samoa. To me it is only a step.

DEVELOPMENT OF FISHERIES

Beyond that we have a fantastic growth in development of fisheries. Madam Chairman knows I have worked in this field for many years.

FISHERIES POTENTIAL

I have just attended 4 days of meetings on the long-term goal of skipjack tuna with Governor Camacho of Guam, Governor Byrnes of Hawaii and High Commissioner Johnston. They just got cut $4 million. I happen to believe in Samoa there is a way to develop the local fisheries. We are looking at it in stages.

We know we have the resources for sports fisheries and a local tuna fishery for the fleet of 50 to 80 boats, and we are going to do it and it can be done.

Mrs. HANSEN. We could not agree with you more. Not everybody in Samoa is going to be a computer operator, a lawyer, or a doctor. There are also millions of Americans that want to do something else. They may want to be fishermen, but every day, we see in the field of fisheries and in our natural resources further phasing out of the governmental interest.

SAMOAN HERITAGE

Governor HAYDON. The heritage of these gentlemen is 4,000 years of famous navigators and sailors and fishermen, and the ability is there and the resources are there, and we are going to develop it. The long term means a huge investment in big seiners. That kind of money does not exist in Samoa. The long-range plan is through the fast, large seiners or another type of improved technology.

FISHERY DEVELOPMENT

These huge seiners of the west coast type would come into Samoa hopefully to supplant the oriental vessels now serving American Sa-

moa. It would have a crew of young Samoan men who are trained to fish on shares until they are capable of taking over a seiner like that, which costs a million dollars.

This is modern fishing. We have the only last remaining great fisheries of the skipjack tuna. We have it in abundance. In Tahiti they have a hundred boats fishing the same waters for the same fish. They have three men on a boat.

Today they have long liners working out of Tahiti. There is no reason in the world why we do not have this in American Samoa. We have two boats now fishing for the first time for ground fish, for bottom fish, which has not existed for many years. When I arrived you could not buy a piece of fresh fish in Samoa. Now you can buy fresh fish. We are going to have a fleet of 20 to 40 boats like this. There is a domestic demand for all the fresh fish we can catch.

We can can ours. We have sufficient skipjack so it can be shipped ala Alaska—Samoan shipped to the District of Columbia. There is a high profit in fisheries.

AGRICULTURAL AND BUSINESS POTENTIAL

Beyond that, we have agriculture. This is the third area. We have about 7,000 acres of land. I have been in Samoa for 6½ months and I have just discovered that we have a dairy herd hidden away in a cul-de-sac on the mountainside. It started with six cows and has gone to 150 cows. We are going to put them to work.

In the fourth area we are not geographically located to have Sperry-Rand open a factory in Samoa, but there are innumerable opportunities for us to attract businesses into Samoa.

We have a man we are talking to about starting a rug factory out of New Zealand, of all places, to make woolen rugs and ship them to the United States, under headnote 3–A.

We did not get one bid on our watch factory. Not one major company in America put in a bid and we are apparently not going to put in a watch factory.

MILITARY INSTALLATIONS

Headnote 3–A in long range is a freak situation and some future tariff negotiation may eliminate this ability we have, and it is not a very strong thing to build on. Fortunately, we have no military installations, roughly 42 people, six Coast Guard and 36 Air Force, and that is it. We are not dependent or fooling ourselves by depending on a huge military economy. I am glad we do not have it and we do not want it. It creates social problems, and I am glad Samoa is not of that kind of strategic value.

But there are a very definite number of possibilities that we can do on a realistic basis. But to tell these gentlemen that Samoa is going to have big factories is absolutely, just as you say, utter nonsense, it is never going to happen.

CUSTOMS REGULATION

Mrs. HANSEN. I suspect by the time they got there you would not want them because they would just contribute to pollution.

Mr. WYATT. Is headnote 3–A the mainland custom status of Samoa?

Governor HAYDON. Right. The 50 percent being local contribution and using the foreign 50 percent of it into the U.S. duty free.

CHICKEN PRODUCTION

Mr. FLYNT. Some people do not consider it sophisticated any more to talk about agricultural development. I would like to discuss a specific possibility with you that I discussed in American Samoa several years ago. And that is to request some technical advice and financial assistance in the establishment of some commercial chicken-growing operations.

Governor HAYDON. We have them, sir.

Mr. FLYNT. Have they started?

Governor HAYDON. Yes, sir; we have a commercial chicken farm where they bring in the pullets and sell them to the commercial farmers.

Mr. FLYNT. When did you get them underway?

Governor HAYDON. About 8 months ago.

Mr. FLYNT. I am glad that at least one of my recommendations has finally been acted upon out there.

PIG PRODUCTION

Governor HAYDON. Yes, sir; and we have the same thing with pigs, bringing in prime brooder stock and selling the little pigs to the farmer and teaching them how to feed them properly.

CHICKEN GROWING BY NATIVES

Mr. FLYNT. When I was in American Samoa, I noticed in many of the native villages that certainly every village, and in many instances nearly every hut had two or three yard chickens. When I was a boy that was the customary way to raise chickens down in my part of the country. Since that time we have learned how to really develop a better bird and to produce better birds more economically. You can do the same thing in American Samoa.

It could be a source of tremendous economic development to many individuals and groups of American Samoan people. Not only can you develop a domestic market within Samoa for the products of these well-operated chicken farms, but you may be able to develop an export market to other parts of the Pacific area. I congratulate whoever is responsible for getting it underway. I am glad to see it.

EGG PRODUCTION

Governor HAYDON. I want to ask permission for Mr. Utu to respond a little bit because he is one of the new egg producers in Samoa.

Mr. FLYNT. I will be very glad to hear about it.

Mr. UTU. I think it is a very good development for our islands. Our experience is, we need a feed factory in Samoa which will mean we will have a good opportunity to sell eggs all around the Pacific. We have a very tough time getting all of our feed from the United States. That is why the fresh eggs are very high and competing with the American eggs. But if we had some sort of feed factory, then I think we could take care of our own problems.

USE OF FISHMEAL

Mrs. HANSEN. Have you done anything on the fishmeal?

Governor HAYDON. That is what we are going to utilize. We will put in the antibiotics and the calcium made from our marine shell and have our own fishmeal plant and use it in bulk instead of bringing it in in bags. Then we are going to be in business on eggs.

Mr. UTU. We asked the Department of Agriculture to build a factory in Samoa.

Governor HAYDON. We can sell feed in addition to the eggs. It is now being planned and will be implemented this coming year.

(Off the record.)

INFLATION AND INTEREST RATES

Mrs. HANSEN. To what extent has inflation and high interest rates affected the economy of American Samoa?

Governor HAYDON. So far, our interest rates are being maintained by the Bank of Hawaii, our new bank, the same interest rates that were in American Samoa before they operated there. Inflation of course hits us badly and on our construction projects or anything that needs procurement of items, from the time until the budget is finally approved, we have an additional 3 months lag because of source of supply and distance to go.

I think a lot of trouble Samoa has gotten into in overruns and construction projects and so on is failure to have been realistic in building in inflation escalation. I think construction in America is running about 1½ percent a month, moving up all the time. We are working on budgets 2 years ahead because another 3 months is built in. We simply have to plan for that escalation.

Mrs. HANSEN. Underestimated?

Governor HAYDON. Underestimated, yes.

COOPERATIVE GOVERNMENT

Mrs. HANSEN. Describe the extent of cooperation between the Governor's office and the Samoan Legislature; especially with regard to administration, legislation, and the appropriation process.

Governor HAYDON. First of all, in past years the budget has been made by the Governor and tossed at the Legislature and they have been told this is it. I know from reading the hearings, this caused trouble.

I believe in the last hearing we had a divided representation from American Samoa.

The first thing I did after arriving was to set up a joint budget review system in which the members of the legislature and the Governor's staff sit down on budget from the first day. We make budgets together and whatever problems arise, we talk about them around the table like this. It is a continuing process, we are doing it from now on.

In addition, if I have a parks and recreation problem, I call in the members of the Parks and Recreation Committee of the legislature and we talk the problem out before we come up with a final plan. This is an entirely new system and you can ask these gentlemen whether it is working or not.

We have then a budget which is the joint result of our work together from the very beginning.

We have a current problem on what is my specific authority, the guidelines that are not spelled out. Going on precedent and what guidelines we can find, I have, as the administrator of U.S. funds in American Samoa, I feel, certain authority over certain types of funds.

The legislature is rightfully protective of its ability to appropriate funds and at the current time we have a split, not a quarrel but a disagreement, and we are meeting this afternoon, I believe it is at 4 o'clock, with the lawyers and other advisers from the Office of Territories to resolve this question. I am not in argument with these gentlemen, nor do I think they are in argument with me, but we want it clearly defined for us which revenues are under authority of the Governor's office and which revenues are literally under the authority of the legislature, but I believe we have—and I invite you to question my colleagues here—I believe we have a whole new ball game in what we call cooperative government in American Samoa. It goes beyond the budget, it extends into all of our other activities.

We want the legislature to play a part in what we are doing in the administration of U.S. funds. It is American in effect, it is their money and they have a right to do this.

Mrs. HANSEN. One of the concerns of the committee in the past, as you are well aware, has been that budgetary troubles can inherently start a lot of other discontent.

The second thing we felt was that as an American legislative body we owed the same courtesy of consideration toward the Samoan development. We didn't want to be thought of as feudal overlords but as part of an everdeveloping area where the full responsibilities of citizenship and management are recognized.

We recognize, that inherently you only build a good pattern of government when representatives of a people do the major part of the planning in coordination with the executive. We think government can be a showcase in Samoa because you have an exceptionally able and thoughtful legislature.

EFFECT OF BOB CIRCULAR A–10

Mr. LOESCH. Might I interject a word here about this general subject.

One of the problems that we have had, I think, in the territories and in my personal knowledge with particular reference to the trust territory, has been the fact that with essentially two separate governments to budget, we have been restricted very badly by circular A–10 from the Budget Bureau. It is very difficult for a legislature to plan in the future without knowing what they got the last time, really.

Mrs. HANSEN. Or what they have in their mind.

Mr. LOESCH. I am very happy to say, of which I do not know whether the committee is aware, that just very recently, in reply to an application by the Interior Department, the Bureau of the Budget has lifted that A–10 restriction, I believe, for all the territories. Is that not correct?

Mr. HITE. That is correct.

Mr. LEOSCH. So that now we can, as soon as the budget is through the usual process, announce to our territories what they have coming.

Mrs. HANSEN. How much have they been holding back prior to this time?

Mr. LOESCH. They have been holding back information until you people have passed the appropriation bill. We were not supposed to tell anybody. I will not say we did not do it, but it was illegal for us to allow Samoa to know what the departmental request of the Bureau of the Budget is.

How the heck can they start through the drill on 1972, which they are beginning to go through now, unless they know.

Mrs. HANSEN. The Bureau would like to keep that secret from Congress.

Mr. FLYNT. You said that was illegal for you to do it. Strictly speaking, is it illegal or simply a violation of instructions from the Bureau of the Budget?

Mr. LOESCH. All I know is my solicitor's office, before I went out to the Trust Territory in January, told me not to do it because it was illegal and I would get in trouble. Frankly, I did it anyway. Whether illegal or improper, I do not know.

Mr. FLYNT. I am glad you did it and I do not think it was illegal.

Mr. LOESCH. It may not be, but I am happy to say there is now no question about it.

FUNDS TO PROGRAM ENVIRONMENTAL AND RESOURCE PROBLEMS

Mrs. HANSEN. If Interior doesn't start to convince the Bureau of the Budget that environment is not just a matter of speech or philosophy, but a matter of carrying out programs with substantial sums of funding, then the environmental problems are going to continue to pile up until we never will get over that mountain.

We will reconvene at 1:15 this afternoon.

AFTERNOON SESSION

TOURISM

Mrs. HANSEN. I think it would be well to insert in the record the number of tourists now coming to Samoa and how long they stay and how much they spend per trip.

Governor HAYDON. All right, Madam Chairman. We can put that in the record.

Briefly, we showed a 16-percent increase this year, for a total of a little over 15,000 tourists. Our limitation is not enough beds in Samoa. We need more hotel rooms.

(The information follows:)

1968, 11,000; 1969, 13,940; 1970, 15,000; 1971, 17,500.
Length of stay was approximately 4 days in both 1968 and 1969.
Average spending about $150.00 per visitor.
Tourists come from the United States, New Zealand, Australia, Western Samoa, and Germany.

SAMOAN HOTELS

Mrs. HANSEN. How many hotels do you have there?

Governor HAYDON. One, and one opening with 22 units in June.

Mrs. HANSEN. How many rooms do you have in that hotel?
Governor HAYDON. We have 95 usable.

HOTEL PROFITS

Mrs. HANSEN. Has the hotel been profitable?
Governor HAYDON. The profit, without going into actual figures, is very good—for Pan American, whose subsidiary, Intercontinental Hotels, runs it. As far as the American Samoa Development Corporation is concerned, it is an absolutely losing proposition, and under any business arrangement they would have been declared bankrupt a long time ago.
Mrs. HANSEN. How long has Pan American had the management of the hotel?
Governor HAYDON. Since it opened. We have cabled home trying to find out the contract provisions.
Mrs. HANSEN. Why should Pan American be making so much and the Samoan Development Corporation be losing?
Governor HAYDON. That was the contract given to them, and they skim approximately 13 percent off the top before ASDC gets anything.
Mrs. HANSEN. Will you please insert in the record a copy of that contract?
Governor HAYDON. All right.
(The information follows:)

OPERATING AND MANAGEMENT AGREEMENT

This agreement, made and entered into this 6th day of May 1965, between American Samoan Development Corporation, a corporation organized and existing under the laws of American Samoa, having an office at Fagatoga, Tutuila, American Samoa (hereinafter called the "hotel company"), and Intercontinental Hotels Corp., a corporation organized and existing under the laws of Delaware, having an office at New York, N.Y. (hereinafter called the "operating company");

WITNESSETH

Whereas the hotel company plans to construct and equip a modern hotel on property in the city of Pago Pago pursuant, in part, to arrangements for technical services between the hotel company and the operating company, such property, which is more fully described in exhibit A attached hereto and made a part hereof, together with the hotel building and all other improvements of every kind and nature to be erected thereon by the hotel company, and all entrances, exits, easements, facilities, appurtenances, rights and privileges of the hotel company in and to such property, and the furniture, furnishings, fixtures and operating and other equipment to be acquired and installed by the hotel company in such property, being hereinafter collectively referred to as "hotel"; and

Whereas IHC and its subsidiaries manage and operate hotels in a number of countries, which hotels cater to the international tourist and business trade and are known as the Intercontinental Group; and

Whereas IHC and its subsidiaries maintain an extensive organization, staff and facilities, all engaged in (a) advertising, selling, and otherwise promoting the services of the Intercontinental Group, (b) providing technical services to assure modern and efficient hotel management and operating methods for the Intercontinental Group, and (c) providing engineering and architectural services for the design, construction, and equipping of hotels of the Intercontinental Group and additions and improvements thereto, which organization, staff and facilities are maintained at substantial cost, largely in U.S. dollars; and

Whereas the hotel company desires to enter into this agreement in order, among other things, to obtain, as a member of the Intercontinental Group, the benefits of management supervised by such organization and of the foregoing services rendered by IHC and its subsidiaries: Now, therefore, in consideration of the premises and the mutual covenants herein contained, the parties hereby agree as follows:

ARTICLE I

Appointment and Services of Operating Company

SECTION 1. *Term.* The hotel company hereby appoints and employs the operating company as general manager of the hotel, and in that capacity to act as agent of the hotel company, to supervise, direct, and control the management and operation of the hotel, upon terms and conditions hereinafter stated, for a term beginning either:

(*a*) Upon the date of actual occupancy of the hotel by the first paying guest, or

(*b*) Upon the 10th day after the supervising architect shall certify in writing that the hotel is ready for occupancy and use as a completed hotel, fully furnished, decorated and equipped in accordance with plans and specifications reviewed or provided by the operating company.

whichever date first occurs, and continuing in force thereafter for a period of 10 years from December 31 of the year in which the term commences, unless sooner terminated by the operating company or the hotel company as provided in article XII of this agreement, and continuing in force after such 10-year period for an additional period of 10 years subject to the parties mutually agreeing upon reasonable changes to be made in the terms hereof due to the expiration of modification of the tax exemptions heretofore granted by the Tax Exemption Board of the Government of American Samoa. In the event this agreement shall continue in force during such second 10-year periods, it shall thereafter be extended for successive periods of 5 years each unless terminated at the end of any such period by either party on written notice to the other party, provided such notice shall be given not less than 6 months prior to the date of termination. On or prior to the date upon which the term of this agreement commences in accordance with this section, the parties will execute a further instrument evidencing said date.

Section 2. *Services of Operating Co.*—The Operating Co. will supervise, direct, and control the management and operation of the hotel, and will render or supervise and control the performance of all services and do or cause to be done all things reasonably necessary for the efficient and proper operation of the hotel as a first-class hotel. In limitation of the generality of the foregoing, however, the Operating Co. recognizes the status of the Hotel Co. as a lessee of hotel site from the Government of American Samoa, and the restrictions placed upon the Hotel Co. by its lease with the Government of American Samoa dated September 1, 1963, and by the tax exemption certificate granted to the Hotel Co. and its agents by the Government of American Samoa, dated October 4, 1963. The Operating Co. agrees that in the unforeseen event of a conflict between the provisions of this agreement and the aforementioned lease and tax exemption certificate, the considerations of the lease and tax exemption certificate shall prevail. The Operating Co.'s services shall include the following:

(*a*) The selection, employment, and termination of employment, supervision, direction, training, and assigning of the duties of a resident manager for the hotel and all employees of the Hotel Co. engaged in the operation of the hotel, including the managerial and working staff, the department heads, the executive and accounting staff, and all other such employees. The resident manager shall at all times be an employee of the Operating Co., and the Operating Co. shall have the sole right to direct and supervise the resident manager in the performance of his duties, but in performing such duties the resident manager shall act as agent for and on behalf of the Hotel Co. The salary payable to the resident manager, together with any other remuneration and benefits which he may receive from time to time in connection with his employment, shall be disbursed to him by the Operating Co., and the Operating Co. shall promptly be reimbursed by the Hotel Co. for all such disbursements and all taxes and charges relating thereto, such reimbursement to be made in the currency in which payments shall have been made by the Operating Co. The resident manager shall be required to live on the hotel premises and to be engaged in no other business. The selection, terms of employment and termination thereof, including rates of

compensation, and the supervision, direction, training, and assignment of duties of all employees, shall be the duty and responsibility of, and shall be determined or controlled solely by, the Operating Co.;

(*b*) The establishment of all prices, price schedules, rates, and rate schedules, and in connection therewith, the collection, receipt and giving of receipts for all service and services or income of any nature from the hotel operations; provided the Operating Co. will consult with the Hotel Co. on its proposed price and rate schedules, and any changes thereof, and will give full consideration to the Hotel Co.'s suggestions in respect thereof, and provided further that if in the opinion of the Hotel Co. the rates established by the Operating Co. for rooms at the hotel are unreasonably low, the parties will, at the written request of the Hotel Co., submit to arbitration pursuant to article XV, the question whether such rates are too low and the amount or amounts, if any, to which they should be raised;

(*c*) The making of such repairs, alterations and decorations of the hotel as the Operating Co. may deem reasonably necessary to the proper maintenance and operation thereof, the cost of which, after the first year of operation, shall not in any year exceed 10 percent of the gross room revenues of the hotel for the current year without the approval of the Hotel Co.;

(*d*) The negotiation and execution of leases and concessions for store, office or lobby space on the hotel property, and the obtaining and granting of such concessions and privileges, including, but not limited to, cigar stands, newsstands, beauty shops, taxicabs, and automobile garages, as the Operating Co. may deem reasonably necessary or desirable in connection with the operation of the hotel; provided that the designation of the space to be leased or held under concession and the selection of the tenants and concessionaires who will occupy such space shall be determined after consultation with and subject to the approval of the Hotel Co., which approval will not be unreasonably withheld. In keeping with the primary goal of the Hotel Co. in enhancing and diversifying the Samoan economy, the Hotel Co. will assist the Operating Co. in respect of the foregoing by training and financing selected American Samoans in order to qualify them as potential lessees or concessionaires of space in the hotel.

(*e*) The leasing and letting of rooms or space on the hotel premises not referred to in subparagraph (d) above, or other accommodations in the hotel in the usual course of business, and the establishment of rates or rate schedules therefor;

(*f*) The supervision and control of the activities of tenants, concessionaires and holders of privileges and their employees, including the dispossessing of tenants for nonpayment of rent or other proper cause, or the termination of the right of concessionaires and holders of privileges for similar proper cause;

(*g*) The installation of suitable books of control and account, to be kept in accordance with the uniform system of accounts for hotels referred to in section 2(a) of article II of this agreement, with the exceptions provided for in this agreement;

(*h*) The granting and limiting of the credit of patrons of the hotel;

(*i*) Generally, the negotiation and execution of contracts reasonably necessary or desirable in connection with the operation of the hotel in the usual course of business, except as otherwise provided in this agreement;

(*j*) The purchasing of such inventories, provisions, supplies and equipment as the operating company may deem reasonably necessary in order to maintain and operate the hotel properly; but the operating company shall not be required under this agreement to act as purchasing agent for the hotel company outside of Samoa, it being understood that the parties hereto contemplate entering into a further contract or agreement pursuant to which IHC will act as purchasing agent for the hotel company in countries other than Samoa;

(*k*) The planning, preparation of and contracting for advertising and promotional programs for the hotel, both separately and as a member of the intercontinental group, the cost of which to the hotel company in any 1 year shall not, without the consent of the hotel company, exceed 4 percent of the gross income of the hotel for the same year;

(*l*) Advising the hotel company in matters of public relations;

(*m*) The taking of any action at law or in equity in the name of the operating company or in the name of the hotel company which the operating company shall deem reasonably necessary and proper (including, but not limited to, dispossess proceedings for nonpayment of rent), in connection with the operation of the hotel; and

(*n*) Generally, the performance of all acts reasonably necessary in connection with the operation of the hotel in an efficient and proper manner.

It is understood that, subject only to any express limitation which may be contained in this agreement, the operating company shall have absolute control and discretion in the management and operation of the hotel and in the performance of the foregoing services. Subject to the provisions of this agreement, the operating company shall, in performing its agreements hereunder, be free from interruption or disturbance; and the hotel company will at its own expense undertake and prosecute any appropriate action, judicial or otherwise, to assure such freedom to the operating company, except in the event of condemnation by proper authority.

In taking any action pursuant to this agreement, the operating company will be acting only as agent for the hotel company, and nothing in this agreement shall be construed as creating a partnership or joint venture or any other relationship between the parties hereto except that of principal and agent.

ARTICLE II

Compensation of the operating company for managing and operating the hotel

Section 1. *Compensation of operating company.*—As consideration for the services to be rendered by the operating company as set forth in this agreement, the hotel company hereby agrees that the operating company shall be paid 3 percent (3%) of gross operating profit of the hotel computed pursuant to the American uniform system of accounts for hotels, such sums being payable as follows:

> Promptly after the last day of each month, beginning with the last day of the calendar month next following the beginning of the term of this agreement, the gross sales and revenues of the hotel for such month, and the gross operating profit of the hotel for such month shall be determined and an amount equal to 3 percent (3%) of such gross sales and revenues and 10 percent (10%) of such gross operating profit shall be retained by the operating company, in U.S. dollars, in payment of the compensation payable to it hereunder. Promptly after the close of each year and as part of the annual audit provided for in article X of this agreement, the gross sales and revenues and the gross operating profit of the hotel for such year shall be determined and appropriate adjustment and payment shall be made in respect of any overpayment or underpayment to the operating company of the amount it is entitled to receive pursuant to this section 1.

Section 2. *Monthly Operating Statement.*—On or before the 25th day of each calendar month, beginning with the 25th day of the month next succeeding the first calendar month following the formal opening of the hotel, and continuing each month thereafter during the term of this agreement, the operating company will furnish the hotel company with an operating statement of the hotel for the preceding calendar month including a summary of profit and loss (short form) for such month, in substantially the form set forth in the uniform system of accounts for hotels referred to in section 1 of this article II.

ARTICLE III

Special agreements of the parties

Section 1. *Completion of Hotel.*—The hotel company will at its expense arrange for such work and acquire and install such furniture furnishings, fixtures and equipment as may be necessary in order to complete, furnish, equip and decorate the hotel in accordance with the agreement for the technical services referred to above.

Section 2. *Pre-Opening Expenses.*—Prior to the formal opening of the hotel and the commencement of the term of this agreement, the operating company will supervise and direct the selection and training of operating personnel for the operation of the hotel, installation of accounts, negotiation of leases, contracts and concessions, accepting of and giving receipts for advance payments, arrangement and installation of furniture, furnishings and similar items and the inventories of supplies referred to in secton 3 of ths article, and advertising and promotion, and the operating company will render such other miscellaneous services incident to the preparation of the hotel for opening as may be required so that at the date of the formal opening the hotel will be adequately staffed and capable of functioning as an operating unit. The cost of the foregoing services, including the salary and travel expenses of personnel of the operating

company or any subsidiary of the operating company performing such services, the salaries of hotel personnel performing such services, the travel and related expenses of hotel personnel incurred prior to the formal opening, the federal charges, if any, of other individuals and agents employed by the operating company to perform any of such services the cost of light and power not chargeable to the cost of construction of the hotel, and the cost of the opening functions, shall be deemed to be "preopening expenses," but preopening expenses shall not include the cost of the inventories referred to in section 3 of this article or in article IV of this agreement, nor any costs incurred by the hotel company in connection with the completion of the hotel. Preopening expenses shall be subject to the approval of the operating company, shall be disbursed by the hotel company, and the amount thereof shall be set forth in a budget to be prepared by the operating company and submitted to the hotel company for approval, which approval will not be unreasonably withheld. The amount shown in such budget will not be exceeded without the approval of the hotel company. Preopening expenses incurred by the operating company shall be reimbursed or paid by the hotel company upon receipt of a statement of the amounts due on account of such expenses.

Section 3. Hotel company to provide inventories of supplies, working funds and funds required for extraordinary expenses.—All income derived from the operation of the hotel and all expenses incurred in maintaining, repairing and operating the hotel shall be for the account of the hotel company. The hotel company will provide at its own expense and on the basis of estimates of the requirements of the hotel furnished by the operating company (*a*) at the opening of the hotel, such inventories of foods, beverages, fuel, stationery, household stores, and other similar supplies, and (*b*) at the opening of the hotel and from time to time thereafter, such amount of working funds, as may be necessary for the continued and efficient operation of the hotel as a first-class hotel. Upon the expiration or termination of this agreement, the operating company shall return to the hotel company such amount of the foregoing inventories and working funds as may then be in its possession or under its control.

The hotel company will also from time to time make such payments as may be necessary to defray the cost of extraordinary items or expenses in connection with the operation of the hotel, including, but not limited to, improvements to and extraordinary repairs and maintenance of the hotel, insurance, and taxes.

Section 4. Hotel company exclusively to bear operating loss.—A gross operating loss in any calendar year shall be borne by the hotel company exclusively and shall not reduce the portion of the gross operating profit of the hotel which the operating company may be entitled to receive hereunder for any prior or subsequent years. No part of any such loss shall be charged against or recaptured out of subsequent gross operating profit of the hotel or otherwise diminished subsequent gross operating profit.

Section 5. Appointment of booking agent.—At the request of the operating company, the hotel company will enter into an agreement with the operating company or a subsidiary of the operating company providing for the appointment and employment of the operating company or such subsidiary to act throughout the world as the general sales and booking agent of the hotel, on the terms on which services as such agent are made available to the hotels in the intercontinental group, as a result of which agreement the hotel will have the benefits of the facilities and services of the operating company, including its access to the international travel market, in advertising and promoting the intercontinental group of hotels of which the hotel will be a member all of which are expected to enhance and promote the business of the hotel derived from the United States of America, Canada, and elsewhere. The terms and provisions of such agreement shall be subject to the approval of the hotel company, which approval shall not be unreasonably withheld.

Section 6. Payment of incidental expenses.—The hotel company will pay all reasonable traveling, telephone, telegram, radiogram, cablegram, air express, and any other incidental expenses paid or incurred by the operating company while engaged upon the business of the hotel company. The hotel company will also pay the salaries and expenses, including traveling expenses, of employees and representatives of the operating company and its subsidiaries who are in American Samoa in connection with the management or operation of the hotel, and will provide them with reasonable room accommodations, food, beverages, laundry, and valet service at the hotel, without charge to the operating company or its employees or representatives, provided that the operating company will

endeavor to keep the costs of trips of such employees and representatives to American Samoa to a reasonable minimum, and such costs will in no event exceed a total of $7,000 in any calendar year without the prior approval of the hotel company.

The hotel company will also pay all fees and expenses, including reasonable room accommodations and food, of other consultants and specialized personnel employed or retained by the operating company for the hotel company with the consent of the hotel company. No other person shall be provided with such accommodations and services without the joint approval of the parties hereto, except that the operating company may, without such approval, provide such accommodations and services in accordance with the usual practices of the hotel and travel business applicable to the locality in which the hotel is situated. Fees and expenses paid and incurred by the operating company in U.S. currency pursuant to this section 6 shall be paid to the operating company in the United States of America and in U.S. dollars.

Section 7. Indemnification by hotel company.—The hotel company will, upon demand, reimburse the operating company for any payments made by the operating company for the account of the hotel company, such reimbursement to be made in the currency in which such payments were made by the operating company. The hotel company will also indemnify the operating company against any claims, including costs and expenses incident thereto, by reason of any action taken or omitted to be taken by the operating company or its officers, employees, agents, or representatives, including the resident manager, pursuant to this agreement, except when arising out of willful misconduct or gross negligence of the operating company. The operating company shall have no responsibility or liability for the negligence or any actions of any employee or representative of the hotel company. The operating company shall not be liable to the hotel company for any action taken or omitted to be taken by the operating company except for losses caused by its own willful misconduct or gross negligence.

Section 8. Bank accounts.—All funds derived from the operation of the hotel shall be received by the operating company for the account of the hotel company and shall be deposited by the operating company in an operating account or in a general account in such bank or banks in American Samoa as the hotel company may designate. The operating company shall be under no liability or responsibility for any loss resulting from the insolvency of the bank or banks in which such funds are deposited. The operating company shall deposit and maintain in the operating account such portion of said funds as may be required to pay the ordinary current costs of operating the hotel, including a reasonable reserve for such purpose, and all checks for the withdrawal of funds from such account shall bear the signature of such signatory or signatories as the operating company shall designate. The funds deposited in the operating account shall include such amount and kinds of foreign currency as may, in the judgment of the operating company, be necessary to purchase such inventories of the kind referred to in section 3 of this article, and such operating equipment as defined in subparagraph (d) of article XVI, as may be necessary to operate the hotel as a first-class hotel and as are not available in American Samoa. All funds derived from the operation of the hotel and not deposited in the operating account shall be deposited in the general account, and all checks for the withdrawal of funds from such account shall bear two signatures, one signatory to be designated by the operating company and the other signatory to be designated by the hotel company.

Section 9. Operating company not to pledge hotel company's credit.—The operating company shall not, except in the purchase of goods, wares, merchandise, materials, supplies and services reasonably required in the ordinary course of business in the operation of the hotel, or as may be otherwise required in the performance of its obligations under this agreement, pledge the credit of the hotel company without its consent; nor shall the Operating Company, in the name or on behalf of the hotel company, borrow any money or execute any promissory note, bill of exchange or other obligation of the hotel company without its consent.

ARTICLE IV

Furniture, fixtures, and equipment

The hotel company shall cause to be prepared at its own expense an inventory of all furniture, furnishings, fixtures, and operating and other equipment (not including the inventories referred to in section 3 of article III of this agreement)

which form part of the hotel upon the commencement of the term of this agreement and which are delivered to the operating company for the purposes of this agreement. Such inventory, when accepted and signed by the operating company and the hotel company, shall form part of this agreement. The hotel company shall from time to time make such replacements of and additions to such inventory as may be necessary in order to permit the continued and efficient operation of the hotel as a first-class hotel. During the term of this agreement the hotel company will not remove any of such inventory from the hotel without the consent of the operating company. Upon expiration or termination of this agreement, the operating company shall return such furniture, furnishings, fixtures, and operating and other equipment listed in such inventory, as replaced or added to as aforesaid, to the hotel company in the same condition as when received, reasonable wear and tear and damage by fire, war, armed conflict, civil commotion, public disturbance, natural disasters or other unavoidable casualties, force majeure or the elements, excepted.

ARTICLE V

Alterations; repairs, and maintenance; structural repairs, and changes

Section 1. Alterations.—The hotel company shall have the right at its expense from time to time during the term of this agreement to make such alterations, additions, or improvements in or to the hotel as are customarily made in the operation of first-class hotels; provided, however, that no structural alterations, additions, or improvements involving a fundamental change in the character of the hotel building shall be made without the operating company's prior approval thereof in writing.

Section 2. Repairs and Maintenance.—All expenditures made by the operating company for maintenance, repairs, or decoration necessary in its discretion to keep the hotel in good operating condition (excluding structural repairs and changes) shall be proper charges against gross income.

Section 3. Structural Repairs and Changes.—If structural repairs or changes to the hotel shall be required at any time during the term of this agreement to maintain the hotel in good operating condition, or by reason of any laws, ordinances, rules, or regulations now or hereafter in force, or by order of any governmental or municipal power, department, agency, authority, or officer, or otherwise, or because the operating company and the hotel company jointly agree upon the desirability thereof, then in such event all such structural repairs or changes shall be paid for by the hotel company, and shall be made with as little hindrance to the operation of the hotel as possible.

ARTICLE VI

Insurance

The hotel company will, at all times during the term of this agreement, procure and maintain such fire insurance upon the hotel, in an amount at all times equal to 100 percent of the replacement value of the property insured, and such other insurance as is customary in the locality where the hotel is situated in respect of property similar in value to the hotel. Such fire and other insurance shall be written by a responsible insurance company or companies authorized to do business in the locality where the Hotel is situated and approved by the operating company, which approval will not be unreasonably withheld. The hotel company will also procure and maintain any other and further insurance upon the hotel which may be required by the terms of any mortgage which is in effect upon the hotel or any other instrument to which the hotel company is a party.

The hotel company will also maintain, (a) such workmen's compensation, employer's liability or similar insurance in such amounts as may be required under all applicable laws, or which the operating company shall deem advisable, and (b) such other insurance in such amounts as the operating company shall deem advisable for its protection against claims, liabilities, and losses wherever asserted, determined or incurred, arising out of the operation of the hotel.

The hotel company may arrange with the operating company to be included as a party insured under such insurance program as the operating company may maintain for one or more hotels in the intercontinental group which provides protection against risks, losses, claims, or liabilities of the kinds covered by the insurance to be procured and maintained by the hotel company under this article VI.

All policies of insurance provided for in this article shall name as insureds the hotel company and the operating company as their respective interests may appear.

The hotel company agrees to deliver to the operating company, at the commencement of the term of this agreement or promptly thereafter, original insurance policies or certificates covering all insurance required or authorized to be maintained by it under this article, and not less than 5 days before the expiration of the then existing policies to deliver to the operating company such policies, renewals of policies, or certificates as may be required or authorized under this article.

Subject to the provisions of article V of this agreement, the operating company shall comply with all rules, orders, regulations, and requirements imposed by, or in connection with, or affecting, policies of fire, public liability, and any other form or type of insurance upon the hotel or in connection with the occupancy or operating of the hotel by the operating company, tenants in the hotel, or any other person. If the operating company shall fail to comply with, fulfill and perform any such rules, orders, ordinances, regulations, or requirements, the hotel company may, but shall be under no obligation to, comply with, fulfill and perform the same, and all sums expended therefor shall be charged to operations.

ARTICLE VII

Destruction or suspension of operations of hotel

In case the hotel shall be destroyed or damaged to an extent which shall materially interfere with the operation of the hotel for hotel purposes and the hotel company shall not, within a reasonable time after such destruction or damage, repair, rebuild or replace the same so that after such repairing, rebuilding or replacing the hotel shall be substantially the same as prior to such damage or destruction, the operating company shall have the right, without limiting any other rights which it may have hereunder, to terminate this agreement by notice in writing to the hotel company.

If any damage to or destruction of the hotel necessitates a total suspension of the operation of the hotel, the expenses incurred by the operating company with respect to the hotel during such period of suspended operations shall be deducted from the gross income derived from the hotel during the year in which operations are suspended or from the first gross income derived from the hotel after the operation of the hotel shall be resumed and shall be a deduction from gross income in arriving at gross operating profit for the purposes of article II.

ARTICLE VIII

Substantial interference with hotel operation, condemnation

In the event that acts of war, civil disturbance, or any other cause beyond the control of the operating company shall have a substantial adverse effect upon the operation of the hotel as contemplated by this agreement, or the hotel or any essential portion thereof (as hereinafter defined) shall be taken by condemnation, either party shall have the right, by notice in writing to the other party, to terminate this agreement.

An essential portion of the hotel shall be deemed to have been taken when the remaining portions of the hotel could not be efficiently operated for hotel purposes during the term for which such essential portion shall have been taken. The determination of whether such essential portion has been taken shall be made by the mutual agreement of the hotel company and the operating company; or, if the hotel company and the operating company are unable to agree, the question shall be submitted to arbitration pursuant to article XV of this agreement.

If a nonessential portion of the hotel shall be taken by condemnation, the award made for such taking shall, to the extent necessary, be applied to the restoration, repair, replacement, rebuilding or alteration of and to the hotel made necessary by such taking, and any excess thereof shall be retained by the hotel company as its own property.

ARTICLE IX

Trade name

The operating company agrees that during the term of this agreement the hotel, excepting commercial space therein, shall at all times be known and designated by such trade name as may be selected by the operating company with the

approval of the hotel company. At the expiration or termination of this agreement or any renewal thereof, such portion of the said name as does not contain the letters "IHC" or the words "Intercontinental" or "Intercontinental Hotels Corporation," and the right to use such portion of the same, shall revert to and become the exclusive property of the hotel company, its successors or assigns. Upon written request of the hotel company, made not earlier than 3 months before the date of expiration of this agreement, the names "IHC" or "Intercontinental Hotels Corporation," or the name of any successor of said corporation, shall not be used in connection with the name of the hotel. After termination or expiration of this agreement, the letters "IHC," or the words "Intercontinental" or "Intercontinental Hotels Corporation," or the name of any successor of said corporation, shall not be used in any form or under any circumstance in connection with the hotel or the operation or use thereof. So long as this agreement is in effect, the hotel shall be and may describe itself as a member of the intercontinental group. At no time subsequent to the termination of this agreement shall either the hotel company or the operating company make any representation that the hotel company or the hotel constitutes a part of the intercontinental group or is in any way affiliated with or under the management of the operating company.

ARTICLE X

Right of inspection

Duly authorized representatives of the hotel company shall have the right to enter the hotel at all reasonable times while this agreement remains in effect for the purpose of inspecting the hotel or of examining or making extracts from its books and records or for any other purpose which the hotel company in its discretion shall deem necessary or advisable, but the same shall be done with as little disturbance to the business of the hotel as possible.

Promptly after the close of each calendar year, an audit shall be made of the books and accounts of the hotel by qualified and experienced independent public accountants selected by the operating company and approved by the hotel company. A copy of such audit shall be furnished to each of the parties hereto.

ARTICLE XI

Assignment and leases

Section 1. *Assignment only with consent of hotel company.* Subject to the provisions of section 2 of this article, the operating company shall have no right to assign this agreement without the prior written consent of the hotel company, which consent shall not be unreasonably withheld. Any consent granted by the hotel company to any assignment of this agreement shall not be deemed a waiver in any subsequent case of the agreement contained herein against assignments.

Section 2. *Assignment to Affiliate.* This agreement may be assigned by the operating company without the hotel company's prior written consent to any corporation with or into which the operating company is merged or consolidated or to which it transfers all or substantially all of its assets, or to any parent or subsidiary of the operating company or any corporation of which the operating company or any parent or subsidiary of the operating company shall own a majority of each class of stock entitled to vote; provided, however, that notwithstanding any such assignment the operating company shall, except in the case of an assignment in connection with any such merger, consolidation, or transfer of assets, continue to be liable hereunder with the same force and effect as though no such assignment had been made. Upon the execution of any assignment as aforesaid, a duplicate original thereof shall be delivered to the hotel company forthwith.

Section 3. *Lease or Grant of Concessions.* The operating company shall have the right to lease or grant concessions for those departments customarily leased or as to which concessions are customarily granted in first-class hotels in large cities, subject to the concurrence of the hotel company, as provided in article I, section 2(d). Unless the hotel company shall consent in writing to the contrary, all leases of space in the hotel and all concessions shall expire or terminate upon the expiration or termination of this agreement, and every such lease or concession shall so provide, and shall contain no provision inconsistent with this agreement.

ARTICLE XII

Notice of breach; termination of agreement

Section 1. Failure to perform.—If at any time during the term of this agreement either of the parties hereto is not performing its respective obligations under this agreement, the other party shall have the right to give written notice

to such party setting forth the breach of obligation under this agreement complained of. Unless within 60 days after the giving of such notice the breach has been cured or steps have been taken in good faith and are being carried out with due diligence to cure the same, the party giving such notice may give further written notice to the other party of termination of this agreement upon a date specified in such further notice, which date shall not be less than 30 days nor more than 90 days from the date of such further notice. In the event such further notice is given, this agreement shall terminate and the rights of the parties hereunder shall cease upon the date so specified in such further notice unless within 15 days from the date of such further notice either party hereto shall have requested arbitration, as provided in article XV of this agreement, in which event this agreement shall remain in full force and effect pending the award in such arbitration proceeding, which award shall determine whether and when termination shall become effective.

Section 2. Bankruptcy.—In the event either party hereto shall suspend or discontinue business, or shall be adjudicated a bankrupt or insolvent, or shall make an assignment for the benefit of creditors, or a composition with creditors, or shall file a voluntary petition, or an answer admitting the jurisdiction of the court and the material allegations of an involuntary petition, or shall consent to an involuntary petition, pursuant to any bankruptcy, reorganization or insolvency law of any jurisdiction or country, or an order shall be entered and continue in effect for 60 days pursuant to any such law approving an involuntary petition seeking a reorganization of, or to effect an arrangement or plan for, either party, or appointing any receiver or trustee of or for either party, or of or for all or any substantial portion of the property of either party, or either party shall apply for or consent to the appointment of such receiver or trustee, or in the event the operating company shall vacate or abandon the hotel, then and in every such event this agreement shall forthwith terminate.

Section 3. Payment of accounts.—Upon the termination of this agreement for any cause whatsoever, all accounts due and owing as between the parties shall become immediately due and payable.

ARTICLE XIII

Notices

Any notice required or permitted by this agreement to be given by the operating company to the hotel company shall be in writing and shall be addressed to the hotel company at Pago Pago, American Samoa, or at such other address as the hotel company may from time to time designate to the operating company in writing. Any notice required or permitted by this agreement to be given by the hotel company to the operating company shall be in writing and shall be addressed to the operating company, care of president, Intercontinental Hotels Corp., Pan Am Building, New York, N.Y., or at such other address as the operating company may from time to time designate to the hotel company in writing. Any such notice shall be either delivered by hand or sent by airmail and shall be deemed to have been given on the date of its receipt at the address to which such notice is so directed regardless of any other date that may appear thereon.

ARTICLE IV

Miscellaneous

Section 1. Waiver.—The failure of either party to insist upon a strict performance of any of the terms or provisions of this agreement or to exercise any option, right or remedy herein contained, shall not be construed as a waiver or as a relinquishment for the future of such term, provision, option, right or remedy, but the same shall continue and remain in full force and effect. No waiver by either party of any term or provision hereof shall be deemed to have been made unless expressed in writing and signed by such party. In the event of consent by either party to an assignment of this agreement no further assignment shall be made without the express consent in writing of such party, unless such assignment may otherwise be made without such consent pursuant to the terms of this agreement.

Section 2. Partial invalidity.—In the event that any portion of this agreement shall be declared invalid by order, decree or judgment of a court, this agreement shall be construed as if such portion had not been inserted herein except when such construction would operate as an undue hardship on the operating company or the hotel company or constitute a substantial deviation from the general intent and purpose of said parties as reflected in this agreement.

ARTICLE XV

Arbitration

Any controversy or claim arising out of or relating to this agreement, or the breach thereof, shall be finally settled by arbitration in accordance with the rules of conciliation and arbitration of the International Chamber of Commerce, and judgment upon the award rendered by the arbitrators may be entered in any court having jurisdiction thereof.

ARTICLE XVI

Definitions

(*a*) The term "operating company" as used in this agreement shall mean Intercontinental Hotels Corp., or its successors or successors in interest, its assignee or assignees, and any subsequent assignee or assignees.

(*b*) The term "commercial space" as used in this agreement shall mean those portions of the hotel employed for the sale of merchandise, goods or services.

(c) The term "furniture, fixtures, and equipment" as used in this agreement shall mean all the personal property, fixtures, and other property and equipment located in or used in connection with the hotel and listed in the inventory referred to in article IV of this agreement, but shall not include any of the inventories referred to in section 3 or article III. In the event any question should arise between the parties as to whether any property is or is not included in such term, the question shall be submitted for a final determination to an independent public accountant.

(d) The term "equipment" as used in this agreement shall, without limiting its generality, include "operating equipment," such as blankets, linens, uniforms, silver, china, glassware, kitchen utensils, cleaning equipment, and similar items, together with office machinery, maids' trucks, and necessary motor vehicles.

(e) The term "independent public accountant" as used in this agreement shall mean any accountant selected by the operating company with the approval of the hotel company to perform any of the accounting or auditing functions described in this agreement.

(f) The term "supervising architect" as used in this agreement shall mean the firm of architects employed under contract to the hotel company.

ARTICLE XVII

Further instruments

All other appropriate supplemental agreements or other instruments necessary or desirable in order to make this agreement and each provision hereof fully and legally effective and binding, or to carry out the intent and purpose thereof, but not inconsistent with any of the provisions hereof, shall be executed and delivered, and all other acts necessary or appropriate for such purposes shall be dully or effectively executed, done or taken by the parties hereto.

ARTICLE XVIII

Taxes

The hotel company will pay, prior to delinquency, all taxes and assessments of any nature whatsoever (except taxes imposed upon the net income of the operating company) which may become a lien on the hotel or any portion thereof, unless payment thereof is in good faith being contested by the hotel company and enforcement thereof is stayed. The hotel company will, not later than 3 days following written demand by the operating company, furnish the operating company with a photostatic copy of the official tax receipt showing payment of such taxes and assessments. In the event that the hotel company fails to pay any such tax or assessment, the operating company may, but shall not be required to, pay such tax or assessment and reimburse itself from the gross income of the hotel.

ARTICLE XIX

No oral change

This agreement, together with other writings signed by the parties expressly stated to be supplementary hereto and together with any instruments to be executed and delivered pursuant to this agreement, constitutes the entire agreement between the parties and supersedes all prior understandings and writings, and may be changed only by a writing signed by the parties hereto.

ARTICLE XX

Successors and assigns

All of the terms and provisions of this agreement shall be binding upon and shall inure to the benefit of the parties hereto and their respective successors and assigns, except that no assignment or lease in violation of the provisions of this agreement shall vest any rights in the assignee or lessee.

In witness whereof, the parties have executed this agreement as of the day and year first above written.

AMERICAN SAMOAN DEVELOPMENT CORP.
By MARTIN P. MANGAN, *Interim President.*
INTERCONTINENTAL HOTELS CORP.
By JOHN B. GATES, *Chairman of the Board.*

Attest:

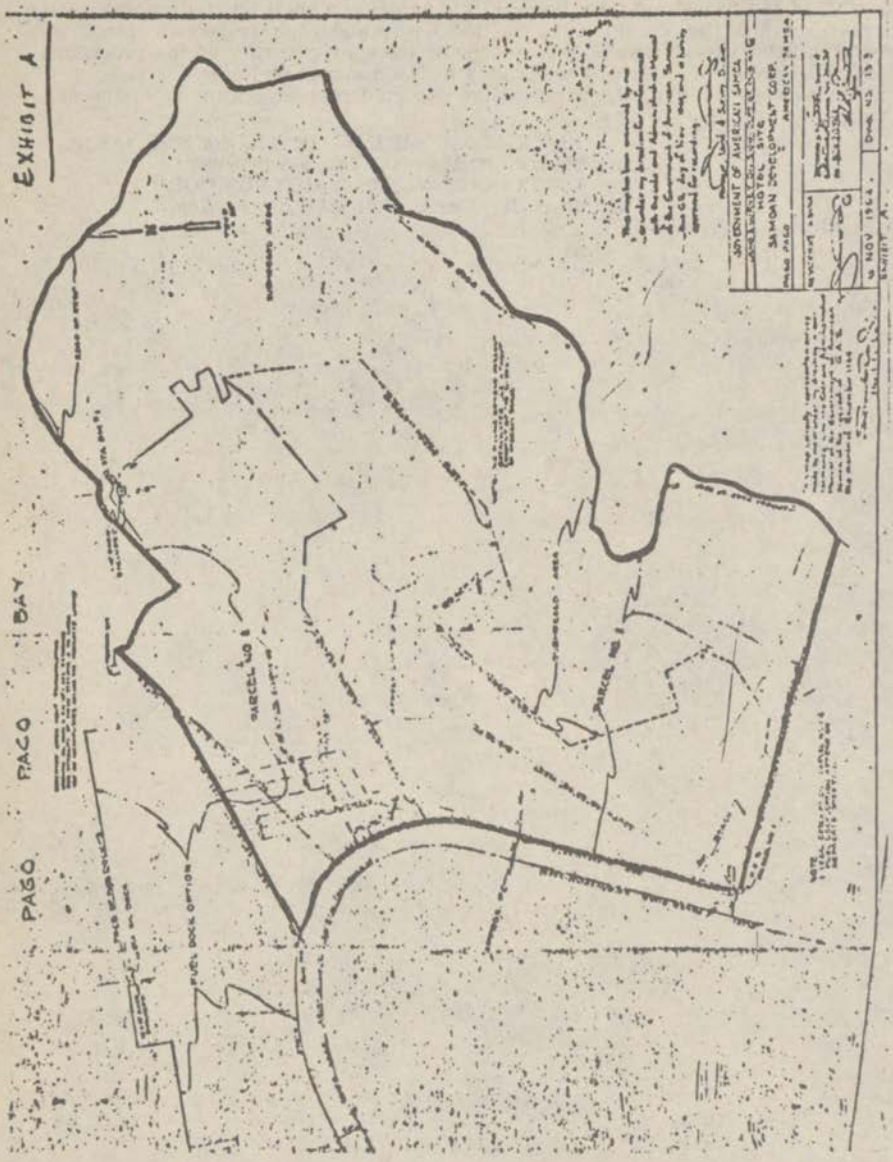


EXHIBIT A
PAGO PAGO BAY
PARCEL NO 1
PARCEL NO 2
GOVERNMENT OF AMERICAN SAMOA
HOTEL SITE
SAMOAN DEVELOPMENT CORP.
AMERICAN SAMOA
6 NOV 1964
EXHIBIT A

RENEWAL OF INTERCONTINENTAL HOTEL CONTRACT

Mrs. HANSEN. Is there any renewal date on the contract?

Governor HAYDON. No; we don't even know the termination. It seems to go on forever, and there is no way to cancel it.

Mrs. HANSEN. You mean it is an open-end contract?

Governor HAYDON. We cabled for it yesterday because the Senate subcommittee wanted to know that, too. The only way that we know to break it in the foreseeable future is if EDA forecloses on the hotel, because it is not servicing its debt, and if they do, we lose the faith of the 1,200 American Samoans who bought shares in the original corporation. I want to prevent that if at all possible.

Mrs. HANSEN. I think the Samoans aren't getting their share as a result of the contract.

Governor HAYDON. I sort of feel that way.

Mrs. HANSEN. Has there been any return whatsoever to the Samoan stockholders?

Governor HAYDON. Not to my knowledge, there has been no return. We can't even service the debt.

Mrs. HANSEN. How many Samoan employees are there?

Governor HAYDON. In our government?

Mrs. HANSEN. No; in the hotel.

Governor HAYDON. They are almost all Samoan employees except for three or four people who are management people—the manager, the assistant manager, one or two accountants, and I believe the chef.

PAN AMERICAN PROFITS

Mrs. HANSEN. How much profit does Pan American take out of Samoa each year?

Governor HAYDON. Can we provide that information?

Mr. MEEUWSEN. We don't have it with us. We can supply it.

(The information follows:)

Profit from hotel by Intercontinental Hotels Corp.
1968, $108,895; 1969, $87,440; 1970, $203,000.

Governor HAYDON. I am meeting with Assistant Secretary Podesta this week on this whole situation and by tomorrow we can provide the profit that they are making. We are not even certain that their accounting methods actually show it.

Mrs. HANSEN. Don't you have the privilege of audit and review?

Governor HAYDON. No, we won't.

Mrs. HANSEN. What?

Governor HAYDON. They merely give us the sheets and we don't audit, to my knowledge.

Mr. MEEUWSEN. We can do it, from an income tax standpoint.

Governor HAYDON. But it is a peripheral way of doing it. It is a bad contract.

Mrs. HANSEN. It seems to me that you should have the privileges of annual or semiannual audit and review.

Governor HAYDON. We do not have, to my knowledge, at present.

SAMOANS IN HOTEL OPERATION

Mr. WYATT. Madam Chairman, could I inquire how many Samoans are actually employed in the hotel operation?

Governor HAYDON. We will provide that, and also provide a profit and loss sheet right up to date and you will see that Pan American is making a good profit out of the hotel. But we cannot make a profit under the present setup.

Our proposal is a——

Mrs. HANSEN. Will you also insert for the record how Pan American got the contract? Was it a competitive bid, or was it a negotiated contract?

Governor HAYDON. It is my understanding, Mrs. Hansen, that at the time the hotel was well under construction they suddenly realized they also needed someone to run it and that Pan American was the only one who offered. So they gave them the deal. That is the only explanation I know.

Mrs. HANSEN. How do they know Pan American was the only one who made a proposal unless they opened it for competitive bidding?

Governor HAYDON. I am unable to respond. That was in 1965. We can provide for the record what we can find for you.

Mrs. HANSEN. If you will please.

(Information supplied follows:)

Number of Samoans employed by hotel:

American Samoans	82
Western Samoans	35
Total Samoans	117

The total hotel staff is 133.

Copy of profit and loss statement will be furnished at a later date if can be obtained from Intercontinental.

Awarding of contract.

Four were invited to bid—Hilton, Sheraton, Western and Intercontinental. Hilton and Intercontinental were the only two that submitted bids which were practically identical.

The contract was awarded to Intercontinental because Pan American had the only flight service in to American Samoa.

Mrs. HANSEN. The reason I bring this up for the committee's attention is that there are pending programs in the Trust Territory which could well end up as disastrously as this unless they are carefully watched.

Governor HAYDON. I can't blame Pan American. I think they sought the best deal they could get. This is the Intercontinental Hotel Corp.

Mrs. HANSEN. I suppose American business has to obligate itself to find the best deal for its stockholders, but it would seem to me it is up to your government to make sure that the Samoans have a similar opportunity.

Governor HAYDON. Right. If I had been around in 1965, Mrs. Hansen, maybe there would have been a little different deal. It is hard to look back all those years.

HOTELS IN TRUST TERRITORIES

Mr. LOESCH. Mrs. Hansen, if I could interject a little remark here on trust territories. The situation is a little bit different here because

those contracts were made a couple of years ago. But in most cases Continental is furnishing all the funds to build the hotels in our district. They are running this like a private thing, just anybody building a hotel. I understand this was a development thing and Pan American didn't put up the money for the hotel.

SAMOANS FUNDED HOTEL

Governor HAYDON. No, sir; Pan American did not put up the money. The money came from the 1,200 Samoans, from EDA and from the Wells Fargo Bank which holds the first papers.

Mrs. HANSEN. I think this bears investigation.

HEALTH AND SANITATION

You have made some general comments on health and sanitation. Will you please insert in the record the number of doctors that you have in Samoa, what their average salaries are, and the length of time that the doctors stay?

Also will you insert in the record the number of people receiving medical care, the number of people who are not receiving medical care when they should be treated, and the necessity for additional nurses and nurses aides.

Governor HAYDON. Yes.

(Information was not furnished by Department in time to be included in printed hearings.)

MEDICAL CARE

Governor HAYDON. May I make a one-sentence general comment? Everyone who needs medical care is receiving it. It is the quality of medical care that we are concerned about.

Mrs. HANSEN. That is what I wanted to know.

Governor HAYDON. We are upgrading the salaries. We are finding, through recruiting, that people will come for less money than people have estimated they would come for. But recruiting is hard, and you can run into the same mistake in physicians.

NEED FOR A SUPPLEMENTAL APPROPRIATION

Mrs. HANSEN. A 1970 supplemental in the amount of $275,000 will be submitted at a later date. The committee will go into that in detail in the supplemental hearings, but it might be well to get your general ideas as to how that will complement funding in the regular 1970 estimate.

Governor HAYDON. When I arrived in Samoa we found that the government cash register was about $2.3 million in deficit, largely due to diversion of funds and to cover overruns and things like this. Orders were issued.

Mrs. HANSEN. By diversion of funds, I presume you refer to funds that had been obligated against one project and used on another.

Governor HAYDON. Used to cover overruns on other projects. You reprogramed for us $775,000 of projects that we felt could be reduced

in scope or eliminated completely—golf courses and things that were not vital to the people's welfare.

That brought us down some, to $1,600,000 and we asked for this in special hearings and before the Bureau of the Budget. And they rejected all but $275,000. The $275,000, which is now part of the President's budget and is to come before the appropriate committee here.

Basically it is to complete the Manua electrification project which needs $157,000 to complete. I issued orders, no project without money is to continue. Stop them if you are out of money. They were going to overrun. It needs $157,000 to complete it.

So we almost have an electrical system. The poles are in and the island of Manua was using generators, which break down all the time, to provide enough electricity for the TV sets in the schools. We have the engines. They are under storage in our main transit warehouse. We need $157,000 to complete the project.

STAFF OFFICES

The other supplemental item is for the consolidation of all government services in the old hospital building, which was vacated when the medical tropical center was opened. That needs $118,000 for completion. It was about to go into an overrun situation too.

These are jobs that are almost completed and yet do not have the funds to complete them because of bad estimation. This escalation thing you talked about earlier, I learned about the Public Works Department in the past has never made an estimate for a job that appeared before your committee. They told me, frankly, "We just went like this." And it cannot be done.

Mrs. HANSEN. A long time ago I suspected that.

Governor HAYDON. To correct this situation——

Mrs. HANSEN. I may say you are not the only department that does that.

ESTIMATING COSTS AND CONSTRUCTION DESIGN

Governor HAYDON. To correct this situation, the first step was—if I can say it in rather harsh terms—I "canned" both of them involved. For the first time we have a critical path flow of all of our projects showing when the design will be completed. No job will be started until we have an honest and accurate professional estimate of its costs and know, with escalation and inflation cranked in, so that we don't get into this situation again.

I might further add that, as soon as I got a new Public Works Director, we found within a very few days that there are $3 million worth of obligated projects which have nothing done on them whatsoever. We can't start them until design work is done.

Mrs. HANSEN. That should be deobligated and used where the money is necessary.

Governor HAYDON. Well, the money is necessary.

Mrs. HANSEN. You are like the BIA. This committee has said repeatedly that construction should be done in a very orderly manner. In the first place, you should have a unanimity of concept. Then you should have a survey performed on your priorities. Then you should do your planning. Then the construction process should actually begin.

As you are well aware, construction is a long process. If you prepare

a completely honest budget, based upon the amount of work that you can actually do, then the committee has a chance to review the plans and make the necessary provisions for actual construction.

But when funding for construction is lumped into a great big obligation figure, nobody least of all the American Samoan, is the beneficiary.

Governor HAYDON. Madam Chairman, our problem is that we have what you are talking about. Now, I believe for the first time in the history of Samoa, or at least maybe in Navy days they used this:

I don't know, but our problem is that we have inherited a number of these projects which lack architecture and engineering and simply aren't done. By this system I think we can do much better budgeting requesting. In some cases we judge to the best of our ability how much final design we can do before we really come and ask for the money, knowing, for example, that in water systems, in sewage systems, and in road systems that these are going to continue and we do design ahead of time rather than waiting until you have an actual budget signed as they have been doing.

Mrs. HANSEN. You will not end up with a lot of carryovers and overruns?

Governor HAYDON. That is an inherited situation. This system will cure it, but we still have the Manua Village water system, the school lunch kitchen, the marina quay, the Tafuna-Fogaalu watermain, the water system in Logopuna, the sealcoating of the roads and the moorings, for which the previous public works department simply did not design. And we will not start a project without a design, and until we know what it is actually going to cost us.

I have a professional engineer, Commander Jerry Clark, an extremely brilliant and energetic young guy who has developed this system that you just asked for. We have it, but we have the inherited problem that I took over in August.

The construction things are needed, they are vital to the welfare.

On top of everything else—and I guess this is a good time to bring it up—we have just been informed by the FAA that we have to remove 100 feet from Logotula Hill to establish a 3-degree glide path—the estimated cost is $2.2 million—or they will shut down the airport. They say nothing about where we are going to get $2.2 million.

Mrs. HANSEN. That is typical of government.

ACCOUNTING PROCEDURES

Various reports have been critical of the accounting procedures that have been followed in American Samoa. What progress has been made in improving the situation.

Governor HAYDON. Mr. Meeuwsen is in direct charge. He can make the best explanation of what changes have been made and that should come from him. He can do it a lot faster and a lot more intelligently than I can. Carl?

Mr. MEEUWSEN. As you know, we have in the past asked for special money for having an outside consulting firm come in and review our accounting system, but due to budget cuts, we have never had the money. We have therefore decided to take care of the accounting revisions that are necessary in-house.

Starting in fiscal year 1970, we completely revised our accounting system. We hired a comptroller and four professional accountants who have the necessary experience. We completely revised our accounting system and we have just recently hired an internal auditor with extensive systems background and accounting capabilities.

The Governor has also instigated guidelines which provide that we cannot spend money on a project unless it is fully funded. There will be no overruns on any project. And we have instituted a number of controls through our accounting system to make sure this doesn't happen in the future. We still have a long way to go on our accounting system, but we have a staff now. We have changed the accounting procedures and we are a long way toward getting what we need in an accounting system.

Mrs. HANSEN. You are never going to have your projects in any order until you have a good accounting system.

Mr. MEEUWSEN. That is absolutely right.

Mrs. HANSEN. We will break at this point and answer the rollcall.

(Short recess.)

Mrs. HANSEN. The committee will come to order.

INDEPENDENT AUDIT

Governor HAYDON. Mrs. Hansen, I had one final sentence or two about audit procedures and particularly as they relate to construction. I have asked for an audit, an official audit, of our financial affairs from top to bottom. I have for the committee's file or for its record, whichever you see fit, reports on the administration and procedures of public works responsibilities.

Mrs. HANSEN. Would you insert those in the record.

Governor HAYDON. Fine.

(The information was supplied to the committee.)

Governor HAYDON. We are implementing the suggestions in there as fast as we can.

EQUALIZATION OF SALARIES

Mrs. HANSEN. We have had frequent discussions in the past about the equalization of pay between stateside employees and the Samoans. What is the current situation? You might insert in the record for the committee the number of people involved who have been updated.

Governor HAYDON. The Samoan people?

Mrs. HANSEN. The Samoan people who have been given equal stateside status. Also insert in the record how many are yet to be placed in this status and what the cost of doing this would be. I am reiterating what I said last year, that I think it is important for the Samoan people to have trained, educated teachers who are recognized as the exact equal of any American.

Governor HAYDON. Fine. We will provide that.

(The information follows:)

Eleven Samoans have attained equal pay status. Thirty Samoans have not attained that status. Classification changes are planned to bring these employees to the equal pay level at an estimated cost of $45,000.

Governor HAYDON. The system is in effect now for all contract jobs held by stateside Americans. The second phase is all those who took over palagi jobs earlier and are being given unequal pay. And

the final stage, phase 3, is a complete reclassification of all jobs in American Samoa to make certain that people are being paid fairly and equitably for what they do.

Mrs. HANSEN. That should be the only policy in effect. I think it would be an absolute disgrace if we were perpetrating any other system.

Governor HAYDON. Our main problem now is to find qualified Samoans who have been a product of some education system, because I don't believe in symbolic employment. I think the legislature agrees with me. It would be destructive to Samoa.

Mrs. HANSEN. No one does. But this should be the goal.

Governor HAYDON. This is the goal of our educational system.

FRINGE BENEFITS FOR EMPLOYEES FROM UNITED STATES

Mrs. HANSEN. What are the so-called fringe benefits currently available to stateside employees working in American Samoa?

Governor HAYDON. They receive utilities at no cost. They get their lawns cut free. They were receiving free medical care while the Samoans were paying 50 cents each day they stayed in the hospital. I abolished that as racially discriminatory. They receive their housing at a very low rate. They get, in effect, a 25-percent cost-of-living and hardship allowance.

Mrs. HANSEN. Why should their lawns be cut free? My lawn isn't cut free.

Governor HAYDON. That is what I asked. Homeowners cut their own lawns. I don't believe in this, but a great wail and cry went up that I was violating the terms of their contract, and so on.

Mrs. HANSEN. Everybody needs a little exercise, and cutting their lawn is good for them.

Governor HAYDON. I agree entirely. I believe they should pay a nominal fee.

Mrs. HANSEN. As a matter of fact, Governor, I always cut my own lawn.

Mr. WYATT. Madam Chairman, I disagree with the chairlady, if I may.

Mrs. HANSEN. Don't you like to cut lawns?

Mr. WYATT. No.

Governor HAYDON. They receive free medical and dental care and they receive 26 days annual leave with a payoff at the end of the contract if they haven't taken it. These are the basic benefits for contract employees.

Mrs. HANSEN. I think you should continue to equalize the opportunities.

Governor HAYDON. You more or less are morally obligated, I guess, to fulfill a commitment made in a contract.

Mrs. HANSEN. That is right, but you have new contracts all the time.

Governor HAYDON. I believe they should pay a nominal fee for electrical utilities; not what it costs us, because nobody can afford that.

Mrs. HANSEN. I can assure you the Washington Gas Light Co. doesn't give any Member of Congress anything free.

TRAINING PROGRAMS

Describe the various work or training programs currently in effect to train Samoan youth.

Governor HAYDON. There are very few in effect. One of our most successful would be the nurses' training program which has been in existence for sometime and provides our nurses. They are not registered nurses, however.

Mrs. HANSEN. Are you working to develop a corps of graduate nurses?

Governor HAYDON. Yes, we are. Under our new arrangement with the University of Hawaii, our goal is registered nurses—RN's.

Mrs. HANSEN. May I make the suggestion that you work to secure trained Samoan public health nurses so you can have a program of visiting nurses out in the areas which are not immediately adjacent to Pago Pago.

Governor HAYDON. We do have that, Mrs. Hansen, in our dispensaries, for the ones which exist and a new one about to be built. The nurses are out there. There are the doctors to the largest degree at the dispensaries and the remote areas. We put a dentist out there for a period so that people can come in.

But we are thinking very seriously, frankly, of attempting to enter into a program to make our hospital a teaching hospital. We have the problem of the Samoan medical practitioner who is not a full doctor and who is not being upgraded as he practices. He is not being kept up on literature and things that are happening in medicine. I think this offers some real possibilities for us.

Our Community College will bring the nurses underneath. Our goal will be RN's and in addition we will bring our 2-year post-high-school teacher-training program under the Community College system.

We have a small program of training young men to serve as mates and then masters of our little fleet of tugs. This one has been quite successful. It will have application too as we get into the development of fisheries. There may be some others that will develop under the Community College.

MANPOWER TRAINING ACT

Of course, we are now applying the Manpower Training Act. We have just got out contract and our planning funds are on the way. This means on the job. How do we train people for our needs? Welding, electrical house wiring, all this 7 years we haven't any vocational training in American Samoa. It is going to be completely reinstituted and, to us, this is a major effort, because the Samoan people shouldn't have its government repairing its appliances and cutting its lawns and sharpening its lawn mowers and things like this. We want to get out of that. In fact, in a general term, we want to get the government out of the businesses that it is in where it is practical.

CRIME

Mrs. HANSEN. What are the principal types of crime or misdemeanor that currently give you the most difficulty from a law-enforcement standpoint? Also, what is your incidence of juvenile delinquency?

Governor HAYDON. The statistics we will provide for the record will show that our major crime increase is in the area of juvenile delinquency.

(The information supplied follows:)

No major crime statistics compiled prior to 1966.
1966–229 felonies (no breakdown available).
1969–160 crimes reported, broken down as follows:

Assault with deadly weapon	41
Auto theft	11
Burglary	42
Driving while drunk	5
Embezzlement and fraud	10
Forgery	8
Grand larceny	33
Manslaughter	5
Rape	5
Total	160

Mrs. HANSEN. Will you please insert these statistics in the record for 1960, 1965, and 1969?

Governor HAYDON. Can we show that completely?

Mr. WOHLFIELD. We will do it.

Governor HAYDON. They are available from our annual reports. One of the things that disturbs us the most is the influence coming in from Hawaii. A Samoan community involves a great deal of travel. The youngsters come back from Hawaii. Many of them have little bands. We are getting drugs into Samoa now.

DRUG PROBLEM

Mrs. HANSEN. I was going to ask you about the drug problem.

Governor HAYDON. I have been in discussions twice with the Director of the Bureau of Narcotics. We don't want to become a gateway for the hard drug market.

Mrs. HANSEN. Who is bringing the drugs in?

Governor HAYDON. Some of it is coming in the U.S. mails. The kids are bringing it in in their luggage. These are teenage children and they go up to Hawaii and are introduced to this atmosphere in Hawaii, particularly in the Waikiki area, then they come back, and we are beginning to get a little bit of it. We are at the glue sniffing and first stage of marihuana use in American Samoa. We want to get it stopped and I know I have the full support of the legislature and these gentlemen behind us.

Mrs. HANSEN. You have the family tradition of discipline.

Governor HAYDON. Yes. And I know that no Samoan mother and father will stand for this if they detect it. But we also have the fish boats and the passenger liners.

Mrs. HANSEN. How many drugs come in from Japan and Korea?

Governor HAYDON. We don't know at the present time. But under the Law Enforcement Assistance Act, this is an area already under investigation.

Mrs. HANSEN. If you don't stop drug traffic in the beginning, it will become a severe problem.

Governor HAYDON. Hawaii has had such an influx of this and it is beginning in Samoa. This is a major contact. At the National Governor's Conference in Seattle in August, before I went to Samoa, I

knew this was starting and I talked to Mr. Ingersoll about it and the Federal Narcotics Bureau has been very cooperative with us. We are a long way away. Surveillance is very tough and these little boats come from nowhere. You don't know where they have been. To search one of them is almost impossible. But we are doing our best. We don't want it to start there if we can possibly avoid it.

BUDGET ESTIMATE AND APPROPRIATIONS FOR 1961 THROUGH 1970

Mrs. HANSEN. Please insert in the record by fiscal year the appropriations to American Samoa and the budget estimates for the past 10 years.

Governor HAYDON. Yes, ma'am.

(The information follows:)

	Budget estimate	Appropriated		Budget estimate	Appropriated
Fiscal year:			Fiscal year—Continued		
1961	$2,392,125	$2,642,125	1966	$6,593,000	$6,593,000
1962	9,605,400	9,605,400	1967	9,149,000	9,149,000
1963	14,754,000	13,044,000	1968	7,324,791	7,324,791
1964	13,085,000	12,276,000	1969	7,170,000	6,606,000
1965	8,037,000	5,538,800	1970	6,936,000	6,936,000

Mrs. HANSEN. Mr. Obey, do you have any questions?

Mr. OBEY. No, Madam Chairman.

Mrs. HANSEN. Mr. Reifel?

Mr. REIFEL. No, ma'am.

Mrs. HANSEN. Mr. Wyatt?

SAMOAN INVOLVEMENT IN GOVERNMENT

Mr. WYATT. Madam Chairman, thank you. I have just one general question, and that is that it appears to me, Governor, that you have been moving in the direction of involving the Samoan people themselves more extensively in the governmental process than they have been in the past. Is this a fair statement?

Governor HAYDON. It is a fair statement. It is a goal of mine. I am a human being. I want to look good and do my job and succeed. I know basically, realistically, and philosophically I cannot succeed if I treat people dictatorially. This is their government and they are entitled to participate.

Mr. WYATT. Do the President and the Speaker agree that the Samoan people are getting more involved in the governmental processes than in the past?

Mr. AUMOEUALOGO. I think we are more involved now in the operations of the government.

Mr. WYATT. That is very good to hear. I would commend you, Governor, because I think this is a goal that we should be striving for constantly.

CONFLICT OF INTEREST

Governor HAYDON. The legislature itself, interestingly, has an incipient conflict of interest here, in that many members of the legislature are also employees of the government. The legislature itself is now

investigating methods and procedures by which we can have a full-time, adequately salaried legislature so that it can be either or. Otherwise it is very difficult if Speaker Utu has me on the grill in the legislature one day and I am talking to him the following day as Chief of Immigration. It is a very tough situation.

Mr. WYATT. It sure is.

Governor HAYDON. We are very hopeful of working this out.

SANITATION FUNDS REQUESTED

Mr. WYATT. I am sure this will work out. I have some other questions on the amounts that are being requested for water, for sewage treatment, for solid waste disposal, and for water distribution. It seems to me that, from what you showed us on the screen here, these sums might be woefully inadequate.

Governor HAYDON. They are.

Mr. WYATT. And you may be severely handicapped by budgetary restrictions that weren't of your making. But I will save those questions until we get to the particular subjects.

Thank you, sir.

GOVERNOR'S OFFICE

Mrs. HANSEN. Justify your increase of $14,788 for the Governor's office.

Governor HAYDON. A lot of it, of course, is the normal step increases. I might add that——

Mrs. HANSEN. Are these salary increases within the administrative branch?

Governor HAYDON. Yes, for current employees. We are, under our reclassification, working out a regular step increase for contract employees so that there will be no need for negotiated raises, and so on, on renewals of contracts so that people will know how they step up as they go along.

That is an aside and not in direct response to the question, but it is something that has long been needed in Samoa, that people know where they stand.

LUMP SUM LEAVE PAYMENTS

We have had some heavy extra expenses in the Governor's office due to having to pay off our departing officials and accumulated leave. These sums are rather substantial.

Mrs. HANSEN. Will you please insert in the record what those sums are?

Governor HAYDON. I think one lieutenant governor was $7,000. I will supply that.

(The information follows:)

Separation costs for employees (Aspinall and Magnall) : $9,007.

SECRETARIAL WAGES

Governor HAYDON. Unbudgeted, there are some positions that need filling, one of our great goals, we have to pay through the nose for good secretaries. The kind of paper flow demands that——

Mrs. HANSEN. What is your secretarial wage?

Governor HAYDON. We are paying $6,200 a year top to excellent secretaries, and there are about three in all of Samoa. That is a very high salary in American Samoa, but you cannot get good secretaries. It is the prime goal of the new community college to turn out the kinds of secretaries that are needed for us to do business efficiently in Samoa. Of the total increase, $14,000 is due to civil service pay increases granted by the Congress—last summer I think it was.

COST OF JUDICIARY

Mrs. HANSEN. Please justify the increase for $50,685 for the chief justice and the high court.

Governor HAYDON. This is primarily for one new associate justice because of our growing backlog of unhandled court cases.

Mrs. HANSEN. Why do you have a growing backlog?

Governor HAYDON. Because there is a great deal of litigation in American Samoa.

Mrs. HANSEN. Litigation on what?

Governor HAYDON. Oh, land cases, Matai title, normal civil cases that you would find in any court, particularly land cases, and they take a long time to do, and title cases take an extremely long time to do.

As we get more and more laws passed by our legislature and people become more and more aware of their rights under the law, we get increases in litigation.

Mrs. HANSEN. Then there is no hope of eventually reducing this litigation?

Governor HAYDON. There is hope of reducing the load on our chief justice in the high court by the practical introduction of district judges, Samoan style, in the eastern, western, and Manua district where the smaller cases are that get into traffic violations and things; petty cases can be handled much more expeditiously, involving Samoan judges without involving our very high priced judges and their clerks. I think this is where our real relief is going to come from. We are busily engaged in trying to get this established.

POPULATION INCREASE

Mrs. HANSEN. What has been your population increase in Samoa over the past 10 years?

Governor HAYDON. Roughly 450 people per year out of an estimated 28,000 at the present time.

CONTROL OF FUNDS BY LEGISLATURE

Mrs. HANSEN. The cost of the legislature has been transferred from the Interior budget to local appropriations. Could you please give us the rationale for this?

Governor HAYDON. The rationale, Mrs. Hansen, comes out of a hearing last year in which you pointed out, I believe, that it was only proper that the legislature have control of its own funds. And the $93,000 extra covers the cost of the legislative reference bureau and their counsel and has so been transferred in the new budget.

Mrs. HANSEN. Thank you. I congratulate you on doing this. I think every legislature has to feel independent, including the U.S. Congress.

Governor HAYDON. They have their own legislative counsel now, and this is completely set up.

Mrs. HANSEN. Good.

USE OF LOCAL REVENUES

A substantially greater portion of education costs are now funded from the local appropriations. Please describe the significance of this.

Governor HAYDON. Primarily grants from other Federal agencies and, as we go into a community college system, naturally we need grant appropriations to enable us to set up the community college. We are using existing buildings, as I agreed with the committee in earlier conversations that there would be no building construction. Some new rehabilitation will be necessary. These buildings have been around for a long time, but we are not building any new buildings. We are using what we have. All the money is for the courses, the equipment, and the instructors and this sort of thing. There is a much more demanding technology than high school.

Mr. LOESCH. Could I interrupt here a moment.

Madam Chairman, I thought your question was to explain the bigger involvement of the local appropriations.

Mrs. HANSEN. That is right.

The committee discussed at some length last year places where the local legislature should participate, particularly in selection of grants. If you remember, the committee had some question about Interior's funds being used as matching money for other Federal grants.

Mr. LOESCH. I just want to make sure that the response was fully responsive.

Governor HAYDON. Right. And I wasn't being responsive, because that is the reason for the greater amount of use of local revenues. To the best of my knowledge, unless there is something I do not know about, not one nickel of Federal money is being used for a Federal grant program in accordance with our guidelines. There is a far larger participation of local revenues in obtaining these grants.

Mrs. HANSEN. May I ask the Speaker and the President of the Senate, if this has given you a feeling of more independence and more participation with the 50 States?

Mr. AUMOEUALOGO. Yes, Madam Chairman.

Mr. UTU. Yes, ma'am.

Mrs. HANSEN. This was the hope. It seems to the committee that there are some basic guidelines regarding any legislative body, be it a territorial legislature or a State legislature.

USE OF DONATED FUNDS

Governor HAYDON. Mrs. Hansen, I would like to ask the consideration of the committee to give me a further guideline, and that is on the use of donated funds.

For example, I have just received $15,000 for early childhood education and $30,000 for community college development from the Barstow Foundation, a private foundation in Hawaii, which has long given money for education. Could I consider this local revenue?

Mrs. HANSEN. I think this should be a joint discussion between your legislative group and yourself as to how you want to determine this participation.

Governor HAYDON. Then can I use it?

Mrs. HANSEN. It would seem to me the grant philosophically is made to the people of Samoa and to the legislative body. This looks like it could be added to the local revenue.

Governor HAYDON. That is really the answer I want. They earmarked it when they gave it and said, "This is how we want it spent." Because the foundation is dedicated only to education. They said $15,000 for early childhood education and $30,000 for community college development."

Mrs. HANSEN. I don't think this grant should be used just to lessen the U.S. responsibility for education.

Governor HAYDON. I want to use it for leverage money in obtaining grants.

Mrs. HANSEN. That money is granted philosophically to better the American Samoan education system. It shouldn't be used to bail out the Budget Bureau.

NEW COMMUNITY COLLEGE

Now I want to hear the complete story of your new community college. Was there an authorization for it? The reason I raise these questions is that we have another college that needs to be funded with which we are having some difficulty.

Governor HAYDON. Well, the magic started with my conversation with you, in which we discussed, if I could find the shell buildings, could I then be free to seek the Federal programs if I had the local revenues for matching that which would put us into business.

Mr. Wohlfeld and I, when we arrived, covered that item like a couple of jackrabbits looking for empty buildings so we could get started on this program.

In the meantime, we contacted HEW and began to realize that we were going to find the buildings. We contacted HEW, worked it out with the legislature on the amount of money we would have available, and set up our initial plans. We cannot start in September. When we open, we will not have a full community college. You just can't do it in 7 months. But we will bring under the banner of the community college our nurses' training, our 1-year business training for typists and stenographers, elements of agriculture and fisheries developed in accordance with our needs, our 2-year post-high-school teacher training, and will start to lay in those things in technical training that set the needs, say, of our shipyard, of our canneries, and of all the other kinds of industries that we presently have.

That, frankly, is what we have done. We have had people down there. Dr. Zane, Dr. Eaton, our new director of education, all under contract to the University of Hawaii, are putting together this program. I believe Mr. David Lynn, who is quite famous in the field of community college development, will be our new community college director. I believe he was employed this month. We are well on our way.

NUMBER OF COLLEGE STUDENTS

Mrs. HANSEN. How many students do you have?

Governor HAYDON. They estimate it that we will have 350 students. I think they are capable of supplying many more, maybe up around 500. But in the beginning we will not have that many.

Mrs. HANSEN. I think you are to be congratulated. I am delighted.

Governor HAYDON. I would like to wait for congratulations until we actually have it open and running, because we are trying to meet the current school year. I also feel, personally, there are young men and women who are out of school who should be back into the educational system. They might even be 26 years old. I think they ought to get back into the community college and, if they are not going to go on to the university, at least they should be trained to hold some kind of skilled or some semiskilled job.

Mrs. HANSEN. Well, there are people in the continental United States that could go back to school very profitably.

Governor HAYDON. That kind of touches me, because I was just 50 on the 27th of January.

Also, I should add for the record that, due to Mr. Meeuwsen's procedure, we located excess local revenues that we have used in setting up our community college system.

VOCATIONAL TRAINING

Mrs. HANSEN. You have asked for increased funding for vocational training. May we have any further details, which you might want to add, on your vocational training program?

Governor HAYDON. Other than what I have said, I think we should lay emphasis on the fact that we will be using, in conjunction with the community college and its training, the Manpower Training Act. We just signed our agreements.

Mrs. HANSEN. Will the Manpower Training Act be in conjunction with the community college?

Governor HAYDON. Yes; because a lot of our teachers, both on the job and in the college—it will be an integrated situation. Some people who will teach in our community college may be a welder from the marine railway simply because you don't want to bring a man and just hire him to teach welding. If they have the skill available to teach through on the job, then we will integrate it. Otherwise, we will do it the normal way on manpower training.

Mr. Dick Berg is in charge of this program. Our director of manpower resources has originated the contracts. I have talked to the Secretary of Labor, Mr. Shultz, about it. I think this is going to be a very meaningful thing in American Samoa. We apparently didn't know we were entitled to this.

LEGAL AFFAIRS

Mrs. HANSEN. What are the factors which resulted in an increase of $25,000 for the department of legal affairs?

Governor HAYDON. The addition of two positions, of course, completely filling our assistant attorney general slots; an additional police captain. We did have the assistant attorney general position in prior years. It was dropped in fiscal year 1970 because of budget restric-

tions. But the workload again is such that we just simply have to have that many people in there or the work isn't going to get done. Because of the increase in crime statistics related to an increase in population, we have to have a sufficiently trained police force. This is coming about under LEAA. There are a lot of things we need which are not represented by this budget. We are under our program figure. We simply haven't been able to ask for everything we do need, but we are bringing in LEAA, which is roughly $100,000. This means a new jail. We only learned last week that because of a lack of matching funds we were afraid that we were not going to be able to build a new jail, and we determined under the rules of LEAA that we can donate buildings.

In this case, it will be the leprosarium, and that is in independent matching and this is going to give us a jail that will relieve that horrible situation you saw on the screen earlier today.

DISEASES, LEPROSY AND OTHERS

Mrs. HANSEN. How many cases of leprosy do you have?

Governor HAYDON. We have three at the present time. They have been moved out of the leprosarium. It has been completely checked for any danger to public health using it for a jail. There is no danger whatsoever. Our three cases are now on an outpatient basis. The same method is being used in Hawaii in the treatment of leprosy. Our new cases are almost nil, I think, or nil.

Mrs. HANSEN. To what do you attribute the reduction in leprosy?

Governor HAYDON. I can't answer you, Mrs. Hansen. Medically I don't know. It has not been a big disease in American Samoa. Our worst disease is elephantiasis and filariasis.

Mrs. HANSEN. Has there been any reduction in elephantiasis and filariasis?

Governor HAYDON. We have had a reduction. I think the statistics are misleading because the reduction, as I am familiar with it, quotes from 28 percent of the entire population to less than half of 1 percent. This is based only on results in five villages. I don't think it is an accurate estimate at all. I think the incidence of filariasis is a great deal more than we suspect. We know that aliens are bringing it in.

Mrs. HANSEN. From where particularly?

Governor HAYDON. Western Samoa and Tonga. We have a current contract underway with the University of Hawaii Medical School. Dr. Beales from London, a specialist in this disease, is in Samoa working. We have had a lot of problems. This is the one we lost, you recall, under partnership for health program last year. We got back a little chunk of it, enough to bring him down, and now we are just getting the adjustment in from HEW to give him the supplies, the pills, and the things he needs so we can continue our eradication.

Mrs. HANSEN. Is there some substantial research going on? I would think Samoa would be a good place to provide some of this research.

MOSQUITO CONTROL

Governor HAYDON. Yes. A very interesting thing has happened through the University of Maryland Medical School and is being applied in Pakistan. At their own expense they have asked if they could

come to Samoa and use this as a lab, and this is in the area of mosquito control that could not be eradicated.

Mrs. HANSEN. Why can't it be eradicated?

Governor HAYDON. Because mosquitoes are so profuse in the mountainous area. It is cheaper to do it by pill than by a massive mosquito eradication program.

Maryland has found out there are ways I do not know how to describe. The mosquito is altered genetically and and suddenly you have a mosquito which no longer bites and no longer is a carrier.

I said write your proposal and send it to us and we will be very happy.

If we could get rid of mosquitoes we could really reduce the problem. There are developments in types of pills that are being given orally. I think half of 1 percent is too fair an estimate. It is not that good.

I have been to 53 villages and they have filariasis and elephantiasis, and the clock is ticking all the time. So I know it is not as good as the statistics would indicate.

PARKS AND RECREATION

Mrs. HANSEN. You have an increase of $6,200 for parks and recreation. We would like a general statement from you on the status of the park and recreation program. We have seen an example of one of your public beaches this morning in your movie and it did not look very good.

What do you plan for next year?

Governor HAYDON. We have made some major changes. The man in charge of parks and recreation was an alien from Australia totally unfamiliar with the Bureau of Outdoor Recreation green space program or any kind of Federal program.

Mrs. HANSEN. Why was he selected?

Governor HAYDON. I do not know. He just happened to be there at the time, I am afraid. At any rate, BOR has been very cooperative with us and Frank Sylvester, the regional director, came to Samoa. We were unable to locate the 5-year plan and had to go to Washington in order to get the earlier 5-year plan. Somebody took them away when they left. They sent a man down and we worked out a 5-year BOR plan for territorial recreation and parks, 22 some-odd pages.

I personally authored the final report. This is our 5-year program for the record. It is now under review by the regional office in San Francisco and this involves a great deal of village self-help.

We have no funds at the moment to apply for our eligibility. We have $88,000 a year for the next 5 years and we have no matching funds to use for it. We are working it into our PPBS so over the next 5 years we can use it.

I firmly believe if I can determine that the donation or dedication of land and labor will serve as in kind, we can implement some rather large chunks of this program.

In Samoa we do not have the guidelines and the rules and we are obtaining them while we are here in Washington.

Mrs. HANSEN. It would seem this is similar to a situation that prevails in some of the Indian recreation areas where they do not have any

funds available. Some of the villages in Alaska have the same problem. It would seem to me that you should make a request to the Bureau of Outdoor Recreation to make the determination that labor supply could be used as the equivalent of funds.

Governor HAYDON. I have made such a request and have not received an answer yet.

Mrs. HANSEN. Let's hurry them up.

Governor HAYDON. We are doing our best.

Mr. LOESCH. If I may interject, I will say I will hurry BOR up myself, but I fear that under our land and water conservation fund we are not going to be able to make it apply.

I will see the Governor gets a final answer while he is here.

Governor HAYDON. They have been most helpful. I am not critical.

LAND AND WATER CONSERVATION FUND

Mrs. HANSEN. Mr. Secretary, I do not think the Land and Water Conservation Fund goes into any great depth in dealing with the subject of federally owned lands or the federally managed territories.

(Off the record.)

Mrs. HANSEN. This is the kind of project that would stimulate community interest, community participation, and build the kind of community pride that is going to be necessary to keep the recreation areas clean after completion.

Governor HAYDON. Our people will actually donate labor if we will provide the material and equipment, the caterpillars to level and grade village recreation areas. The Samoan people are astounding in the amount of free labor they will give and I would like to pay them the highest compliment in this area. They build trails. These people who work hard do this on Saturdays and Sundays and after dinner, and always are willing to donate labor.

I need a clarification. It is dollar-for-dollar matching and it is tough money to come by.

Mrs. HANSEN. It is very difficult to justify to some people the expenditure of funds for such projects as recreation. I think the recreation is most important.

You cannot hope to combat the problems of youth without recreation areas. If the American cities had learned this 50 years ago they would not be in the condition they are in today.

Governor HAYDEN. You will find in our 5-year program that the most immediate priority is the village recreational area for every village that does not have one, and number two, immediately under it, the improvement of the existing recreational areas which are in the saddest shape you ever saw. Rocks sticking up where they are trying to play basketball and this sort of thing.

Mrs. HANSEN. Let's get them cleaned up.

AGRICULTURE FUNDING

There is a decrease of $3,005 for the Department of Agriculture. Does this reflect a decreasing emphasis on agricultural activity?

Governor HAYDEN. It does not.

Mrs. HANSEN. Why do you show a decrease in this activity?

Mr. MEEUWSEN. A large part of this is due to the reorganization of

the Department of Agriculture as recommended by the Wolf management people. It is to place more emphasis on extension service work.

Mrs. HANSEN. This does not exactly make sense. I saw this morning where you were trying to move your agricultural products without enough equipment. How do you justify decreasing your budget by $3,005.

Governor HAYDEN. Actually, we had a nonrecurring expense in the acquisition of a new tractor. We are trying to get the trailer on which to carry it. The one you saw is homemade and extremely dangerous. This is the bulk I believe of the reduction in cost, the $55,000 cost of the tractor itself. Our activities are actually expanding.

(Short recess.)

SANITATION EQUIPMENT

Mrs. HANSEN. Justify the increase of $8,146 in contract services needed to maintain sanitation facilities.

Governor HAYDON. First of all, we had funds previously authorized and released under new starts to buy two new garbage trucks. We called for bids from the United States, New Zealand, and Japan under the Buy America Act after our reprograming of $40,000 and about $6,000 more is buying us four trucks instead of two. Ford will assemble them in New Zealand.

Mrs. HANSEN. Will this meet your needs?

Governor HAYDON. No, it will not and I will not know what our entire needs will be until our solid waste disposal team is through with their study. It will alleviate the situation we have at present with only one truck that can climb a hill.

Mrs. HANSEN. With whom do you contract for the sanitation services?

Governor HAYDON. We do it ourselves. Maintenance and Operations, Department of Public Works.

Mrs. HANSEN. The committee saw in your movie this morning the inadequacy of the facilities for the disposal of sewage and refuse. What do you propose to do to improve this condition? Your garbage dump obviously is a mess.

Governor HAYDON. We closed the downtown dump and I want to close the one at Tafuna.

We are presently negotiating with the landowners at Logotana Hill, the same hill that has to come down a hundred feet. It is all volcanic cinders. It is probably the one place in Samoa—and I have tramped over Samoa and flown over it looking for sites—where we can have a sanitary cut and fill operation until such time as we are told that compaction or compositing or some such solution is ideal for an island with heavy population and only 18 miles long and which depends upon tourism.

The island has to look good for the tourists and it has to be sanitary for the villagers.

Mrs. HANSEN. Is it not true in the tropics that you have a tremendous problem with rats?

RAT PROBLEM

Governor HAYDON. We have rats. Our present public health officer, who is not to be with us much longer, denies we have a rat problem,

and he is out of his mind. We have rats all over the place. We are seeking funds for rat control in our budget, and they must be controlled. We have both field rodents and waterfront rats, the same kind they are used to in Grace Harbor and Seattle. We have a firm preparing a bid for us for a rat elimination program just as Grace Harbor does, and the Port of Seattle does. It is not that difficult.

We get rats particularly from the oriental fishing vessels. Part of that program is strict patrolling to make sure rat guards are installed on the vessels when they come in. They do not care. If you are not looking, they will not put them up. We are transferring four men from the police department into dock control and they are going to need training. We want to get a man out in a boat running around.

I am trying to get a Coast Guard agreement from Admiral Engle in Hawaii that they will patrol on bilge pumping and this sort of thing.

Mr. Wohlfeld noted in a current paper that fines up to $1,000 in Hawaii are imposed for bilge pumping in the harbor in Hawaii. Our limit on fines at the present time is $100.

I know these things have to be done, and I know that we need to have a controlled program of poisoning, taking due regard for kids, not getting their hands on the stuff used to control rats.

Government House has rats. I have seen them throwing stones at them with my own eyes. We have lots of rats in Samoa and we have to get rid of them.

Our new public health man, who is coming in 30 days, and the new director of medical service, who has a big program in public health, I think are going to be two of the most violently aggressive people in new types of rat-eradication programs.

Mrs. HANSEN. Is Federal money available for the eradication of rats?

Governor HAYDON. I think there is. Under the partnership for health, we have applied for some rat control money. It has been okayed in the new partnership for health program.

Mrs. HANSEN. We have been discussing the inadequacies of disposal for sewage and refuse, Mr. Wyatt. The committee will be glad to have you ask your questions.

Mr. WYATT. Thank you, Madam Chairman, I appreciate the courtesy of your yielding at this time.

I would like to commend the Governor for a very, very impressive appearance today by himself and by the members of his staff. It has been very comprehensive and it has been very thorough and well done, Governor.

SEWAGE TREATMENT FACILITIES

I would like to ask generally whether or not you can use considerable amounts of additional money for the purpose of sewage treatment facilities and generally in the area of pollution, water pollution and solid waste pollution?

Governor HAYDON. Yes; it is literally true.

Mr. WYATT. About the only thing between you and these additional sums of money are the budgetary restraints that you have been working under, is that correct?

Governor HAYDON. That is correct.

Mr. WYATT. It seems to me, Madam Chairman, from the amounts of money that are in the 1971 request that they are just very modest increases in the sums over fiscal 1970. Please insert in the record and furnish the committee, and also send to me, a copy of what you furnish to the committee, an outline of what you could use if you were free of budgetary restraint in the area of water pollution and solid waste disposal. You can break it down into as much detail as possible.

I am talking about the amount that you can use in fiscal 1971 if you had the money available.

(NOTE: Information not furnished by Department in time to include in printed hearings.)

Governor HAYDON. Fine.

In response, I would say that our PPBS planning pretty clearly outlines our needs. I would like to inform the committee that under the Presidential directive of about 2 weeks ago, all governmental agencies will clean up under the Land, Air, and Water Pollution Act—we are getting a copy of it so we know exactly what we are talking about—that we will clean up by the end of fiscal year 1972 our pollution programs.

We are moving all of our programs off the phased 4-year program to be finished by 1972. This is going to mean a tremendous jump in our submitted budget next year. There is no other way out. Instead of waiting until the end of 1974 to clean up Pago Harbor, we are going to put our funds into the budget by Presidential directive.

Mr. WYATT. Would it not be a lot more certain you could achieve this goal if you got substantially more money in 1971 and substantial increase in 1972 instead of a ballooned increase in 1972?

Governor HAYDON. We would like to start it at the same time. Mrs. Hansen commented earlier on this. We should only program what we could do physically. We are investigating.

As you know, very few firms have been willing to come down to Samoa to do any work, outside contracting firms using Samoans but bringing in the kind of equipment needed, because the projects are too small. We are considering what we call a bunching project—offering for bid three projects large enough combined to make it worthwhile coming from the mainland.

The thought of waiting until 1974 to have Comtala Atua, Pagopago and these little villages cleaned up appalls me. We know what we need. We have it laid out and have preliminary estimates on what we can do. We have it for sewage, water, road, and the whole works.

Mr. WYATT. I think the table furnished to this committee for what you need to do by the end of 1972 under the accelerated program and what you could do by the end of fiscal 1971 would be helpful to me as a member of the committee.

Governor HAYDON. We will be happy to submit this.

(NOTE: Information not furnished by Department in time to include in printed hearings.)

Mrs. HANSEN. If you can combine several of your projects would you not bring down the total cost of each project?

Governor HAYDON. Yes, because if they came one by one, you would have a move in and a move out each time.

Mrs. HANSEN. That is right.

Governor HAYDON. Frankly, I feel a great deal more confident now about this sort of thing because I have more competent people in the department of public works.

Mr. WYATT. Thank you, Governor, and thank you, Madam Chairman.

TRANSPORTATION PROGRAM

Mrs. HANSEN. In prior years the cost of maintaining wharves, docks, and harbor moorings were included in the public works department budget. They have now transferred to port administration.

I assume this was done for a more manageable and more economical operation.

Governor HAYDON. Port administration is in charge of the airport and the docks and wharves and harbor.

We are about to establish a—we have a position and we are about to broaden it and retitle it under a job description called director of transportation for American Samoa.

I have a man especially in Samoa to fill this job who is skilled in many years of aviation airport development, harbor and dock development, rates and tariffs, and so on. The need is in a number of areas.

One is in just the repair of docks that we have now. We are trying to do two docks for the available funds that we have. Frankly, there are nuts and bolts sticking out that scour the sides of the ships that come into Samoa. We are taking a lot of the tires out of the surplus equipment at Tafuna, removing them from the equipment and are going to face them on the docks. This will relieve a lot of this damage.

There is a need for a small manmade-type harbor in at least six villages in Samoa to insure safe transportation of people and cargo. If we are authorized, we are seeking congressional approval of the Army Engineers to carry out projects in American Samoa. They have done a great deal of work for us free already under the authority they have, and they have now designed little harbors for these six places.

Even if nothing else is done, we are a big step up on this because of the cooperation we have received from them.

Mrs. HANSEN. How adequate are your port facilities for receiving cargo and shipping?

Governor HAYDON. They are not adequate.

Mrs. HANSEN. How much tonnage do they accommodate?

Governor HAYDON. Our primary problem is this: Take the greatest export cargo we have—in canned tunafish—it originates on the north side of the bay where there are no harbor facilities, and it has to move all the way around the harbor to the docks on our one little road. The transit shed we have, because of the bad planning that went into it in shoving in permanent fixtures and a lot of government storage—we should be using the whole thing for transit warehouse. It is simply not available. Too much had been built into it before I got there and stopped it.

I am not a public port guy, but I would have stopped it in the beginning. If we can bring the ships in, the *Guard* and *Thor*, *Matson* and other vessels that call in Samoa and discharge at our main docks, move them across the bay and take on the cargo on that side, we can alleviate our cargo difficulty.

We are negotiating actively with the second major petroleum producer to come into Samoa to begin on the north side of the bay for the delivery of oil products. We hope to offload at Nuuuli Lagoon where we can pump it to the airport from storage. This would eliminate everything but the gas station, and we only have six in Samoa at the moment. This would eliminate the bulk of the cargo that has to go over our system, the one road, by the tandem trucks you saw.

We think we are about ready and this company is about ready to make its investment.

GROSS SHIPPING TONNAGE

Mrs. HANSEN. Will you insert in the record the figures on what your gross tonnage is per year.

Governor HAYDON. Expressed in dollars, our gross export tonnage of tuna alone is $25 million and will be more this year. It is increasing.

Mrs. HANSEN. Will you please insert in the record the tonnages of government commodities and imports?

Governor HAYDON. You mean government supplies?

Mrs. HANSEN. Government supplies and the total imports.

Governor HAYDON. Right.

Mrs. HANSEN. This will help give us a picture of the total harbor needs.

(The information follows:)

Gross tonnage handled at port:
1968, 131,200 tons; 1969, 94,500 tons.
Government portion cannot be broken out.

AUDITING

Mrs. HANSEN. $34,000 is budgeted for the audit office. In view of the difficulties with accounting, could we have your opinion on the capability of this office to perform the necessary functions?

Governor HAYDON. As Mr. Meeuwsen explained this morning——

Mrs. HANSEN. If he wants to amplify any part of his statement, he may.

Mr. MEEUWSEN. We have not had any real audit function for the last 3 or 4 years. We have now hired an internal auditor who has vast experience in accounting work and we are going to use him primarily in straightening out our accounting system, and at the same time he can set up an audit office. As soon as we get the accounting system really squared away, he can devote full time to audit. We are trying to perform two functions here at one time.

Mrs. HANSEN. I understand the difficulties. $13,280 is requested to provide for field tax audit in the United States. What does this involve?

Mr. MEEUWSEN. We have several companies in Samoa: Standard Oil, Van Camp, Star Kist, and American Can, the big ones, that keep their records in the United States.

Mrs. HANSEN. San Francisco?

Mr. MEEUWSEN. Some in San Francisco and some in New York. We have made only one audit on Standard Oil about 3 years ago and we feel it is time to go into an in-depth audit of all of the larger companies.

We feel there is a lot of money we will be getting back through audit. We just set up a tax audit branch in our income tax division. We have employed a former IRS man who has retired and we plan to perform audits of all of the large companies in 1971.

GOVERNMENT HOUSE OPERATION

Mrs. HANSEN. An increase of $12,525 is due to transfer from the Executive House operation to the administrative services. What does this include and why was the transfer made?

Mr. MEEUWSEN. The operation of the Government House, the residence of the Governor, is budgeted at about $20,000 per year, and transferring it into administrative services was simply to make it more convenient for operating purposes.

POTABLE WATER PROGRAM

Mrs. HANSEN. You have listed funds for three water projects. Have you any comment about these individual programs?

Governor HAYDON. Our goal I think is that the best place to start is the provision of a complete islandwide main, east to west, which would provide potable water from beneath the ground rather than from on top of it by catchment, to eliminate pollution and give people a decent water supply to drink.

The contract for $200,000 is with the U.S. Geological Survey to locate these well sites for us by methods they use so we know where to drill.

Mrs. HANSEN. You noted this morning the location of several of these wells. How many people will the average well supply?

Governor HAYDON. The wells produce differently. We have brought in some magnificent ones and we have brought in some bad ones.

Mrs. HANSEN. Let's take your best well. How many will that supply?

Governor HAYDON. I cannot answer you.

Mrs. HANSEN. Will you please insert that in the record. Also insert in the record the cost per well.

Governor HAYDON. Yes.

(The information follows:)

4-inch well serves 320 persons. Average cost is $3,600.

VILLAGE WATER SYSTEM

Mrs. HANSEN. Now we will discuss your village water system.

Governor HAYDON. Our village water systems are of course in those areas where we cannot provide an islandwide main and we still have to have water for those people. We are using catchments in some villages and in some villages we have nothing. We are borrowing. The kids are walking for water or they are dry.

The village of Utulei where the hotel is located is our second largest population center, and is dry much of the time.

Mrs. HANSEN. Why can't you have catchments?

Governor HAYDON. We do have catchments. It runs dry in drought periods, and surprisingly, we have droughts in American Samoa. It either runs dry when we go on water rationing, or the water is so full

of mud you cannot drink it. Fortunately, Government House and the hotel have a continuous supply 12 months of the year.

I sit there in Government House with nice clean water while Mr. Wohlfeld, who is down on Penicillin Row, has no water and just has mud. And I mean literally mud.

The idea is to provide wells for an individual village system to provide clean water for everybody in Samoa.

Mrs. HANSEN. This is true?

Would you comment on the islandwide water system?

Governor HAYDON. Yes. We will take advantage of the water now escaping to the sea that is coming out of fissures in the ground and literally pouring into the sea and being wasted.

SEWAGE PROJECTS

Mrs. HANSEN. You have three sewage projects. Would you comment on these projects?

Governor HAYDON. At Tafuna we need final design. This project is underway. This is the airport area and a large area of residential growth.

I mentioned early this morning, we have Nuuuli Lagoon, which is adjacent to Tafuna, and we have had 12 or 13 cases of hepatitis from people swimming in the lagoon.

This area is growing quickly toward Leone, is a residential and industrial area which simply has to have sewage treatment. The lagoon itself is needed for recreational development both for local people and for tourists. So that lagoon has to be cleaned up.

HARBOR AREA LATERALS

We are running the main from the hotel down to the head of Pago-Pago Bay, it will be to Pago Park on June 30, and then to continue to the canneries on the south side by 1 year following, and then from the canneries past Breakers Point with deep water outfall in the following year.

This is part of the program we wish to step up under President Nixon's directive, but we have to provide laterals to hook in the businesses, and I believe we will charge them for their laterals. We stub them in and later do the actual hookup. It is our belief if we were to try to charge the residents of Samoa to hook up the sewer system, no hookup would ever take place. They simply do not have the money. I am under the firm conviction we are going to pay to hookup homes to the sewer system.

Eventually we will have sewage treatment plants at the village area of Leone, which is the largest residential area and to Fagaitua, which is growing.

BLOOD FROM CANNERIES

Mrs. HANSEN. What are you going to do about the fish blood that comes out of the canneries?

Governor HAYDON. I have the Public Works Director digging into this to find if a system exists to remove the blood from effluent, which pours in just as at Terminal Island or any place, San Francisco Bay.

But they do not have the shark problem we have and we have big sharks.

Mrs. HANSEN. This seems to me something experimental research people should be working on.

Governor HAYDON. Our problem is just like with a storm drain, that the amount of water would completely overwhelm our sewage treatment.

Maybe the answer is taking all of the gallonage and pumping it all the way from the canneries in a straight line to Breakers Point and dumping all of the water they use into deep water where there is natural flushing.

Mrs. HANSEN. To what extent does American Samoa participate in grants provided by the Federal Water Pollution Control Administration?

Governor HAYDON. Not at all to date.

CONSTRUCTION OF ROADS

Mrs. HANSEN. $255,000 is requested for roads. You have listed individual projects for highway safety features, $45,000; sealcoat primary roads, $50,000; secondary roads, Tutuila, $125,000; and secondary roads, Manua'a, $35,000.

How near would this bring you to the level of reasonable roads? According to your movie, they did not look like they are in very good condition.

Governor HAYDON. They are not. We have $20,000 at present for highway safety features. There is not a guardrail on our island and there are hundreds of violent curves where we have had many serious accidents.

Mrs. HANSEN. Do you have signs at all?

Governor HAYDON. We are going to. We do not have the traditional form of signing, because if you put it up it disappears in 24 hours. It gets back to the land tenure system and the people do not want things on their land.

Mrs. HANSEN. Would they rather be killed?

Governor HAYDON. That thought does not enter any of their minds. These four gentlemen will explain why you cannot keep a sign up in American Samoa. The only ones we have are made out of heavy cement and are tremendously expensive.

Mrs. HANSEN. Can you develop a program so the Samoan people will understand why signs are important?

Governor HAYDON. What we are going to do, Mrs. Hansen, rather than fight this battle, which will take years to overcome educationally, we are going to sign the highways as our American highways are often done, by reflectorized paint signs entering town, 15 miles an hour, leaving town so many miles an hour, dangerous curve and so on. We are already started on this program.

The new road will be done first and then we will seal-coat the old road and sign it.

Mrs. HANSEN. You can attack the problem in the future in your schools by teaching highway safety as an integral part of your educational process.

Governor HAYDON. This is one way to get it done now, and it is needed particularly because we have a lot of accidents. We need guardrails. These are being done on the basis, what is the most dangerous curve, do this one first, and the next most dangerous, do that one second. The most dangerous are in the Tutuila area which are dirt roads, you see. We have just reprogramed internally excess local revenues to do some of this work. This will be a continuation under this budget.

FIVE-YEAR ROAD PROGRAM

We have a complete chart to show a 5-year program for a complete road around the island. We can connect every village by continuation of our main highway.

Mrs. HANSEN. Do you keep maintenance crews busy on these roads?

Governor HAYDON. To the best of their ability as funding is available.

Mrs. HANSEN. Do you program enough maintenance money to make sure your roads are kept up?

Governor HAYDON. Whether this has been accurate or not in the past is a real question. We are going to try to do this in the future. But I would point out when you ask for $125,000 for secondary roads in Tutuila, on the night of December 26, 1969, we had one rainstorm that did $25,000 worth of damage, unbudgeted damage to our road. If you remember in previous hearings you recommended the setting up of a fund that——

Mrs. HANSEN. That would take care of your maintenance needs.

Governor HAYDON. We would really like to have an earmarked fund of that kind so when we have road damage we do not have to take money from other road projects in order to repair the damage.

Mrs. HANSEN. That would be ridiculous. Construction of a road is a major investment, and the maintenance of that road is the protection of that investment.

Governor HAYDON. The final comment, on the Manua'a, the secondary road, we have just reprogramed some money for Manua'a Island. If you could see the road which the schoolchildren drive. It is a dirt road and there is a 300-foot fall to the sea. We are going to lose a busload of children. It is the most frightening thing I have ever seen and the kids go on it every day. That simply has to be fixed before we have a major tragedy over there.

SCHOOL CONSTRUCTION

Mrs. HANSEN. $220,000 is requested for school construction. Is this based on student population growth or classroom size?

Governor HAYDON. The $80,000 for Leone is for a cafeteria and a classroom. Those are the children you saw eating out in the rain on the film this morning.

The high school field, Fagaitua, is $20,000. It has no playfield at the present time, and one is for the nonexistent playfield at Manua'a high school. We are lucky that Samoans are brought up walking barefoot a lot. I do not see how human beings play on them. They are full of jagged rocks. I know Samoan feet hurt as much as American feet do. They are bare fields and incredible things.

There are some needs for equipment on down. You have not asked me that question yet. School construction is based on our projected growth, and I think will meet our needs.

CENTRAL BUSINESS AREA DEVELOPMENT

Mrs. HANSEN. $50,000 is requested for a central business area development. Can you give us a rather comprehensive review of what this is going to do?

Governor HAYDON. A lot of the work of our new economic development and planning office will be centered around this project. During Navy days, no one thought there might be a tourist industry in Samoa or gave a darn about environment, and they built, as is the Navy habit, buildings along the seaside and shut off our major tourist attraction, our harbor.

We have a Chinese wall. We have seven businesses that need to be removed, and it is not fair unless we can offer them additional space. Part of the removal of the government offices to the old hospital is to open up all of these governmental buildings along the Malae in the central business district so we can do a Girardella Square or a Chicago old town type of redevelopment so the businesses we want to move from what we call the side can move into there and create a shopping area.

My own personal philosophy is that the development of what you call a normal classic supermarket type operation is not needed in Samoa, you merely destroy the charm of a place like Samoa. But it can have colorful esthetically beautiful interesting places for people to go when the tourist gets off the ship.

Part of the reason we charge a dollar for a liquor permit and get about $700 a year out of it. We are eliminating this, so that when new ships come into our duty-free port, I will have a self-service liquor store in the area and all of the tourists can buy liquor at duty-free prices to take back to the ship and go away, and we make a hundred percent profit on it, and it adds to our local revenues.

SALE OF SAMOAN PRODUCTS

We need to sell the shirts they make in Samoa. We have some beautiful fabrics handmade in Samoa. We need places to sell these where the tourists congregate when they get off the ship. We need better places for our own people to go to buy the merchandise and food they need.

Senator Tuiolosega operates a very successful series of stores in Samoa and he can tell you about some of the problems if you need further testimony.

URBAN RENEWAL FUNDS

Mr. MCDADE. Did you say you are using urban renewal to relocate these businesses?

Governor HAYDON. No, sir.

Mr. MCDADE. You get none?

Governor HAYDON. No.

Mr. MCDADE. How are you relocating them?

Governor HAYDON. Physically.

Mr. MCDADE. Are you buying the property?

RELOCATING GOVERNMENT OFFICES

Governor HAYDON. No, we own the property. The government is in them now.

Mr. MCDADE. I do not mean just the government properties. You mentioned Navy buildings.

Governor HAYDON. We own that property.

Mr. MCDADE. I thought you said your second phase was to move into some commercial establishments.

Governor HAYDON. We want to move the government, and we are doing it, have almost completed, out of the building on the Malae, and turn them into retail establishments.

If I tell Mr. Tuiolosega I want him to move his store to the Malae area, part of the lease will require him to paint up and clean up in an esthetic way. It will give him a better place to do business and relieve traffic congestion and give the sea back up to the people and tourists.

Mr. MCDADE. It is a wonderful idea, but I was not clear on the mechanism. What you are going to do is relocate the government buildings and lease them out for retail shops and control the environment in the lease?

Governor HAYDON. It is already underway. We have almost moved out.

Mr. MCDADE. I congratulate you. It is a wonderful idea.

Governor HAYDON. I wish I could say it originated with me, but I inherited it and I am merely trying to enhance it.

AIRPORT DEVELOPMENT

Mrs. HANSEN. $200,000 is requested for airport development. In view of the trouble you have been having with the big jets is your request adequate?

Governor HAYDON. We just let a contract approximately 2 months ago to one of the 19 bidders for $50,000 to do a master plan and survey of our needs in airport expansion.

One of our problems is, we cannot get the 747, once it has landed, into the terminal because of our taxiways. We have already learned now under this contract from the engineering firm that the idea of sealcoating the runway probably is nonsense, at least at this time. They feel the runway is in excellent condition. It does need to be widened to conform with FAA requirements. It needs a 25-foot strip on either side and the taxiways widened to have a turn place to get the 747 off.

Pan Am says we will have them in September. That starts with Tonga, No. 2 is Samoa and No. 3 is Tahiti. So they are coming in.

I cannot quite visualize unloading a 747 on the runway. We may have to reprogram somewhere here.

The first problem is the hill.

Mrs. HANSEN. That has to go first?

Governor HAYDON. We have just been informed—and that apparently has been a longstanding controversy—we are only capable of providing 3.5° landing approach. FAA requirements are for 3°. It means the plane comes in too steep. To correct this we have to, by their request, take 106 feet off the top of the Logpuna Hill. We already have cost estimates of $2.2 million.

This is really the first survey since the airport has been made of what the airport really needs, and I am sure you will recall the old $200,000 for runway sealing from past hearings.

We do not need this, we need to add on to the runway and may need some increase in depth for load impact when the planes land on it.

Mrs. HANSEN. Will you insert in the record how many passengers come in yearly by air? Also include the anticipated increase year by year.

NUMBER OF AIR PASSENGERS PER YEAR

	Actual	Projected		Actual	Projected
Fiscal year:			Fiscal year—Continued		
1968	28,406		1972		49,711
1969	31,104		1973		56,812
1970		38,174	1974		71,015
1971		42,609	1975		85,218

Governor HAYDON. Apparently the Wolf management projections are pretty good. They hit it on the button this year, a 16-percent increase in tourism, and it came out 16 percent.

As you know, American has an award and Continental is recommended for another. We have one new service now weekly from Tahiti and the French airline, UTA, is starting a little later this year, one flight a week into Samoa.

LOCAL REVENUES

Mrs. HANSEN. An increase of $250,000 is estimated for individual income tax. What is the basis for that?

Governor HAYDON. These are local revenues by source to show increase in revenue. We merely expect to get more revenues.

Mrs. HANSEN. Do you think it will develop?

Mr. MEEUWSEN. Very definitely. We have a regular trend we can chart on this.

Mrs. HANSEN. $200,000 is estimated for corporate income tax. Is this on the same basis?

Mr. MEEUWSEN. The same basis, yes.

Mrs. HANSEN. In the 1970 budget justification local revenue for fiscal 1969 was estimated at $3,698,860. Actual income was $4,590,700. Local revenues were underestimated $892,000 for 1969. Is it probable that local revenues for 1971 are similarly underestimated?

Mr. MEEUWSEN. No, we believe we have fair estimates now for 1971.

As you will recall, in 1969 at our Bureau of the Budget hearings, we increased our estimate $600,000, and this was applied to our 1970 program, and we still came in about $250,000 over that.

Governor HAYDON. So we have increased our estimates primarily in the tax area, which is difficult, particularly on canneries. We feel this is a firm estimate for 1971. If they have a good year for fish, up it goes and, if not, it goes down, and this is something nobody knows how to project.

If they give us good service we will have a lot more money being spent in Samoa, not just a couple of flights a week.

ORIGINATION OF AIR FLIGHTS

Mr. McDade. On the question of air transport, where do most of the flights come from?

Governor Haydon. They come every day from Honolulu on to Australia and New Zealand and New Caledonia.

Mr. McDade. It is direct?

Governor Haydon. Yes, that way or backward.

Two flights a week go on to Tahiti and return. So we have two there. We have interisland traffic between western Samoa using DC–3's, while they last. Thirty-three people were killed the other day.

New Zealand, DC–8 flights going to Fiji. We have two small airplanes in American Samoa, one a seaplane and one a land plane.

ELECTRIC POWER REVENUES

Mrs. Hansen. An increase in revenues for electric power of $174,000 is estimated for 1971. Does this reflect increased rates or additional customers?

Governor Haydon. Additional service.

Mrs. Hansen. What is the source of your power?

Governor Haydon. We have five Nordberg generators, and number six, for which you voted a supplemental, will be arriving in Samoa in the spring. We will need about 90 days installation time to get it set up and into operation. It still will not provide us with any backup power at all. This will be our needs.

FUTURE POWER NEEDS

Mrs. Hansen. How well does this reflect not only your current needs but the needs of the next few years?

Governor Haydon. We intend to ask for, in the upcoming budget, generator No. 7, and frankly, there is no expansion available at the present facilities at Tutuila across the bay. We plan for a new generating plant in the Tafuna area where our heaviest residential and commercial use is developing.

We have many power outages in the 7 months I have been there. It does not take much. We have fires because of erosion and storm damage. If the lines ever broke and fell, and we almost had this happen, they would black out the entire island. All of our power would disappear.

Mr. McDade. Including hospitals?

Governor Haydon. We have standby generators at hospitals and some other key places.

TRAVEL COSTS

Mrs. Hansen. Your cost for travel and transportation of persons in 1971 is about three times your actual cost in 1969. What caused this increase?

Mr. Meeuwsen. In 1971 we plan on hiring a utility manager to take over our utility plant. This will be the funds needed to bring him down.

Mrs. Hansen. Increased travel and transportation costs?

Mr. Meeuwsen. Yes.

BANK OF AMERICAN SAMOA

Mrs. HANSEN. As of June 30, 1969, the undivided profits of the Bank of American Samoa were $1,505,377. This compares to $1,311,049 the previous year. What is your general policy regarding the maintenance of this fund.

Governor HAYDON. Our general philosophy and policy is to maintain it as exact as possible, because it is leverage money with which we operate the new developmental Bank of American Samoa.

Those funds which we received at FDIC investigations and the establishment of the premium to be paid were used as the original fund of our new development bank. It gives us a leverage operation of about $5 million. Anything that we do to deplete those funds depletes the amount we have available for developmental loans.

So my personal feeling is that we should do everything we can not to allow any depletion of those funds. They are not very large, a little over a million and a half dollars in the Developmental Bank.

In addition, we do have about $79,000 paid back in on housing to be used for housing loans only and some interest money paid back in. That money is available for direct cash loans for housing and only housing. I am not a banker but I have talked to the banker who runs the bank, Mr. Johnston, a professional banker, and he said any depletion of that fund injures our ability to guarantee loans through the Bank of Hawaii.

HOUSING AND OTHER LOANS

We need to have scholarship loans, normal house and appliance loans, and all of the normal types of loans, in addition to some possible loans for new industry.

Mrs. HANSEN. How many housing loans do you make per year?

Governor HAYDON. We can supply it for the record, the exact amount.

Mrs. HANSEN. Please do.

(The information follows:)

Number of housing loans per year: 1968, 125; 1969, 179.

SCHOLARSHIP LOANS

Mrs. HANSEN. You can also insert in the record your scholarship loans.

(The information follows:)

Number of scholarship loans:
1968, —28; 1969, —31.

Governor HAYDON. Our scholarship loans at the present time run us about $2,000 apiece, and I think we have in this budget $190,000 for scholarship loans.

Our present fund is apparently in trouble. I have only learned this in the last few days, and we may not have enough money. I have to go home and find out for sure. I do not know what the situation is. We have these students all over the country.

I might add, if the committee is interested——

Mrs. HANSEN. The committee is interested, but we will have to take a short recess to vote.

(Short recess.)

UNOBLIGATED AND UNEXPENDED BALANCES

Mrs. HANSEN. Please insert in the record your unobligated and unexpended balances as of June 30, 1969, and January 30, 1970.

Governor HAYDON. All right.

(The information follows:)

BALANCES AS OF JUNE 30, 1969

	Governor's office	Legislature	Judicial	Grants	Total
Unobligated balance	$4,955.72	$992.51	$13,449.14	$1,529,547.24	$1,548,944.61
Unliquidated balance	23,562.64	.....	11,601.55	1,784,314.76	1,819,478.95
Total unexpended balance	28,518.36	992.51	25,050.69	3,313,862.00	3,368,423.56

BALANCES AS OF JAN. 31, 1970

Unobligated balance	$62,051.89	$24,857.68	$45,417.14	$3,268,386.04	$3,400,712.75
Unliquidated balance	38,267.19	13,881.15	18,026.23	2,438,877.13	2,509,051.70
Total unexpended balance	100,319.08	38,738.83	63,443.37	5,707,263.17	5,909,764.45

CROWN OF THORNS STARFISH PROBLEM

Mrs. HANSEN. In the South Pacific and in the Trust Territory particularly, we have heard a great deal about the starfish problem. Does Samoa have this problem? If so, what are you doing about it?

Governor HAYDON. There is a great debate about the crown of thorns, the asterias vulgaris. Some places undoubtedly do have the problem. We certainly have crown of thorns. We have had them for 4,000 years apparently. We are investigating them. We do not have any dead patches of reef, that is any new dead patches, such as I saw at Tahiti when I was investigating the skipjack fishery over there a month ago. We do not have the conditions that exist in Palau or on the Great Barrier Reef.

We do have an animal and it is a repulsive animal. There is a great debate going on—I talked with people at the Smithsonian about it. I have had a bucket of them in my office on special occasions. We have sent them up for study. We have a different situation than other areas in that our reef is quite close in. It is bared by the tide many times during the course of a year, even though we only have an approximate 2-foot tidal fall.

Samoans who have fished in the waters and have searched the reefs for years say there are no more crown of thorns now than there were when they were tiny little boys. Our new director of fisheries is keeping a very close eye on this. We don't want to see any blossom. But the debate is, Mrs. Hansen, that the reason we are finding so many more crown of thorns around the world is because so many more people are going underneath the water. They have always been there and they have always been destructive to a degree and they run in cycles.

The reef regenerates itself after a while. You get an algae-type growth that attracts this. You could talk all day on whether there really is a great threat or whether there isn't. At any rate, we are going to consider this a threat rather than guess wrong and keep an accurate count and study this.

Dr. Fosberg at the Smithsonian lectured me for almost 2 hours on this and said this furor all over America is nonsense, this furor all over the American possessions, that these animals have alway been there. Like the tuna, they go up and down. There is some fairly good evidence, not completely authenticated, that the blasting did it.

Mrs. HANSEN. Are the starfish there for some particular purpose?

Governor HAYDON. It is part of nature's system.

Mrs. FARRINGTON. We have always had them in Hawaii.

Governor HAYDON. The removal of tritons in the reef by shell collectors has caused a larger growth of crown of thorns. But we do not have any problem that we know of at the present time, although we do have the population of the animals.

Mrs. HANSEN. That is very interesting.

Governor HAYDON. They have all been swimmers, these people, and they have seen them. There are no more now than when you were little boys, isn't that correct, Mr. President and Mr. Speaker?

Mr. AUMOEUALOGO. That is right.

Mr. UTU. Yes, that is right.

Mr. TUIOLOSEGA. We have seen them. We have seen the same ones.

Mr. LOESCH. How do you know they are the same ones?

Mr. TUIOLOSEGA. We have seen them time after time.

Governor HAYDON. We are afraid of it. Until we have definite knowledge that it is not dangerous, we are going to keep track of it.

Mrs. HANSEN. I think the story of the formation of the South Pacific area is one of the most interesting geological stories of mankind.

Governor HAYDON. They found if you shoot them with formalin, you may kill that animal. But you kill a lot of other animals in the process when you do it. If you rip them apart and throw them back into the sea, they regenerate.

The only way you can get rid of them is to physically remove them from the water and then destroy them on land in some fashion.

Mrs. HANSEN. Thank you very much.

Mr. McDade?

SOURCES OF REVENUE

Mr. MCDADE. I have just one question, Governor. I notice the most informative list of some of the activities, like the liquor store, the bank, and so forth, the power company that are producers of revenue. Are there any other sources of income to either the U.S. Government or to you acting with somebody else? I have in mind, for example, are there any royalties paid in from any of the industries in American Samoa?

F. BARSTOW GRANT

Governor HAYDON. The only source of revenue not indicated in this budget is a grant of $45,000 by the private foundation, the Frederick Barstow Foundation.

Mr. MCDADE. What is that grant for?

Governor HAYDON. All for educational purposes. It is a private grant. Their young son lived in Samoa and the parents have set this fund up.

Mr. MCDADE. Is this utilized at your discretion?

Governor HAYDON. No, sir. They have a committee and it has given us $15,000 for early childhood education and $30,000 for the community college development.

The royalty situation exists in that it is the income tax they collect from the tuna canneries, which is our large source of corporate income. It isn't the royalty system. They pay U.S. corporate income tax related to Samoa. If we found additional industries that take advantage of this, they would be paying corporate income tax and rental basis, and so on, and reimburse us.

Mr. MCDADE. Thank you very much.

Mrs. HANSEN. Governor Haydon, I want to congratulate you again for the excellent presentation. And Mrs. Farrington, I want to thank you for the very fine preparation of the justifications.

Governor, I want to congratulate you for the excellent job that you are doing. I am very proud that you are from my home State. I am looking forward to coming out to Samoa. I do want to extend again my thanks to you, and to your staff, and to the distinguished gentlemen from the Legislature of Samoa.

We will look forward to seeing you again. It is our hope that some of the members of the committee will get out of our own districts and visit your very beautiful island.

Mr. LOESCH. Madam Chairman, may I say on behalf of the Department that we,too, are extremely proud of the job that Governor Haydon is doing. We are most pleased with the obvious increase in efficiency in the various departments of his domain. We look forward to a good deal of progress in American Samoa during his time as Governor.

Mrs. HANSEN. Mr. Haydon is a fine example of a very topflight public official.

Mrs. FARRINGTON. He certainly is.

Mrs. HANSEN. We are very proud of him. I know my State is very proud of him.

Governor HAYDON. I appreciate your comments, Mrs. Hansen. I like to work hard, but I would like to say this, that I have got some wonderful guys who have come out to work for me, with me, and I have some wonderful men to work with in the Samoan Legislature and the Samoan people. Without them nothing could be done.

Mrs. HANSEN. I understand government is always a cooperative business, but some people are more cooperative than others. I think it takes a special kind of person to get the kind of cooperation that you have.

Governor HAYDON. We appreciate your sympathy and your interest in having this hearing today. It is an educational process for me, as you know. I have appeared before congressional committees before as a witness, but I have never been in a hearing. And I learned a great deal today. I wish I could be more responsive more quickly.

Mrs. HANSEN. Mr. Reifel?

Mr. REIFEL. Thank you, Madam Chairman.

Governor Haydon, I sat here as often as I could be here during the testimony presented by you and your staff. I am amazed at the information you have about American Samoa on your fingertips, even though you say you didn't have it all there as you would have liked to have had it. It is one of the best presentations it has been my pleasure

to hear. I have had some good friends out there, including Rex Lee. I don't think Rex did any better.

Governor HAYDON. I appreciate that. It is a very famous name in Samoa.

Mr. REIFEL. I do want to congratulate the American Samoan people and ourselves for having someone of your dedication and interest working with the people of Samoa.

While I won't be here next year, Mrs. Hansen and the other members of the committee will continue to give you the kind of support that they have in the past. I am certain of that.

I want to express my appreciation to my friends, the Samoans who are here today. We had a little time to have lunch together. Maybe I can get out to American Samoa on my own sometime and return the favor.

Governor HAYDON. Congressman, if you are about to retire from active political activity, I can suggest no finer place to start enjoying yourself than American Samoa.

Mr. REIFEL. I have been there once.

Governor HAYDON. It is a wonderful place.

Mrs. FARRINGTON. Madam Chairman, may I express my very deep appreciation to you and the other members of the committee for your very sympathetic understanding of all of our problems. I too would add my little bit, to say that I think comparisons are odious. All I can say is I couldn't get any more cooperation from any Governor than I do from the Governor of Samoa.

Mrs. HANSEN. I am sure that it is true.

I would like to say, on behalf of myself and the committee, that we feel a deep responsibility to the people of Samoa. It is our aim to try and further the example of what American democracy should be.

So it is with that spirit that we are so grateful to have the participation of the Samoan Legislature.

Governor HAYDON. Could I make one little tiny responsive statement?

I have been trying to sell this philosophy as I have been privileged to meet at the White House conferences with Secretary Finch and Secretary of Labor Shultz, and so on, that the American system does deserve an opportunity to show that it can handle the developing nations properly. And there is no greater bargain available to the United States of America than American Samoa, which is small and by comparison with all other projects needs so little to bring it completely to fulfillment. It is the best bargain in America today.

Mrs. HANSEN. Off the record.

(Discussion off the record).

Mrs. HANSEN. Thank you again so much, all of you.

WEDNESDAY, FEBRUARY 25, 1970.

OFFICE OF TERRITORIES

WITNESSES

REPRESENTING THE OFFICE OF TERRITORIES, WASHINGTON, D.C., OFFICE AND VIRGIN ISLANDS:

MRS. ELIZABETH P. FARRINGTON, DIRECTOR
SAMUEL HELLER, ASSISTANT DIRECTOR FOR PACIFIC AFFAIRS
CHESTER B. LEEDOM, ASSISTANT DIRECTOR FOR VIRGIN ISLANDS AND LEGISLATIVE AFFAIRS
P. E. WINN, ASSISTANT CHIEF, DIVISION OF PROGRAMING AND FINANCIAL MANAGEMENT

REPRESENTING THE DEPARTMENT:

HARRISON LOESCH, ASSISTANT SECRETARY, PUBLIC LAND MANAGEMENT
RICHARD R. HITE, DIRECTOR OF BUDGET

Mrs. HANSEN. This morning we are glad to have before the committee the Office of Territories with Mrs. Elizabeth P. Farrington, the director, as the principal witness.

I give you a particularly warm welcome. It is a pleasure to see one woman appearing for Interior. I have wondered when they have this large fund of theirs for equal rights, exactly what they are doing with it because I never see any women appear as witnesses at these hearings. It is with extreme pleasure that I welcome you this morning.

BIOGRAPHY OF DIRECTOR

Will you please insert in the record your biography.

Mrs. FARRINGTON. Yes.

(The biography follows:)

MRS. JOSEPH R. FARRINGTON

Mrs. Joseph R. Farrington was recently appointed director of the Office of Territories in the Department of the Interior. In this capacity, the areas under her jurisdiction include Guam, American Samoa, the Virgin Islands and the Trust Territory of the Pacific Islands.

Her academic achievements include a B.A. in journalism from the University of Wisconsin and graduate work at the University of Hawaii. Mrs. Farrington began her journalism career with the Wisconsin State Journal of Madison, Wis., later serving as Washington, D.C. correspondent for a number of newspapers. She founded the Washington Press Service which eventually served 200 newspapers throughout the Nation. Early in her career, Mrs. Farrington developed an interest in national and international affairs, particularly in Pan-Pacific relations. In 1951 for her outstanding role in women's affairs, she was selected as one of the 10 most influential women in national politics and in 1952 was selected as one of the 12 most outstanding women in the Nation in any field of endeavor.

In July 1954 Mrs. Farrington was elected to succeed her late husband as Delegate to the Congress from Hawaii. In November, she was reelected for the full term of the 89th Congress. Among Mrs. Farrington's major efforts were her crusade for Statehood for Hawaii, the establishment of the Geophysics Institute in Hawaii and reapportionment of the territorial legislature. Mrs. Farrington returned to Honolulu in 1957 to become president and director of the Honolulu Star Bulletin, Ltd., Star Bulletin Printing Co., Ltd., the Hilo Tribune Herald, Ltd., the Hawaiian Broadcasting Co., and to become chairman of the board of the Honolulu Lithographic Co., Ltd.

Her many years of experience with the problems of an island people along with her close association with the U.S. Congress and many years as a newspaper woman and businesswoman make her exceedingly well qualified for the position she now holds, director of the office of territories.

General Statement of Director

Mrs. Hansen. Mrs. Farrington, will you please insert your general statement in the record and summarize it for the committee?

(The statement follows:)

Statement of Elizabeth P. Farrington, Director, Office of Territories

It is a pleasure to appear before you today to discuss our territorial budgetary needs. I would like to present for your consideration a brief summary of the funds that we believe are necessary to discharge the responsibilities of the office of territories for fiscal year 1971. The chief executives of Guam, American Samoa, and the trust territory are present and will explain in detail the budgetary requests of their respective areas.

ADMINISTRATION OF TERRITORIES

For the administration of territories appropriation, we seek $17.4 million in fiscal year 1971, which is $2.5 million more than the appropriation for the current fiscal year. This request provides increases for both Guam and American Samoa.

For Guam rehabilitation, we are requesting a total of $8.5 million for 1971, which is an increase of $1.1 million over the current fiscal year. This request will provide for: classrooms for elementary, junior high, and trade and technical, $7.2 million; commercial and industrial development, $1 million; and water and sewer, $0.3 million.

The request for American Samoa is $8.2 million, which is a $1.3 million increase over the current fiscal year. This proposed appropriation will supplement $6.8 million in local revenues and other Federal grants, for a total budget of $15 million, which will provide improvement programs in education, health, and economic development.

Finally, the estimate provides $661,000 in new appropriations for territorial support activities. This includes $569,000 for the Washington office; $52,000 for the Governor of Guam, for one-half year's support as the provisions of the Governor bill will become effective January 1, 1971; and, similarly, $40,000 for the Governor of the Virgin Islands, for only one-half year's support until January 1, 1971.

TRUST TERRITORY OF THE PACIFIC ISLANDS

With respect to the trust territory, I am sure you are aware of this administration's desire to accelerate development in that area. The fiscal year 1971 budget request of $60 million is an increase of $11.9 million over the current year appropriation. This request, plus the 1970 supplemental recently passed by the Congress, represents the initial implementation of the Secretary's new action program for the trust territory. The principal thrusts for 1971 are in operations with highest priority in education, transportation and communication, health and resources and development. The capital improvements program represents a net increase of $4.7 million over the current fiscal year.

GOVERNMENT COMPTROLLERS, GUAM AND VIRGIN ISLANDS

The fiscal year 1971 budget provides for a program of $257,000 for the Government Comptroller of Guam and $341,000 for the Comptroller of the Virgin Islands. The funds for these activities are provided under the provisions of Public Law 90-497 and Public Law 90-496, respectively, which will be transferred to the administration of territories appropriation for administration.

Mrs. Farrington. Madam Chairman, I do have a brief summary here of all of the items. Inasmuch as you have already heard, Samoa, I would like to save time by taking specific items. I think I will cover just our offices because you have heard in detail about Samoa.

Madam Chairman, I first would like to express my pleasure in appearing before you and such a sympathetic committee today.

TERRITORIAL SUPPORT ACTIVITIES

Actually, in this estimate we have provided you there is $661,000 in new appropriations for territorial support activities. This includes $569,000 for the Washington office, $52,000 for the Governor of Guam for one-half year's support as they will elect their own Governor this fall. And $40,000 for the same purpose for the Governor's Office in the Virgin Islands for one-half year's support.

COMPTROLLERS' OFFICES—GUAM AND VIRGIN ISLANDS

In addition to that, I would like to point out that the 1971 budget provides for a program of $257,000 for the Government Comptroller of Guam and $341,000 for the Comptroller of the Virgin Islands, and these funds for these activities are provided under the provisions of Public Law 90–497 and 90–496 respectively, and they will be transferred to the Administration of Territories appropriation for administration.

For any questions, I have my staff here, Mr. Stasko and Mr. Winn from the program planning and budget office and Mr. Leedom for the Virgin Islands and Mr. Heller for the Pacific area.

I have broken down here our office needs of $569,000. There is practically no change at all. We had a carry-over.

ADMINISTRATION OF TERRITORIES

Mrs. HANSEN. The first appropriation is Administration of Territories. At this time we will insert in the record pages 1 through 6 of the justifications.

(The pages follow:)

OFFICE OF TERRITORIES
ADMINISTRATION OF TERRITORIES

Highlight Statement

The major purpose of the Office of Territories is to assist in guiding the growth of the territories of the United States and the Trust Territory toward full economic and political maturity. Included in the appropriation are the Virgin Islands, Guam, and American Samoa. The government of the Trust Territory of the Pacific Islands, which is also under the supervision of the Office of Territories, is under a separate appropriation and is discussed separately in this presentation. All of these areas are in different stages of political and economic development. They are encouraged to and are constantly moving toward a greater degree of home rule and economic development.

The fiscal year 1971 budget request for the Administration of Territories totals $17,409,600. This includes $568,600 for the Washington Office. The request also provides $52,000 for the Governor of Guam, one half year's support as the provisions of the elected Governor bill will become effective January 1, 1971. Similarly, for the Governor of the Virgin Islands, $40,000 will provide for only one half year's support until January 1, 1971.

The fiscal year 1971 budget also provides for a program of $257 thousands for the Government Comptroller of Guam and $341 thousands for the Comptroller of the Virgin Islands. The funds for both of these activities are provided under the provision of P.L. 90-496 and P.L. 90-497 which will be transferred to the Administration of Territories appropriation for administration.

The proposed program for the Washington office in fiscal year 1971 remains at essentially the same level as in preceding years. The number of full-time permanent positions will remain at 32. However, as indicated in last year's budget, there is no prior year's unobligated carryover to reduce the need for obligation authority. The entire program for fiscal year 1971 must be financed by new obligation authority.

Guam Rehabilitation

The proposed appropriation for fiscal year 1971 totals $8,549,000, which is $1,115,000 increase over the current year. This request will support the following projects planned for 1971: classrooms for elementary, junior high, and trade and technical, $7,187,000; commercial and industrial development, $1,000,000; and water and sewer, $362,000.

American Samoa

The proposed appropriation for fiscal year 1971 is $8,200,000, which is a net increase of $1,264,000 over the current year. The budget for 1971 will provide improvement programs in education, health, and economic development.

Administration of Territories

Appropriation 1969	$ 13,747,000	
Second supplemental appropriation 1969	950,000	
Total available 1969		$ 14,697,000
Appropriation 1970		14,921,400
Transferred from "Internal Revenue Collections for Virgin Islands" (P.L. 90-496)		+ 292,700
Transferred from "Guam Sec. 30 funds" (P.L. 90-497)		+ 239,400
Total available, 1970		15,453,500

Summary of Increases and Decreases, 1971

	Base for 1971	Increase 1971	
Virgin Islands:			
Governor's office - Budget year estimate based on only partial year funding due to the Virgin Island's Elective Governor Act, P.L. 90-496	$ --	+ 40,000	
Comptroller's office-Funded by amount transferred as authorized by P.L. 90-496	(292,700)	(+ 37,300)	+ 40,000
Guam:			
Governor's office - Budget year estimate based on only partial year funding due to the Guam Elective Governor Act, P.L. 90-497	102,000	- 50,000	
Guam Rehabilitation-Funding for new projects	7,434,000	+1,115,000	
Comptroller's office-Funded by amount transferred as authorized by P.L. 90-497	(239,400)	(- 121,400)	+1,065,000

	Base for 1971	Increase 1971	
American Samoa:			
To provide for a net decrease in operating costs for the Governor's office, Legislative expense, and Chief justice and high court	401,755	- 26,392	
Net increase in Grants due to higher operating costs.....	6,534,245	+ 1,290,392	+1,264,000
General Administration:			
Operating costs increase for Washington Headquarters.....	449,400	+ 119,200	+ 119,200
Net increase, 1971 (New budget authority)			2,488,200
Budget estimate, 1971 (Appropriations requested)			17,409,600

ADMINISTRATION OF TERRITORIES
Analysis by Activities

Activity	Fiscal Year 1969 Amount Available	Fiscal Year 1970 Total Appropriation	Fiscal Year 1970 Unobligated Balances (FY 1969)	Fiscal Year 1970 Amount Available
1. Virgin Islands:				
(a) Governor's office	$ 100,550	$ --	$ 11,650	$ 11,650
(b) Comptroller's office	36,175	--	27,520	27,520
(c) Transfers to Comptroller's office (P.L. 90-496)...	210,704	292,700 1/	29,296	321,996
Subtotal, Virgin Islands	347,429	292,700	68,466	361,166
2. Guam:				
(a) Governor's office	103,164	102,000	2,123	104,123
(b) Loans	5,492,487	4,637,666	95,404	4,733,070
(c) Grants	2,669,769	2,796,334	103,902	2,900,236
(d) Transfers for Comptroller's office (P.L. 90-497)..	2,110	239,400 1/	160,090	399,490
Subtotal, Guam	8,267,530	7,775,400	361,519	8,136,919
3. American Samoa:				
(a) Governor's office	282,319	196,175	4,956	201,131
(b) Legislative expense	89,409	91,865	993	92,858
(c) Chief justice and high court	104,882	113,715	13,449	127,164
(d) Grants	8,000,818	6,534,245	1,529,547	8,063,792
Subtotal, American Samoa	8,477,428	6,936,000	1,548,945	8,484,945
4. General Administration	469,407	449,400	26,093	475,493
5. Other unobligated balances	--	--	183,200	183,200
Total	17,561,794	15,453,500 1/	2,188,223	17,641,723

1/ Includes new appropriations totalling $14,921,400 plus transfers under P.L. 90-496 and P.L. 90-497 amounting to $532,100.

ADMINISTRATION OF TERRITORIES
Analysis by Activities

Activity	FY 1969 Amount Available	FY 1970 Amount Available	FY 1971 Estimate	Increase (+) or Decrease (-) 1971 Compared with 1970
1. Virgin Islands:				
(a) Governor's office	$ 100,550	$ 123,500	$ 60,363	$ -63,137
(b) Comptroller's office	36,175	--	--	--
(c) Transfers to Comptroller's office (P.L.90-496)	210,704	310,634	341,362	+30,728
Subtotal, Virgin Islands	347,429	434,134	401,725	-32,409
2. Guam:				
(a) Governor's office	103,164	104,123	52,000	-52,123
(b) Loans	5,492,487	4,733,070	4,455,500	-277,570
(c) Grants	2,669,769	2,900,236	4,093,500	+1,193,264
(d) Transfers for Comptroller's office(P.L.90-497)	2,110	260,000	257,490	- 2,510
Subtotal, Guam	8,267,530	7,997,429	8,858,490	+ 861,061
3. American Samoa:				
(a) Governor's office	282,319	201,131	210,963	+ 9,832
(b) Legislative expense	89,409	92,858	--	-92,858
(c) Chief justice and high court	104,882	127,164	164,400	+37,236
(d) Grants	8,000,818	8,063,792	7,824,637	-239,155
Subtotal, American Samoa	8,477,428	8,484,945	8,200,000	-284,945
4. General Administration	469,407	554,000	568,600	+ 14,600
5. Other unobligated balances applied in FY 1971	--	171,215	--	-171,215
Total	17,561,794	17,641,723	18,028,815	+387,092

Analysis by Activities (con't)

The program of $18,028,815 for F.Y. 1971 includes $171,215 carryover from F.Y. 1969 and transfers authorized by P.L. 90-496 and 90-497 amounting to $448,000. This represents a net of $17,409,600 in new appropriations; there is a net increase of $2,488,200 over the amount available in the current fiscal year, exclusive of carryover totalling $2,188,223 and transfers authorized by P.L. 90-496 and 90-497 amounting to $532,100. The net increase for F.Y. 1971 is distributed as follows:

1. Virgin Islands:	
(a) Governor's office	$ + 40,000
(b) Comptroller's office	--
Subtotal, Virgin Islands	+ 40,000
2. Guam:	
(a) Governor's office	- 50,000
(b) Loans	- 182,166
(c) Grants	+1,297,166
Subtotal, Guam	+1,065,000
3. American Samoa:	
(a) Governor's office	+ 14,788
(b) Legislative expense	- 91,865
(c) Chief justice and high court	+ 50,685
(d) Grants	+1,290,392
Subtotal, American Samoa	+1,264,000
4. General Administration	+ 119,200
	+2,488,200

Obligations by Objects

11 Personnel compensation..	1,166,300	1,463,800	1,473,400	+9,600
12 Personnel benefits	92,445	126,610	113,478	-13,132
21 Travel and transportation of persons	63,700	86,000	68,300	-17,700
22 Transportation of things.	11,100	36,000	18,000	-18,000
23 Rent, communications, and utilities	51,750	70,000	67,000	-3,000
24 Printing and reproduction.....	18,250	20,000	17,000	-3,000
25 Other services	54,950	57,000	44,000	-13,000
26 Supplies and materials..	48,125	30,000	17,000	-13,000
31 Equipment	8,100	26,000	19,000	-7,000
33 Investment and loans....	5,492,487	4,733,070	4,455,500	-277,570
41 Grants, subsidies, and contributions	10,670,587	10,964,028	11,918,137	+954,109
96 Portion of foregoing obligations originally charged to:				
Object class 11	-109,000	-132,000	-169,000	-37,000
Object class 12	-7,000	-10,000	-13,000	-3,000
Total obligations..	17,561,794	17,470,508	18,028,815	+558,307

PERSONNEL SUMMARY

	1969 actual	1970 estimate	1971 estimate
Total number of permanent positions	94	94	94
Full-time equivalent of other positions.	1	1	1
Average number of all employees	68	81	81
Average GS grade	10.3	10.4	10.6
Average GS salary	$12,967	$13,905	$14,711
Average salary of ungraded positions ...	$3,328	$3,350	---

GENERAL POLICIES WITH RESPECT TO GUAM, AMERICAN SAMOA, AND TRUST TERRITORY

Mrs. HANSEN. For various reasons, the South Pacific has taken on greater significance during the past few years. Actions taken today will have a material influence on the United States in the future. I think it would be well for you to describe, in specific terms, the general policies of the Department of the Interior with regard to Guam, American Samoa, and the Trust Territory.

TERRITORIAL AUTONOMY SOUGHT

Mrs. FARRINGTON. Madam Chairman, I would say that the policy of the Interior Department and the Office of Territories is to give as much autonomy as possible to the peoples of these territories of ours and also to the Trust Territory of the Pacific. In every way possible we are trying to make them politically, socially, and economically ready for whatever status they might choose.

STATUS OF GUAM AND VIRGIN ISLANDS

Of course, we know that the Guamanians and Virgin Islanders are already American citizens and I think that the record shows they are progressing very well indeed because they are asking very little now in the way of direct appropriations although they are not self-supporting by any manner or means because the Federal taxes are not taken from them. However, they have gotten to the point where they do not have to ask for so much in appropriations and we hope we can do that same thing for Samoa in the next few years.

With the very dramatic programs that the Governor of Samoa has initiated, I think that much can be done there also.

The Trust Territory is a little different in that it is probably the most underdeveloped of the areas we administer, but as you know, it is a trust agreement from the United Nations.

So the cost of this territory cannot really be determined until the peoples of the territory themselves determine their political status. We are now working very arduously with them and Mr. Loesch, I think, I would rather have speak to that, but we are in some kind of negotiations with them trying to learn from them what their wishes are in the next few years as to the direction they will take. But in the meanwhile we have a very important priority program for the Trust Territory in which we hope we can create a favorable political climate so they will continue to want to follow the course that their own political status commission has suggested after their travels, and their Congress accepted in principle. Their first choice was to have a full but free association with the United States.

CHOICE BETWEEN INDEPENDENCE AND FREE ASSOCIATION WITH THE UNITED STATES OF AMERICA

Their second choice was independence. My personal opinion is that with the proper attention to these people which we would give them under any condition regardless of which way they went, certainly the

United States would do nothing more than give them the best they could but there is much to be done in all of the territories.

This is a personal opinion of mine; I am sure it will not be contradicted by any of my superiors. I would like to see great emphasis in all of the territories placed upon the problem of potable water and sanitation. It seems to me until we can do more about that than we are doing, the other things are almost futile. There is no use to educate a child whose whole body is full of worms and diseases. But to me that is just essential.

I would just like to see more and more emphasis put on it.

Mrs. HANSEN. Mrs. Farrington, I compliment you on that statement because this is something that also disturbs this committee. As you are well aware, the committee has listened year after year to extensive plans and programs for rather spectacular achievements, when it seemed to this committee that the basic needs were very simple. The problems of water and sanitation, schools, roads, and pollution, are basic to the lives of these people, and without them, very little advancement can be expected.

Yesterday's film on American Samoa was a dramatic illustration of some of the spectacular achievements that you have made in certain fields, but at the same time it called attention to some of the very simple projects that have been left undone.

CHANGES OF NEW ADMINISTRATION

The new administration has been in office a little over a year. Please describe for the committee any major changes you have made to date with regard to the administration of the territories.

Mrs. FARRINGTON. In the Office of Territories itself, there has been no change so far as staff is concerned except by attrition when somebody has resigned. But I do think there has been a great change in the spirit of the place. I feel so anyway, in looking over it and reading the record of the past.

We have tried to accelerate, I would say. It is not so much a change, it is an acceleration of the things that are being done, especially in the Trust Territory.

You are familiar with the fact the Secretary did go out himself last May and made a speech at that time and made this a priority.

GUAM AND VIRGIN ISLANDS

ALIEN LABOR PROBLEMS

There are several things that are problems that need attention. Certainly the political status is the first thing we are considering in the Trust Territory, but when we get to the other territories, beside the potable water and the sanitation, we have problems, not exactly alike, but in Guam and the Virgin Islands we have the alien labor problem. We must do something about that and I think we are studying that now to a greater degree than in the past. That is one. We have not accomplished anything yet.

I attended a conference on the alien labor problem in the Virgin Islands not long ago. It has really become acute. For some years, as I understand it, the labor came in, needed by the developers there

and contractors, and they would come in without visas and apparently as a visitor to look for a job, and they would stay and then their families would get in the same way.

So now the figure given out—and this is very rough—50 percent of their labor population is alien and it is creating trouble.

Mrs. HANSEN. From what countries?

Mrs. FARRINGTON. The little islands in the West Indies that do not belong to us, and those that have their independence.

Mrs. HANSEN. Are these countries that have achieved independence?

Mrs. FARRINGTON. Yes; they come in from there. But no matter how low their standard of living is in the Virgin Islands, it is better than where they came from. So they come and stay and live in the terrible slums and homes, sometimes 20 in a little cabin. Ten work at day, 10 work at night.

I went around and saw the places. The conditions are terrible. Governor Evans is doing everything in his power to correct that, and had this conference. They have gotten out of hand. They are demanding everything.

I think many members of the conference that attended were aliens and they passed a resolution we could not stop—all of us from here that went down there—demanding that five, I think it was, or six aliens should be elected to the territorial legislature with voice but no vote.

Mrs. HANSEN. They are not citizens of the Virgin Islands?

Mrs. FARRINGTON. No; but these are the kind of demands they are getting from the aliens. And that the Governor should appoint on every commission at least one alien and that the police force should employ aliens. This is the sort of crisis it has come to. And it has overtaxed, of course, the utilities, it has overtaxed the schools. They are not supposed to take alien children.

Mrs. HANSEN. The Department of Immigration could solve this problem quickly, could they not?

Mrs. FARRINGTON. Certainly, and this is exactly what I said down there. They are the ones that can do more than anyone else. The contractors and dealers scream.

Mrs. HANSEN. What does this do to the labor supply on the island itself? Aren't there enough people on the island to supply the needed labor?

Mrs. FARRINGTON. There are not, apparently. Most of them are working for the government; I guess a lot of them. I am not too familiar with the statistics in this matter. But the thing that should be studied and determined, in my opinion, is whether or not the officials responsible in the Virgin Islands have made an honest study to find out if they can get labor from the continental United States and Puerto Rico who are American citizens. They claim they cannot get them; they will not come there and live under the existing conditions.

CONTINUAL LOWERING OF LIVING STANDARDS

Mrs. HANSEN. Does this influx of labor lower the labor costs on the island?

Mrs. FARRINGTON. Yes.

Mrs. HANSEN. So the lower labor costs continually brings the standard of living down?

Mrs. FARRINGTON. Yes. It is a very bad situation and this conference was to come up with some recommendations that would go to the territorial legislature, which in turn would recommend to the Governor some cures for this.

I do not know how much further they have gotten on the matter. But it is something that needs very great study.

As I started to point out, that is one of the problems.

GOVERNMENT ETHICS PROBLEM

Another problem that I think we have been faced with but I do not think this is any place much to talk about it except to name it, and it is a very delicate subject, but it is just plain ethics in Government, not in the administrative side but the legislative side.

Their standards of ethics, conflicts of interest and so forth. I do not know what can be done about that. We try in our own State legislatures and we try in our Congress of the United States, so I do not know what we can do with the Virgin Islands. They have to do it for themselves.

Mrs. HANSEN. Are they trying to solve the problem?

Mrs. FARRINGTON. I have not seen any evidence of them trying to attack it. We have been trying to find ways we might but I do not know how far we will get in the matter. We cannot do anything unless we find something that is absolutely wrong and then we can do something about it. It has to be an overt act practically before we can do anything.

TASK FORCE STUDYING PROBLEMS IN VIRGIN ISLANDS

Mr. LOESCH. If I could interject at this point, Madam Chairman, I might say that the entire range of problems in the Virgin Islands is presently being examined by a task force, sort of an ad hoc committee, headed by Mr. Bell of the White House and it has included the Department of Justice, Commerce, Treasury—via IRS—and Interior. There may be one or two other agencies involved. The question of immigration is being directly addressed.

I hope we will have really substantive things going very shortly. The Justice Department particularly has been very much interested. While we do not have anything to report to you at the moment, I expect before long there will be some rather extensive steps taken.

Mrs. HANSEN. It can easily be seen what can happen on the Virgin Islands to the standard of living with the influx in the labor market. We have had the same problem in the United States.

Mr. LOESCH. This is a very complex matter. The islands of other nationalities are close by and it is comparatively easy for these people to slip in and, of course, disappear, more or less. It takes quite a force of immigration people to really do something about it.

In addition, as Mrs. Farrington has said, in the past very little attention has been paid to this. People come in on visitors visas and then illegally get jobs and just stick around and sometimes they are picked up and sent home and they will be back in a week. Wholly illegal, the same as the wetback problem was years ago. It complicates all other governmental matters down there.

The infrastructure is not sufficient really to handle the population at the present time. If the aliens were eliminated, it would come far closer at least to that, but it would cause a lot of dislocation.

A number of Virgin islanders are just not all that enthusiastic about some of the jobs which the alien laborers gratefully take. There is a white collar syndrome, you might say, down there, which complicates the question as far as the islanders themselves are concerned.

TERRITORIAL STUDIES BEING CONDUCTED

Mrs. HANSEN. During the past year, the Office of Territories has made several studies both in-house and with consultants on the administration of the territories.

Please insert in the record a listing of such studies or reviews indicating who performed them, the scope of their coverage, and the major recommendations.

You might also include for the record how many of the major recommendations have already been adopted.

(Note: The Department failed to supply information in time to be included in printed record.)

TRADE BETWEEN TERRITORIES AND UNITED STATES

Mrs. HANSEN. What developments have been achieved during the past year to facilitate trade between the territories and the United States?

Mrs. FARRINGTON. I do not know the answer to that question, frankly, Madam Chairman: you mean all territories have the same privilege of the custom of coming in with only $200 and that sort of thing. Are you talking about tax incentives for them?

Mrs. HANSEN. I am talking about any activities that have taken place in the Department which have stimulated any additional trade between the territories and the United States.

Let me give you an example. There has been legislation introduced which would curtail the fishing industry in American Samoa.

Certainly the passage of such legislation would be extremely detrimental to the further development of the economy of American Samoa.

VIABLE ECONOMY NEEDED IN THE TERRITORIES

What has happened, if anything, during the past year betwen the rest of the territories and the United States to either curtail trade or to improve trade? The constant goal of the Congress of the United States is to do what it can to make sure that the economy is viable in these territories.

Mr. LOESCH. Madam Chairman, I do not know the answer to that question either.

DEVELOPMENT OF TOURISM

Mrs. HANSEN. Have you developed any additional tourism?

Mr. LOESCH. That we have done. Of course, speaking quite frankly, I have very little personal knowledge of what happens in Samoa.

I am greatly enthusiastic about our Governor down there and as far as the Secretariat is concerned, we have left things pretty much up to Governor Haydon, giving him support at all times when requested.

I have devoted a great deal of my time to the Trust Territory, and in that respect, as you are aware, Continental Air Micronesia has extended its route and is serving the entire territory now by jet airplane. You will hear during the trust territory hearings detail on this.

Mrs. HANSEN. Are you going to get into the same type of situation with respect to hotels as you did in American Samoa?

Mr. LOESCH. I assure you, while we are getting into the hotel business, it is by no means on the same terms as the Samoan matter. I think it will be of great commercial benefit to the TT. Tourism is increasing rapidly in the Trust Territory at this point, primarily from Japan.

On my trip out there, I was struck with the numbers of Japanese tourists that are encountered in the Palau District particularly. It is still awfully far away from here. Beyond that in the Trust Territory, there is quite a ferment going on in the fishing industry.

INDUSTRY IN VIRGIN ISLANDS

Mrs. HANSEN. I am trying to get the analysis of the overall territorial administration at the present time.

Mrs. FARRINGTON. Madam Chairman, I cannot answer it very well, but take, for instance, in the Virgin Islands I think Mr. Leedom could tell you a little bit. There is the watch industry they are encouraging there and apparently there has been so much increase in tourism and construction and building for the tourists that at this conference I attended, it was seriously considered, even by the Governor and a lot of people, whether they should not curtail the growth, it was growing too fast to keep up with it.

AMERICAN AIRLINES EXTENDING ROUTES TO SAMOA

Then, of course, out in Samoa we have had a new airline that has not started yet, but American is going in there, which should stimulate tourism. They do not have the hotel rooms yet. They have had all sorts of promises.

To get to Guam, I understand the Governor is here to testify. I would like to go back to finish the alien problem. I did not get to Guam on it.

Mrs. HANSEN. Please do.

LABOR PROBLEMS ON GUAM

Mrs. FARRINGTON. It is a totally different thing in Guam where they really need the labor, but the question there is whether to bring them in from the Philippines and Korea as they have done or to train their own Guamanians. There is a group of people that think they should train their own Guamanians and also turn to Micronesia. None of them are skilled now, but they could train them. But there is great pressure on the Governor now to bring these people in. They have had one sorry experience bringing in one group of Koreans but that does not mean it applies to all of them.

One contractor takes advantage. They are supposed to pay the minimum wage but really do not.

They do need the labor, but it has not created the kind of slum conditions that have been caused in the Virgin Islands at all.

LAND ACQUISITION BY THE MILITARY

Another problem I wanted to point out, which is always a serious problem in all territories, is the acquisition of land by the military, and that applies especially in Guam where there is a very important military establishment, as you know, and it is proper there should be. There will be a confrontation very soon, I think, between the Navy and the administration over Sella Bay which they are anxious to get. We are praying the Defense Department will not have the money and that will keep them from it.

Mrs. HANSEN. In other words, increasing military land acquisition is limiting the necessary space the Guamanians need for economic development?

Mrs. FARRINGTON. Yes, and their beaches and what they need for themselves and for tourism too.

I do not know whether Mr. Leedom might have something to add about the watch industry.

PROMOTION OF TRADE

Mr. LEEDOM. Not at the moment I think.

As far as the question of what has happened in the last year to promote trade, I think as indicated nothing in the past year specifically by the Government has been done to promote trade. There has been the expansion of air service, Guam has had the closer contact with Japan through increased flights. The watch industry has been going in the Virgin Islands and in Guam now for some 5 years, and continues to grow.

It is a very useful economic feature and does develop in its growth an increased trade with the United States. But that is almost incidental.

Mrs. HANSEN. Thank you.

OIL REFINERIES IN THE TERRITORIES

Mrs. FARRINGTON. In Guam—Mr. Heller may be able to add to this—it is not due to anything we have done probably but because of the military we have had a new oil company refinery go in there. Several things have happened, but the military draws them.

Mrs. HANSEN. How many refineries do you have in the Virgin Islands and in Puerto Rico?

Mr. LEEDOM. In the Virgin Islands a single refinery. I cannot speak with respect to Puerto Rico.

Mr. WYATT. Is that the Hess Refinery?

Mr. LEEDOM. Yes.

Mr. WYATT. How is that doing? Do they get the necessary quota?

Mr. LEEDOM. While we do not follow its procedures or its progress on a day-to-day basis, I understand it is doing remarkably well. It did indeed get part of the quota it sought. Of 25,000 barrels a day finished product quota request, it got 15,000 barrels a day.

Mrs. HANSEN. Where are the Hess refineries located?
Mr. LEEDOM. There is one in Texas and one in New Jersey.

GUAM REFINERY

Mr. MCDADE. What is the refinery out in Guam?
Mr. HELLER. That is an independent refinery, which includes Guamanian investors plus some from Texas. It is not yet in operation.
Mr. MCDADE. Were they guaranteed a share of the import market to the United States?
Mr. HELLER. No.

GUAM TAX INCENTIVE PROGRAM

Mr. MCDADE. What inducements did the Government give them to locate in Guam?
Mr. HELLER. Tax incentive.
Mr. MCDADE. What kind?
Mr. HELLER. They get a tax rebate for about 10 years, 75 percent of the income tax.
Mrs. HANSEN. How much?
Mr. HELLER. We do not know yet because it is not in operation yet.
Mrs. HANSEN. Did the United States make an agreement with the government of Guam on tax incentives?
Mr. HELLER. The government of Guam.
Mrs. HANSEN. Is it better to question the Governor of Guam on that subject?
Mr. HELLER. That is right.
The government of Guam has its own local tax incentive program.
Mr. MCDADE. Where do they get the oil that comes in?
Mr. HELLER. I believe they have a contract with Esso to get it from the Middle East.

TARIFF SITUATION IN THE TRUST TERRITORY

Mrs. FARRINGTON. When it comes to the Trust Territory, I think there is one thing we have not done to encourage trade, but bills have been introduced in the Congress for free tariff.
Mrs. HANSEN. What are the present tariff arrangements in the Trust Territory?
Mrs. FARRINGTON. They pay the same as they offer the other countries.
Mr. LEEDOM. The existing tariff law has the Trust Territory as a foreign country.
Mrs. HANSEN. Is this because of the Trust Territory status as a mandated area?
Mr. LEEDOM. And because of the fact that no special concession has been made as has been made in the case of the territories.
Mrs. HANSEN. No special concession has been made because it is mandated?
Mr. LEEDOM. Yes.
Mr. LOESCH. Technically speaking, of course, it does not belong to us, we are simply managing it under the terms of a U.N. mandate so far as the State Department, for example, is concerned it is a foreign country. This is an anomalous situation.

Mr. WYATT. Perhaps this would be more properly covered under the trust territory, but right at this point, while the subject is up, one of our aims certainly is to promote some economic development in the Trust Territory and make their economy more viable.

Mr. LOESCH. That is true.

Mr. WYATT. I know there has been legislation proposed to give them the same tariff arrangement as American Samoa, particularly with reference to the fisheries. I understand it, the fish landed in the Trust Territory cannot be processed and landed on the mainland of the United States without duty.

Mr. LOESCH. This is correct. This is not the case with Samoa.

STATUS OF TRUST TERRITORY LEGISLATION

The Department strongly supports legislation to give the Trust Territory the same privileges as our other territories.

Mrs. HANSEN. Has such legislation been introduced?

Mr. LOESCH. Yes.

Mr. WYATT. I am not sure whether I introduced it or not. Has the administration taken a position on that legislation?

Mr. LOESCH. I can only speak that the Department has, I do not recall where it is.

Mr. WYATT. Probably buried over in the Bureau of the Budget.

Mr. LOESCH. I might be able to find out just exactly where it is before we get to the Trust Territory this afternoon or tomorrow.

Mr. WYATT. It would be helpful.

ALIEN LABOR

Mrs. HANSEN. I would like to ask Mrs. Farrington to continue her discussion of the problem of alien labor. Is the refinery using both alien labor and local Virgin Islands labor?

Mrs. FARRINGTON. I am not too familiar, I think they employ alien labor but also providing housing, I understand.

Is that correct?

HESS REFINERY

Mr. LEEDOM. When the Hess Refinery was undertaken, partly because construction labor in the Virgin Islands is nearly all alien and partly because when you are running a refinery you do not find in the Virgin Islands, for example, experienced oil refinery workers lined up for jobs, the initial hiring was very largely aliens both in construction and subsequently in the operating personnel.

Subsequently, in connection with the import quota which was issued by the Department of the Interior, the Hess management undertook to phase out aliens as rapidly as possible and over, I believe, a 3- to 5-year period get to 90-percent employment of U.S. citizens, which could be Virgin Islanders or, of course, mainlanders.

Mrs. HANSEN. How many jobs are actually there for the Virgin Islanders?

Mr. LEEDOM. I would not want to mislead you or to misstate, but it was anticipated it would produce in its final form as a petrochemical complex, I believe, 600 jobs.

Mrs. HANSEN. I think you want to make sure that the people in the territories have a high degree of opportunity to be employed, because one of the primary purposes of your Department is to abolish their poverty.

Mr. LEEDOM. If I might interject one further point on that, it was worked out in the agreement with the Hess refinery that they would conduct a training school for Virgin Islanders or for whoever applied. This was done. It was slow in getting off the ground.

They finally opened it though, and teach the basic trades; welding, electricity, several others. This is open to all comers and it has turned out several graduating classes now. There is no commitment that the graduate—I use the term loosely—work for the Hess Co., but that is the hope, of course.

Mrs. HANSEN. Will you insert in the record what percentage of the training school graduates have been employed by the Hess Co.

Mr. LEEDOM. We will try to obtain that information.

(The information follows:)

Since this program was begun, 246 persons have enrolled for training at the Hess Vocational School. While many of the persons initially enrolled subsequently dropped out, 102 persons have been graduated. The Hess Co. has employed 33 percent of those persons graduated.

ROYALTIES PAID TO THE VIRGIN ISLANDS GOVERNMENT BY HESS OIL CO.

Mr. MCDADE. Mr. Leedom, is it correct that as part of the agreements that were made to set up the Hess Oil Refining Co. and guarantee them a part of the U.S. market that the Hess Oil Co. would pay a royalty on the amount of oil refined in the Virgin Islands and shipped to the United States?

Mr. LEEDOM. The royalty was an arrangement in the contract between the Government of the Virgin Islands and the Hess Oil Co. It was, in effect, the consideration for the local government supporting the Hess application for an import quota.

The agreement provided Hess would pay a royalty to the local government of 50 cents per barrel for every barrel of quota it got.

Mr. MCDADE. How much each year?

Mr. LEEDOM. Approximately $2.7 million.

USE OF ROYALTY FUNDS

Mr. MCDADE. Is it not true that fund is supposed to be earmarked for conservation purposes?

Mr. LEEDOM. It is so earmarked by an act of the legislature of the Virgin Islands.

Mr. MCDADE. So it is earmarked for conservation purposes and it is $2.7 million per annum?

Mr. LEEDOM. Yes.

Mr. MCDADE. Is it also correct that the Secretary of the Interior has a veto power on the usage of those funds?

Mr. LEEDOM. Yes. The legislature of the Virgin Islands, when it enacted the Conservation Fund Act, copied into the local law a comparable provision of Federal law in another context, which does pro-

vide that the money cannot be obligated or spent without the approval of the Secretary of the Interior, which gives the Secretary, in effect, a review role with, in fact, veto authority.

Mr. LOESCH. May I interject?

Mr. MCDADE. Please do.

Mr. LOESCH. That the Secretary also has a representative appointed by him on the board of trustees of the trust fund.

Mr. MCDADE. In other words, the $2.7 million on an annual basis is administered by a trust fund, and one of the trustees is an appointee of the Secretary of Interior.

Mr. LOESCH. That is correct.

Mr. LEEDOM. There is an advisory board.

Mrs. HANSEN. How many are there on the advisory board?

Mr. LEEDOM. It is a three-member board, again a creature of the legislature of the Virgin Islands.

Mr. MCDADE. Who are the other two?

Mr. LEEDOM. The intent here was to take into account the fact that the legislature may appropriate and the Governor may approve and the Secretary has the veto authority. So you could have differences after the fact. It was unfortunate in one instance when we had a rather substantial difference of opinion between the local government and Secretary of Interior after the money had been appropriated and the Governor had approved it.

So the advisory board was after the fact, it was a recent addition. It has three members, one appointed by legislature, one by the Governor of the Virgin Islands, and one by the Secretary of Interior.

Mr. MCDADE. Set up in what year?

Mr. LEEDOM. In the fall of 1968.

Mr. MCDADE. Which would try to make recommendations apparently of a unanimous nature?

Mr. LEEDOM. Right.

They would consider proposed projects, perhaps originate ideas of how the fund might best be used. They would serve as sort of negotiating body if need be.

Mr. MCDADE. How many years has this fund been operating at an annual rate of $2.7 million?

Mr. LEEDOM. The first payment was made in July of 1968. The payments are made semiannually so fiscal year 1968 was the first year.

Mr. MCDADE. So we have been through at least 3 fiscal years of operation?

Mr. LOESCH. It is fiscal year 1969.

Mr. MCDADE. Fiscal 1969 and 1970, coming into 1971.

Mr. LEEDOM. We are in the second year now.

Mr. MCDADE. Have all of the funds in the escrow account, or whatever one might term it, been expended?

Mr. LEEDOM. They have very nearly all been appropriated.

Mr. MCDADE. Is there any accounting at all by the Secretary of the Interior to this committee as to how the funds are spent?

Mr. LEEDOM. Not that I am aware of, this being really a local proposition.

Mr. MCDADE. A local proposition based upon the guarantee of a quota on crude oil into this country.

Mr. FLYNT. Will the gentleman yield at this point?

Mr. MCDADE. Yes.

Mr. FLYNT. You asked had they been expended. Mr. Leedom replied they had been appropriated. They are two different things.

Mr. LEEDOM. They have been appropriated, approved in large part, they have not yet been obligated or expended. They have not been obligated to the extent that they have been appropriated.

USE OF ROYALTY FUNDS FOR VIRGIN ISLANDS SEWER SYSTEM

For example, recently the Secretary approved some $3 million for sewage systems improvement out of the fund in the Virgin Islands. They will not go to contract on that and obligate the funds until June and then Fall, two separate contracts.

OTHER COMPARABLE SOURCES OF INCOME TO VIRGIN ISLANDS

Mr. MCDADE. Are there any other comparable sources of income to the local government as a result of commercial activities analogous to this in the Virgin Islands?

Mr. LEEDOM. Sir?

Mr. MCDADE. Are there any uncommercial activities that result in the receipt of funds by the local government analogous to this, foundations, or what have you?

Mr. LEEDOM. Not that I am aware of.

Mr. MCDADE. What I want to know really is, and let me try to phrase it as broadly as I can, are there any other receipts of funds either to the Virgin Islands Government or U.S. Government acting as agent for or partner with the local government flowing in in any analogous situation to the Hess Oil?

Mr. LEEDOM. No, sir; but I am going to qualify it.

The College of the Virgin Islands is the recipient of grants, gifts and this sort of thing. So that has to be perhaps taken into account. There have been a number of people who have been very generous with the college of the Virgin Islands.

Mr. MCDADE. These would be private, of a noncommercial charitable nature?

Mr. LEEDOM. Yes.

Mr. MCDADE. But it is a correct statement to say from a commercial standpoint the only funds of this nature is the Hess Oil account. Is that right?

Mr. LEEDOM. Right.

Mr. LOESCH. In the Virgin Islands?

Mr. MCDADE. That is the next question.

Are there any other funds of this nature that exist in any of the other territories under the jurisdiction of the Office of Territories?

PUERTO RICO TRUST FUNDS

Mr. LOESCH. No. I was thinking of Puerto Rico, which is, of course, a commonwealth and not under the jurisdiction of the Office of Territories. There is such a fund there.

(Discussion off the record.)

AUDITING BY COMPTROLLER OF VIRGIN ISLANDS

Mrs. HANSEN. Mr. Leedom, what is the policy of the Comptroller of the Virgin Islands in regard to auditing the books of private companies?

Mr. LEEDOM. To the best of my knowledge, the Comptroller of the Virgin Islands does not audit company books as such. His charter from the Congress——

Mrs. HANSEN. Would the provision for auditing company books lie within the jurisdiction of the Virgin Islands Legislature?

Mr. LEEDOM. The agreement with the government, I believe, provides for reasonable access to the records of the company to verify terms of the contract and this sort of thing.

Without knowing, I would speculate that it is perhaps also within the province of the Office of Oil and Gas, the Administrator of the quota, to verify the terms and conditions of the quota.

Mrs. HANSEN. I am speaking about funds that go to the Virgin Islands for conservation.

Mr. LEEDOM. That would be the function of the local government.

Mrs. HANSEN. Is this under the direct supervision and jurisdiction of the Virgin Islands Legislature?

Mr. LEEDOM. Yes.

Mrs. HANSEN. Thank you.

Mr. LEEDOM. The Virgin Islands Comptroller, when he audits in this area, would audit the local government's account involving the fund. Once the conservation fund gets into the local government, then it is subject to audit by the Government Comptroller—the utilization and expenditure.

Mrs. HANSEN. This is exactly the question I wanted clarified. Is the audit function the responsibility of the territorial legislature, or the U.S. Government?

Mr. LEEDOM. It depends upon the point at which we want to verify the fund. To the extent of verification of the company's payment, in accordance with the terms of the agreement, the local government would be responsible for verifying that it gets what it is entitled to. Once it gets the money, then the Federal Comptroller can have, and has, the responsibility to audit the handling of that account, just like every other fiscal transaction.

Mrs. HANSEN. Thank you very much.

POLITICAL SITUATION IN MICRONESIA

Mr. Loesch, to the extent you can, for the public record, please summarize for the committee your analysis of the current political situation in Micronesia; especially with regard to local feeling on what the future association with the United States should be.

Mr. LOESCH. Well, Madam Chairman, of course that is a tough one for the public record, inasmuch as we are presently involved in what I would call an early round of negotiations.

I am chairman of a sort of ad hoc, interagency committee of the U.S. Government which is presently talking—I would rather avoid the word "negotiating"—with a delegation which consists of a large part of the Status Commission appointed a couple of years ago by the Congress of Micronesia. The delegation came to Washington

last October for talks concerning the future status of the Trust Territories, and we spent approximately 3 weeks in getting to understand each other, more than anything substantive, and determining where the really difficult points were going to emerge.

Following that, I delivered to the Status Commission delegation on my trip to Micronesia in January of 1970 a draft discussion document outlining and being as responsive as we could to certain of these sensitive points, the central one of which appears to be the question of land out there.

We had committed in January that the next round of talks would be held in the Trust Territory, and this round is presently scheduled to commence out there on March 23, as soon as I finish my budget hearings, Madam Chairman.

I don't like to delineate the provisions that we are discussing. I would say that, in the first place, the Status Commission or delegation has no authority from the Congress of Micronesia to enter into any agreements, so that this whole matter will be referred to the Congress of Micronesia.

Our intention and hope is to have the Status Commission make a recommendation to the Congress before the Congress meets next July.

The Micronesians are not of a mind to be hurried into a decision, and I don't believe that we will have necessarily a definitive idea at the end of the 6-week session of the Congress of Micronesia next summer as to where we are going to go.

I had what I consider to be a very successful trip to Micronesia in January. I left here on the 30th of December, spent at least 2 days in every district except the Marshalls, from which I was precluded by the plane schedules, talked to all of the local legislatures, as many committees of the local legislatures and as many civic and other organizations as wanted to talk to me.

Primarily this was discussion of administration policy and action programs. I did not discuss the status matters because I felt precluded on account of we were discussing it with the status delegation, until I got to Saipan toward the end of my trip, at which point I had a meeting with the Status Commission and one or two others who customarily sit in on their discussions, namely, the President of the Senate and the Speaker of the House of Representatives of the Congress of Micronesia and their legislative counsel. We tabled at that time a document I have mentioned. They request that we have their reactions prior to the March 23d talk. I received a dispatch here just a very few days ago, indicating that we would have their comments within the coming week.

I found a great responsiveness among the Micronesian people to the present policies of the administration and a realization that the Congress of the United States has been generous and that we are actually progressing on our program matters.

I wouldn't like to forecast how we are going to come out on these discussions. Of course, you recognize that there are in some respects overriding national security matters which give us an irreducible minimum as to how we can negotiate.

It appears to me that in due course, if we don't push too hard, we will wind up with an arrangment that the United States can live with. But I do not make any guarantee in that regard.

The options, of course, are fairly restricted. The status could remain in effect for an indefinite period, which presents problems with the United Nations and problems of another nature. The territorial status is certainly not altogether satisfactory to some members of the delegation that I have been discussing this with. So I just couldn't forecast at the moment where we are going to come out. I think I will know a lot more by the end of March.

Mrs. HANSEN. Thank you very much.

INVOLVEMENT OF TERRITORIAL LEGISLATURES IN FORMULATION OF BUDGETS

This committee has noted indications in the past that the Samoan Legislature was not entirely satisfied with the procedure that was followed in the formulation of the budget estimate for American Samoa, especially with regard to the allocation of local funds. What action has been taken in this connection, if any, and what has been achieved?

Mr. LOESCH. Madam Chairman, if I could respond to that, not only on Samoa but elsewhere, it is certainly the policy and, to my knowledge, it is being carried out—that in both American Samoa and the Trust Territory of the Pacific Islands, the legislature is to be fully involved in the makeup of the budget. It appears especially with regard to the Trust Territory that, in the past, the Congress of Micronesia has pretty well been furnished a budget and has operated as more or less a rubber stamp on the thing.

We, early last year, took steps to see that the Congress of Micronesia became thoroughly involved in the budget processes from the very beginning. And this was successful.

Mrs. HANSEN. I see you have taken the advice of this committee.

Mr. LOESCH. Yes, ma'am. Not only did we manage to get that fairly well implemented, you recognize that last year was sort of an off schedule year in some respects. We were pleased by the flexibility of the administration in allowing us to get our Trust Territory budget in late. We didn't have this in until September, I think. This allowed us time to get the people involved. The Congress of Micronesia was responsible by appointing a joint budget committee which operates during the time that the Congress is not in session.

I think we got a good start on it. We have expanded that this year to encourage the local legislatures to get into this and the districts to get into this process early. This is why it was absolutely necessary for us to obtain the permission to allow the figures of the administration budget for 1971 to be made known as early as possible.

Presently, the local legislatures are developing what they consider to be the priorities in their districts on the 1972 budget. Now, this is a very tight schedule. We have got to have that information back here the first of April. I can't guarantee how far the process will go or how effective it will be this spring. But it is in hand and I must say the reaction of the local people is great on this.

I think that, in coming years, by next year it ought to be fully implemented at all levels. I am proud and pleased at what we have done on it.

I may say at this point, Madam Chairman, in connection with the policy of the administration concerning the Trust Territory, that we have made a very sincere effort, from the Secretary through me, the Office of the Territories, the High Commissioner, all the way, to see to it that there is a more equitable separation of powers more or less on the line of our own government, so that the legislatures have more input, more authority, and that the administration of the Trust Territories themselves be more flexible and more decentralized, so that it can be responsive to the different requirements of the different districts.

This has been a little hard to do. People get in habits and they are a little difficult to move out of their ruts that occur on account of the habits. But I believe we are making really good progress on that, I am happy to say.

U.S. TRUSTEESHIP IN THE PACIFIC

Mrs. HANSEN. Briefly summarize for the committee the last report that was made to the United Nations on United States' trusteeships in the Pacific.

Mrs. FARRINGTON. Very briefly, Madam Chairman, I think the report that was made was factual.

First of all, the High Commissioner did report about the Secretary's trip out there and the promises that he had made at that time. Because the High Commissioner had just taken office, he had not had time to implement the promises yet, but said that was what he was going to do. He contrasted that to the year before with what they hadn't done but what they were going to do.

There wasn't so much change in this as it was just an acceleration of things, and he pointed out that instead of just doing a lot of great big projects——

Mrs. HANSEN. I see you have read our committee's record.

Mrs. FARRINGTON. That is right.

SMALL PROJECTS TO BE EMPHASIZED

Mr. LOESCH. It has been our Bible, Madam Chairman.

Mrs. FARRINGTON. We were going to try to do little projects, to reach the hearts of the people—let's put it that way. It was a very, receptive group, I thought, there in the United Nations that listened, and the questions they asked were very sympathetic.

That is all I can say, that practically all it was is a promise that done by the teams in the Trust Territory?

MEETING WITH U.N. REPRESENTATIVES

They were on their way out for their inspection. They came here first, down from New York, and it was called a briefing session. Mr. Loesch attended. He might like to report on that.

Mr. LOESCH. You attended too, Mrs. Farrington.

Mrs. FARRINGTON. Yes, I know.

Mr. LOESCH. We had a general discussion with the Secretary to begin with in the Department. Then we moved over to the State Department for a day and a half of discussions and briefing of them.

They were, of course, much interested in the present condition of the status talks and the State Department was very reluctant to give information on that at this point, since we are in the middle of it.

In consequence, the delegation, which is chaired by a man whose brains I greatly admire—I forget his name, Rogers I think, an Australian, and he seems to be a brilliant person—left for the TT without much substantive knowledge of where we are in the status talks.

Mrs. HANSEN. Did you show Mr. Rogers the scope of the work being done by the teams in the Trust Territory?

Mr. LOESCH. Yes. That happened at one of the sessions that I could not attend, but we had the Navy people standing by and they did show up.

Mrs. HANSEN. What was the United Nations comment on this particular phase of the activity?

Mr. LOESCH. I don't know.

Mrs. Farrington, do you?

Mrs. FARRINGTON. I was there. They were very friendly and, indeed, thought it was a fine thing. I didn't get the slightest feeling from any of them that they saw a military aspect in it, but really it appealed to them the way we hoped it would. That was really to help the people.

Mrs. HANSEN. That is the substance of the question that I was asking.

MEETING ON PROBLEMS CAUSED BY TYPHOON IN YAP

Mr. LOESCH. I might just mention one thing that has happened. Just yesterday we had a typhoon that leveled Yap pretty well. We are thinking about this. We have a spare civil action team at the moment. We are reacting rapidly on this. It appears possible, this morning, that we can throw that spare team into Yap in an emergency thing, in addition to the team that is already there.

Mrs. HANSEN. I think your action in moving to meet these immediate problems is one of the things that has been lacking in the past.

Mr. LOESCH. Right. We are reacting very rapidly to this. Things are in motion this morning all over the Government. We have a $10 million emergency—what is it, the OEP, the Emergency Preparedness thing.

Mrs. HANSEN. I think you have to move immediately to correct these problems if you want the confidence of the people.

DESCRIPTION OF CIVIL ACTION TEAMS (NAVY SEABEES)

Mr. LOESCH. I have been in touch with the Defense Department before I came here this morning. They are going to let me know later in the day, and it may well be that we can have that extra team besides other emergency things.

Mr. FLYNT. What is the relationship between those civil action teams and the Seabees of the Navy?

Mr. LOESCH. That is what they are. They are 13-man teams headed by a commissioned officer and a chief, carrying 11 people skilled in the various trades, and each one is a specialist in one trade but they all have competence in all trades at the journeyman level. They are responsive not to the Government, not to the Trust Territory high commissioner nor to the district administrator. They are responsive to

the local legislature so far as determining what projects will be tackled in the respective districts.

These priorities are pretty much set by the people. In most districts they have a committee consisting of typically the speaker of the local legislature, the district administrator and the officer in charge. The officer in charge has nothing to say about the projects except as to whether his team can or cannot accomplish a particular project. The district administrator's sole function on this committee is typically to determine what coopertaion the Public Works Department, or anything else under his jurisdiction, can furnish to the team.

Mr. FLYNT. I would like to say that I hope you can get that extra team in there as quickly as you plan to.

Mr. LOESCH. I think, as the chairman suggests, the Defense Department is eager on this, and I believe we will be able to get it in very rapidly indeed.

There are, of course, other emergency steps that we can and are taking.

PRIORITIES FOR GUAM, AMERICAN SAMOA, AND THE TRUST TERRITORY

Mrs. HANSEN. Based on the budget estimate before us today, please outline for the committee the thrust of priorities for Guam, American Samoa, and the Trust Territory. Mrs. Farrington has already said that that thrust has been toward the basics.

Mrs. FARRINGTON. Yes. I tried to say what I thought would be basic, too. But we do have some more funds allocated to other projects, but that doesn't mean that they aren't going ahead with the water and the sewers too. It is the way it has fallen into place.

Mrs. HANSEN. But your major thrust has been on water, sewerage, health, education, and transportation.

Mrs. FARRINGTON. Yes.

Mrs. HANSEN. The very basic ingredients of lives.

Mrs. FARRINGTON. Correct.

CONSTRUCTION IN THE SOUTH PACIFIC

Mrs. HANSEN. The appropriation for 1970 and the budget estimate for 1971 both provide for considerable construction work in the South Pacific. To what extent is consideration being given to building these facilities sufficiently strong to resist typhoon damage?

Mr. LOESCH. If I may answer that, Madam Chairman, all of our governmental installations are now being built on a typhoon-proof basis. It seems more economical—and I am speaking from the long range view—to put in replaceable buildings. After all, the typhoon experience in any one area has been, on a historical basis, 20 or more years apart. In some few areas, consequently in order to get installations up in a hurry in response to immediate need, we are not going in that direction. But nearly all of our construction is typhoon-proof.

OTHER FEDERAL FUNDING IN THE TERRITORIES

Mrs. HANSEN. Funds provided under other Federal programs are available to these areas in the South Pacific. Describe for the committee the cooperation you are receiving from other agencies of the

Government in this connection, and indicate how effective the use of these other funds have been to date, with the exclusion of American Samoa which the Governor outlined in detail yesterday.

OTHER FUNDING FOR GUAM

Mrs. FARRINGTON. Mr. Heller can answer for Guam.

Mr. HELLER. In Guam the effectiveness of the Federal aid programs has been very evident. They get approximately $6 million a year. Not all of that is construction. A lot of it is operating funds. But they do participate in water pollution control construction funds as they have in the past.

They have now going in Guam an urban renewal project which deals with housing and urban development. They also get some sewer money from Housing and Urban Development. So it has been a very, very efficient and prominent program ever since the Guam Rehabilitation Act was passed, each year.

LIST OF FEDERAL GRANTS TO GUAM

Mrs. HANSEN. Will you please insert in the record a list of the average amounts of the grants?

Mr. HELLER. Yes. I believe the Governor has it, but I will put it in.

(The information follows:)

1969 Federal grants to Guam

Departments:	
Agriculture	$62,796.32
Civil Defense	19,111.00
Economic Opportunity Commission	962,448.38
HEW—Education	4,751,550.00
Guam Employment Service	99,491.00
Public Library	55,499.00
HEW—Public Health and Social Services	1,580,340.02
Land Management	91,253.00
Guam Economic Development Authority	25,500.00
Guam Housing and Urban Renewal Authority	342,218.47
Attorney General's Office	4,280.00
University of Guam	526,387.00
Total	8,520,874.19
Department of Agriculture	
Public Law 83-83, Smith-Lever Act extension program	8,781.82
64 Stat. 430; 16 United States Code, Dingell-Johnson Act (Fish restoration)	12,280.80
50 Stat. 917; 16 United States Code, Pittman-Robertson Act (Wildlife restoration)	12,291.78
Public Law 88-309 Commercial Fisheries Research and Development Act of 1964 as amended. Research project to determine feasibility of commercial fishing	28,595.57
Meat Inspection program 7 United States Code 450b; 34 Stat. 1260 as amended by the Wholesome Meat Act, 81 Stat. 584	846.35
Totals	62,796.32
Office of Civil Defense	
Public Law 81-920 financial assistance for emergency health measures, materiel facilities, equipment, training and education and for the salaries of personnel and administrative expenses	19,111.00
Total	19,111.00

Economic Opportunity Commission:	
Public Law 88–452, the Economic Opportunity Act of 1964, as amended:	
Conduct and administration	$59,345.79
Area opportunity centers	240,103.84
Job development and prejob training	24,254.44
Senior citizens	14,101.14
Neighborhood centers	14,694.00
Community organization	8,489.00
Housing services	12,560.00
Home management	4,407.00
Other health services	1,809.00
Cooperatives	9,555.00
Headstart, Departments of Education	463,336.79
Neighborhood Youth Corps	109,792.38
Totals	962,448.38
Department of HEW—Education:	
Public Law 89–10, the Elementary and Secondary Education Act of 1965, as amended:	
Title I:	
State administration	25,000.00
Assistance for educationally deprived children grants to State and local educational agencies for children of low-income families	585,129.00
Title II: School library resources	34,595.00
Title III:	
Precision English project	75,238.00
State administration	50,000.00
Production of innovation learning resources	106,312.00
Title V: Strengthening State department of education	75,743.00
Title VI: Grants to States for education of handicapped children	60,000.00
Public Law 89–313, amendment to ESEA title I: direct services to handicapped children	28,876.00
Public Law 85–864, National Defense Education Act:	
Title III: Administration and State supervision	4,000.00
Acquisition of equipment	50,000.00
Title V–A guidance, counseling, and testing	20,000.00
Public Law 87–415, the Manpower Development and Training Act of 1964, as amended: This grant has been earmarked for the following projects:	
Welder	6,073.00
Steno	13,730.00
Account clerk (on-going)	2,736.00
Steno	3,477.00
Supervision	17,299.00
Public Law 89–333, the Vocational Rehabilitation Act, as amended:	
Program expansion	102,000.00
Division of vocational rehabilitation	199,635.00
In-service training	1,818.00
Guam rehabilitation and workshop improvement grant	43,973.00
Statewide planning	53,428.00
Public Law 85–926, Preparation of professional personnel in the education of the handicapped	47,523.00
Public Law 88–210, Vocational Education Act of 1963, as amended, and the George Barden Act	247,203.00
Public Law 89–750, Adult Education Act of 1966, as amended, adult basic education	43,200.00
Public Law 79–396, the National School Lunch Program:	
Cash	166,198.00
Commodities	136,119.00

Department of HEW—Education—Continued	
Public Law 81–874, Federal Assistance for federally impacted areas	$2, 194, 727. 00
Public Law 81–815:	
Andersen Elementary School addition	158, 708. 00
New Piti Elementary School addition	198, 820. 00
Total	4, 751, 550. 00
Guam employment service	
Wagner-Peyser Act of 1933, as amended. Accepted by Fourth Guam Legislature by Public Law 4–20; operation of the Guam employment service includes rent, salaries, travel, purchase of equipment and supplies, and telephone and telegraph services	47, 292. 00
Public Law 87–415 Manpower Development and Training Act of 1968, as amended; provides for vocational training for the unemployment and under-employed; program administration	18, 225. 00
Title II B: institutional training projects:	
Account clerk project, March 10, 1969 to August 28, 1969	10, 396. 00
Clerk stenographer, May 12, 1969 to Febrary 4, 1970	7, 436. 00
Work incentive program administration, incentive title IV, Social Security Amendment, 1967	16, 142. 00
Total	99, 491. 00
Nieves Flores Memorial Library	
Public Law 84–597, Library Services Act—as amended:	
Title I: Administration and services	35, 949. 00
Title II: Construction	0
Title III: Interlibrary cooperation	10, 050. 00
Title IV: State Institution Service	9, 500. 00
Total	55, 499. 00
Department of HEW—Public Health and Social Services	
Social Security Act as amended which includes social services programs for:	
Medicaid	113, 005. 61
Child welfare services	98, 413. 00
Maternal and child health services	157, 189. 72
Crippled children's services	261, 414. 00
Community social services	419, 749. 17
OEO: Work experience	101, 450. 37
Public Law 89–749—Older Americans Act	38, 500. 00
Public Law 89–747—Comprehensive health planning	59, 183. 43
Public Law 84–660—Federal Water Pollution Control Act	52, 190. 73
Public Health Services Act:	279, 243. 99
Heart disease control	
Cancer control	
Chronic disease control	
Environmental health	
Dental health services	
Home health services	
Health education and accident prevention	
Mental retardation	
TB control	
Zoonosis control	
Totals	1, 580, 340. 02
Department of Land Management	
Public Law 88–578 Land and Water Conservation Act of 1965 as amended. (Agana swimming pool, Project No. 87–00004)	91, 253. 00
Total	91, 253. 00

Guam Economic Development Authority	
Public Law 89–136—Department of Commerce, the Public Works and Economic Development Act of 1965 and Public Law 8–80—Guam Economic Development Authority Act of 1965	$25,500.00
Total	25,500.00
Guam Housing and Urban Renewal Authority	
U.S. Housing Act of 1937 as amended, 250 low-rent housing units	267,371.73
U.S. Housing Act of 1949 as amended, Sinajana urban renewal project	36,160.00
U.S. Housing Act of 1949 as amended, Yona urban renewal project	38,686.74
Total	342,218.47
Department of law	
Public Law 90–351 Omnibus Crime Control and Safe Streets Act of 1963 (law enforcement assistance administration grant No. P054)	4,280.00
Total	4,280.00
University of Guam:	
Public Law 89–329, Higher Education Act of 1965:	
Title I: Continuing education	26,856.00
Title IIA: Library resources	7,031.00
Title III: Strengthen developing institution	150,000.00
Title IV: Student work study	76,545.00
Public Law 89–209, National Foundation of Arts and Humanities	30,909.00
Public Law 88–452, Economic Opportunity Act of 1964:	
Upward Bound	103,480.00
Headstart program	48,374.00
Public Law 89–182, State Technical Services Act of 1965; planning grant	20,751.00
Public Law 88–204, Higher Education Facilities Act:	
Science building	34,685.00
Planning grant	21,005.00
Public Law 89–197, Law Enforcement Assistance Act; police institute	2,351.00
Public Law 89–507, National Science Foundation Act of 1950; Opera work shop	4,400.00
Total	526,387.00

GRANTS TO TRUST TERRITORY

Mrs. HANSEN. Is the Trust Territory participating in the grant program?

Mr. HELLER. The Trust Territory has a minimum of Federal aid program as far as construction is concerned because they are not eligible at the present time. Most of their appropriations are coming through your committee for construction purposes.

Mr. LOESCH. This, of course, comes from its status as a Trust Territory.

Mrs. HANSEN. That is right.

ASSISTANCE TO THE TERRITORIES FROM BUREAU OF OUTDOOR RECREATION

To what extent are the other bureaus of the Department of the Interior giving assistance to the territories to improve their natural resources, economy, and environment?

Mr. HELLER. The Bureau of Outdoor Recreation has fostered a recreation program in American Samoa, Guam, and Virgin Islands. Each of these territories, as I understand it now has a 5-year program for outdoor recreation purposes.

MILITARY PROBLEMS ON GUAM

Mrs. HANSEN. Guam, for example, has a large military installation. What does the Department of Defense do to solve some of the problems it creates?

Mr. HELLER. As it is now—I think the question probably could be better answered by the Governor of Guam, who may have some complaints. We have, in the past, represented to the Secretary of Defense the problem of Guam and its large military areas there and the desire on the part of the government of Guam to be brought in as early as possible on the construction and on the needs of the military. There is this kind of discussion going on. How complete it is and how well it works, I think you will have to ask Governor Camacho when he is here.

I might also add that the Department has recently asked the Defense Department to place in Guam a conservation officer whose function would be to make sure that there is complete liaison between the local government and the military there, to insure that conservation practices are enhanced as much as possible in relation to the military needs.

Mr. LOESCH. It might be well to point out here too that, while there is no question but that the military creates problems by its very presence, that it also alleviates certain problems by its presence. Guam would be in very difficult condition right now, electrically—that is, as a matter of fact—but it would be far worse if it were not for Navy participation in the power distribution.

Mrs. HANSEN. This is very true. But at the same time the military shouldn't ignore the civilian needs.

Mr. LOESCH. This is certainly true. I must say that my participation in the interagency committee on the Trust Territory has, in my opinion, resulted in considerably more cooperation by the Defense Department.

I understand that in the past they have been very unresponsive. But they are responsive when they get a problem now. I have found that when I jumped up and down now on some immediate problem in Guam, I have had a very sympathetic hearing from the Defense Department.

Unless I am mistaken, I think Defense is getting a slight change of attitude.

FEDERAL GRANTS TO THE VIRGIN ISLANDS

Mr. LEEDOM. Would you like the similar information on the Virgin Islands, Madam Chairman?

Mrs. HANSEN. I would like to know the effects of some of our park development in the Virgin Islands.

Mr. LEEDOM. Like Guam, the government of the Virgin Islands participates extensively in the grant-in-aid programs available to it.

Mrs. HANSEN. Will you please insert a listing of the grant-in-aid programs in the record?

Mr. LEEDOM. Yes. I have those for the government of the Virgin Islands and the college of the Virgin Islands to the extent it it not reflected in the figures relative to grants the government gets.

(Note: The Department failed to supply information in time to be included in printed record.)

Mrs. HANSEN. The committee is interested in the sources of funding for the territories.

Mr. LEEDOM. In the case of the Virgin Islands, the Federal grant-in-aid to the government totals $7.9 million.

Mrs. HANSEN. In this instance is the Government a larger contributor to the funding of the Virgin Islands than private sources?

Mr. LEEDOM. Of course.

The figures which I have submitted were supplied by the government of the Virgin Islands. They are broken down by agency source, so that it is evident in each case which agency is contributing, and generally to what program.

NATIONAL PARKS DEVELOPMENT PROGRAMS

Mrs. HANSEN. Has the Virgin Islands had any problems supplying transportation facilities to the tourists coming into the island.

Mr. LEEDOM. I think that the park development in the Virgin Islands is nothing but good. I think it is a remarkable and a valuable thing for the Virgin Islands. The park on St. John is a magnificent thing. But for the park, St. John would have gone into, I am sure, disruptive development long ago.

Mrs. HANSEN. In other words, private developers might have destroyed the natural beauty of the Virgin Islands?

BUCK ISLAND NATIONAL MONUMENT

Mr. LEEDOM. Absolutely. Certainly the Buck Island National Monument, the underwater trail, is a unique and beautiful thing well worth preserving.

To the extent it has caused problems—and that is not necessarily the best word—in transportation, rather than a real problem it has presented the opportunity for private industry on St. John to develop a ferry service which is a useful thing from the standpoint of the people on St. John.

Naturally, the relationships between the Park Service and the local government which have been an off again on again thing over the years, I think at the moment are quite good. The Park Service continues to want to develop and better utilize the forts in Christiansted and Charlotte Amalie. I think that is a worthwhile project also. They are rather fine old buildings.

Mr. WYATT. Madam Chairman, could I ask one question at this point?

Mrs. HANSEN. Surely.

EXPENDITURES IN VIRGIN ISLANDS FOR CONSERVATION

Mr. WYATT. I don't know who I should address this question to, perhaps anyone of you can answer it, in regard to the Virgin Islands. Can anyone tell me how much money is being spent, either from the general appropriations from the United States or from local appropriations, on conservation outside of this oil fund, or outside of any specific Federal Government grant?

Mr. LEEDOM. I cannot tell you this morning, but we might term conservation as a very broad term. There are a variety of appropriations made in the course of a year by the local government that might be construed as going for conservation purposes.

Mr. WYATT. I wonder if this could be furnished for the record.

Mr. LEEDOM. We will do that, surely.

Mr. WYATT. I would appreciate that.

(The information follows:)

VIRGIN ISLANDS

According to advice received from the Government of the Virgin Islands, $2,097,896 were expended from local funds in fiscal year 1969 for conservation purposes. That expenditure is exclusive of any Federal grants-in-aid for conservation purposes.

Mr. LEEDOM. There will be no Federal funds per se. It would be local appropriations.

Mr. WYATT. But in this general area?

Mr. LOESCH. There may be some matching funds.

Mrs. HANSEN. I think, what Mr. Wyatt means, is what local funds have been added to the programs of the Federal Government for conservation.

Mr. LEEDOM. Right. There would be, we might say, all of the Hess Fund and then the Government of the Virgin Islands appropriations from local funds, funds from the Department of Conservation and Cultural Affairs. The Department of Agriculture of the local government goes into a number of programs. Public health I think in its sewage and water would be considered conservation. Then there are Federal grants, for example, by Federal Water Pollution Control.

Mr. WYATT. I am not interested in those. I am interested in what money is spent directly by the local government.

Mr. LEEDOM. Right.

AUTHORIZING LEGISLATION FOR TRUST TERRITORY OF THE PACIFIC ISLANDS

Mrs. HANSEN. The budget estimates you have submitted for the Trust Territory of the Pacific Islands is $10 million in excess of the current authorization. Have you submitted a recommendation to the authorizing committees of the Congress to increase the authorization, and do you have any idea on what the schedule of legislation might be?

Mr. LOESCH. Yes, Madam Chairman. The authorizing legislation is presently before the leadership of the Congress. I don't know what has happened to it. It was submitted about 10 days ago, I believe.

Mrs. HANSEN. Has the legislation been introduced?

Mrs. FARRINGTON. Yes.

Mrs. HANSEN. I assume the legislation is in the Interior and Insular Affairs Committee.

Mr. LOESCH. That is correct. And we are informed that both the House and Senate leadership have requested that the committees be through with all such legislation by the middle of March. So we are daily anticipating a call for hearing from both those committees and hope to have it rapidly happen.

JUSTIFICATION MATERIAL—VIRGIN ISLANDS

Mrs. HANSEN. Please insert page 7 and 8 of the justifications in the record.

(The pages follows:)

1. VIRGIN ISLANDS

(A) Governor's Office: Fiscal Year 1970, $ -0-; Fiscal Year 1971, $40,000; increase, $40,000. The increase consists of:

	Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
1.	+$40,000	-	$60,363	6	$40,000 new funds requested. $20,363 to be financed from prior year savings.
	+$40,000	-			

(In thousands of dollars)

	1969	1970	1971	Increase
Funded by NOA	100	-	40	+ 40
Funded by unobligated carryovers	-	124	20	-104
Total program requirement	100	124	60	- 64
Full-time permanent positions authorized	6	6	6	

Cost Factors Involved in Increase

1. In the current 1970 Fiscal Year, the entire program of $123,500, which includes pay increase costs of $11,300, is being financed wholly out of carryover savings from FY 1969. The budget year program estimate is $60,363, of which $40,000 is to be financed from new funds and the balance of $20,363 from prior year savings, which is a program decrease of $63,137.

Need for Increase

1. The 1971 estimate for this activity covers operating costs for only about one-half of the fiscal year due to passage of the Virgin Islands Elective Governor's Act, P.L. 90-496, approved August 23, 1968. The first election will be held November 3, 1970. When the Governor assumes office on the first Monday of January 1971, Federal responsibility for financing this activity will cease. Operating expenses of the Governor's office for the latter half of Fiscal Year 1971, and succeeding fiscal years, will become the responsibility of the Government of the Virgin Islands.

(B) Comptroller's Office: Fiscal Year 1970, $292,700; Fiscal Year 1971, $330,000; increase, $37,300. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
+$37,300	-	$341,362	20	$330,000 new funds requested; $11,362 balance financed from prior year savings.
+$37,300	-			

	1969	1970	1971	Increase
Funded by NOA	247	293	330	+37
Funded by unobligated carryovers ..	-	18	11	- 7
Total program requirement	247	311	341	+30
Full-time permanent positions authorized	20	20	20	

Cost Factors Involved in Increases

1. The bulk of the increase in the 1971 program is $41,721 for Personnel costs. This is offset by a net reduction of $10,993, which is mainly in travel and transportation costs.

Need for Increase

1. Public Law 90-496 provided that expenses of the Office of the Government Comptroller for the Virgin Islands shall be paid from funds transferred from the permanent appropriation, "Internal Revenue Collections for Virgin Islands".

The current year program of $310,634 includes estimated pay costs of $17,934 that are being absorbed out of carryover savings from FY 1969.

The total estimated program for 1971 is $341,362. It is proposed to finance this program with $330,000 in new budget authority and $11,362 from FY 1969 carryover balances. This is a net increase of $30,728 in the 1971 program over the FY 1970 program level.

Even though 20 permanent positions are authorized, employment restrictions will only permit end of year employment of 16 positions. To assist in handling the resultant workload due to the reduction in manning level, two lower level clerical type positions are to be replaced with two GS-13 auditors, with a net increase in cost of $41,721. This will be partially offset by a net reduction of $10,993 in mainly travel and transportation costs.

Program of Work

The Comptroller of the Virgin Islands audit activities shall be directed so as to (1) improve the efficiency and economy of programs of the government of the Virgin Islands, and (2) discharge the responsibility incumbent upon the Congress to insure that the substantial Federal revenues which are covered into the treasury of the Government of the Virgin Islands are properly accounted for and audited.

INCREASED FUNDS FOR GOVERNOR'S OFFICE

Mrs. HANSEN. You have requested an increase of $40,000 for the Governor's office. What is the justification for this increase?

Mr. LEEDOM. The Office of the Governor consists of a number of Federal employees, a very small number—the Governor, the Government Secretary and several secretaries. This item of appropriations has annually, for the last few years, been for their salaries and expenses. It is purely personnel costs. That has been in the neighborhood of $100,000 a year.

This year, looking toward fiscal 1971, we, the Federal Government, are responsible for funding only one-half of the year, the first half. At the general election this fall, the Governor of the Virgin Islands will be popularly elected. The elected Governor will take office in January of 1971 and at that point the responsibility for the funding of the office becomes the responsibility of the local government.

We have estimated the one-half year funding at about $60,000. There is a carryover of some $20,000. The new money required is the $40,000 which we have asked for.

Mrs. HANSEN. Is this for half a year?

Mr. LEEDOM. Yes.

Mrs. HANSEN. Will you please insert in the record the number of employees in the Governor's office.

Mr. LEEDOM. We have in the Office of the Governor six Federal employees—this is 1969—the Governor, the Government Secretary, and four others. I don't have the other four identified by title, but I do have them by grade if you want that.

Mrs. HANSEN. No. The grades will be fine.

Mr. LEEDOM. In this case, there is the Governor, then the Government Secretary is a 16 and there is a GS–14, GS–9, a GS–7, and a GS–6.

Mr. FLYNT. How much was used for this purpose in fiscal 1970? How much was used or appropriated for that purpose, for operating the Governor's office for fiscal 1970?

Mr. LEEDOM. We have $100,000.

Mr. WINN. There was no money appropriated. We used prior year carryover that was derived from a change in financing of the Government Comptroller.

COMPTROLLER'S OFFICE

Mrs. HANSEN. An additional $37,300 is requested for the Comptroller's office. Will you please justify this increase.

Mr. LEEDOM. Salary costs, I believe. Mr. Winn can perhaps speak to that.

Mr. WINN. This is the Virgin Islands' comptroller.

Mr. LEEDOM. Yes.

Mr. WINN. The bulk of these expenses, the bulk of this increase is for salary costs, getting up to his authorized level of employment.

Mr. LOESCH. Does that include the four new positions?

Mr. WINN. No; that hasn't cleared yet.

WASHINGTON, D.C., OFFICE RELATION TO VIRGIN ISLANDS

Mrs. HANSEN. Please review for the committee what the responsibilities of your office are with regard to the Virgin Islands.

Mrs. FARRINGTON. Mr. Leedom.

Mr. LEEDOM. The Office of Territories is performing a service function. A liaison function, in large part. We are in close contact with the Governor and with other members of his staff. We render whatever assistance we can. We exercise certain authority of the Secretary pursuant to delegations of authority with respect to the so-called matching funds and with respect to submerged lands permits issued by the Department for the utilization of submerged lands adjacent to the territory.

We, of course, serve as a liaison office also with other Federal agencies and with the Congress. We are responsible for the initial processing of Federal legislation, both the initial preparation of comments on legislation already introduced and the initiation of legislation applicable to the territory or requested by the territory.

PEACE CORPS WORK IN VIRGIN ISLANDS

Mrs. HANSEN. I notice on your list of Federal grants $328,000 for the Peace Corps. What activities are they pursuing?

Mr. LEEDOM. The Peace Corps has for the past several years utilized the Virgin Islands as a training area and the local government has provided some facilities on a reimbursable basis with the Peace Corps.

GENERAL ADMINISTRATION—WASHINGTON OFFICE

Mrs. HANSEN. Please insert pages 79 through 81 of the justifications in the record.

(The pages follow:)

General Administration

Washington Office: Fiscal Year 1970, $449,400; Fiscal Year 1971, $568,600; increase, $119,200. The increase consists of:

	Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1)	$+119,200	-	$ 568,600	32	Increase is required to maintain the current program level of the Washington office.
	+119,200	-			

	(In thousands of dollars) 1969	1970	1971	Increase
Funded by NOA	398	449	569	+120
Funded by unobligated carryovers	73	105	-	-105
Total program requirement	471	554	569	+ 15
Full-time permanent positions authorized	32	32	32	

Cost Factors Involved in Increase

(1) The increase is due to within-grade salary increments ($6,400), official travel for periodic field visits ($6,700), purchase of new office equipment ($1,400), and communications ($500), which is offset by a decrease in other services ($-400).

Need for Increase

(1) The total estimate of $568,600 for FY 1971 is being requested in new funds since there are no remaining carryover balances from FY 1969, and none anticipated from FY 1970, that could be applied to reduce the FY 1971 need for new budget authority. The budget year program represents a net increase of $14,600 over the total program of $554,000 for the current 1970 fiscal year.

Total fund requirements have been rising despite holding the Washington Office staffing at a constant level. Increases in costs have been caused primarily by statutory pay raises, higher Departmental assessments (resulting largely from such pay increases), and periodic, in-grade salary increments.

The current year program of $554,000 includes estimated pay costs of $39,600 which is being absorbed out of carryover savings from FY 1969. The number of full-time permanent positions will remain at 32.

Program of Work

The program proposed for the Washington Office in Fiscal Year 1971 is essentially the same as for the preceding eleven years--providing the staff support and guidance for the Secretary of the Interior in the exercise of his responsibilities for the territories of the Virgin Islands, Guam, American Samoa, the Trust Territory of the Pacific Islands, and such other territorial areas under his jurisdiction as Canton, Enderbury, Howland, Baker and Jarvis islands.

Administration of Territories

PERSONNEL SUMMARY

	1969 actual	1970 estimate	1971 estimate
Total number of permanent positions	94	94	94
Full-time equivalent of other positions.	1	1	1
Average number of all employees	68	81	81
Average GS grade	10.3	10.4	10.6
Average GS salary	$12,967	$13,905	$14,711
Average salary of ungraded positions ...	$3,328	$3,350	---

ITEMIZATION OF ESTIMATE

Department of the Interior
Appropriation Title: Administration of Territories, Office of Territories

	Actual 1969	Estimate 1970	Estimate 1971	Increase (+) or Decrease (-)
Program and Financing				
Total obligations	$17,561,794	$17,470,508	$18,028,815	$ + 558,307
Receipts and reimbursements	-612,304	210,104	-	- 210,104
Unobligated balance available, start of year	-4,650,817	-2,398,327	-171,215	+2,227,112
Unobligated balance, end of year	2,398,327	171,215	-	- 171,215
Appropriation (adjusted)	14,697,000	15,453,500	17,857,600	+2,404,100
Obligations by Objects				
11 Personnel compensation	1,166,300	1,463,800	1,473,400	+9,600
12 Personnel benefits	92,445	126,610	113,478	-13,132
21 Travel and transportation of persons	63,700	86,000	68,300	-17,700
22 Transportation of things	11,100	36,000	18,000	-18,000
23 Rent, communications, and utilities	51,750	70,000	67,000	-3,000
24 Printing and reproduction	18,250	20,000	17,000	-3,000
25 Other services	54,950	57,000	44,000	-13,000
26 Supplies and materials	48,125	30,000	17,000	-13,000
31 Equipment	8,100	26,000	19,000	-7,000
33 Investment and loans	5,492,487	4,733,070	4,455,500	-277,570
41 Grants, subsidies, and contributions	10,670,587	10,964,028	11,918,137	+954,109
96 Portion of foregoing obligations originally charged to:				
Object class 11	-109,000	-132,000	-169,000	-37,000
Object class 12	-7,000	-10,000	-13,000	-3,000
Total obligations	17,561,794	17,470,508	18,028,815	+558,307

41-447 O - 70 - pt. 1 -- 34

INCREASE IN COST OF OPERATING WASHINGTON, D.C. OFFICE

Mrs. HANSEN. The cost of operating the Washington office in fiscal year 1969 was $417,000. You have budgeted $569,000, an increase of about 20 percent in 2 years. What is the justification for this increase?

Mrs. FARRINGTON. That was a carryover. I would like for Mr. Winn to explain it.

PAY RAISE COSTS

Mr. WINN. Basically, the office has remained at our 32 positions, and these are just increases due to salary pay raises, because about 60 percent or more of our costs are pay raise costs and departmental assessments which are due to salaries of guards and other things that we are billed for within the Department. So that really there is no program increase in the office. It is just the cost of salary increases.

Mrs. HANSEN. How much of the total increase for the Washington office are assessment costs?

Mr. WINN. Actually, it has gone up just a few thousand dollars. As I say, the bulk of this increase is——

Mrs. HANSEN. Comparatively, a few thousand dollars is a large amount.

Mr. WINN. The big increase here is in the salaries, $60,000-some, in direct personnel costs alone, without considering benefits from 1969, actual, to what we are forecasting to 1970.

Actually, within that category, for 1969, I could give you a list of the assessments for the record.

Mrs. HANSEN. I think you should. This would be most interesting.

Mr. WINN. I could give you a list of the assessments.

(The information follows:)

WASHINGTON OFFICE—DEPARTMENTAL ASSESSMENTS

	Actual, fiscal year 1969	Estimate, fiscal year 1970	Estimate, fiscal year 1971
General services by AMO		$1,193	$1,200
Health services	$576	610	650
Museum	2,119	2,608	2,700
State Department liaison offices	585	596	600
Storage and shipping	1,110	1,033	1,100
Branch of Printing	1,057	1,207	1,250
Departmental Publications	4,719	6,304	6,400
Display and exhibit	652	728	800
Miscellaneous accounts		120	150
Details to White House and other executive offices	659	811	850
Telephone costs for GAO	97	100	125
Equal opportunity	40	42	50
Indexing of hearings	350	400	450
Guard services (interior parking)	139	139	150
FTS	1,506	2,310	2,400
Information desk	261		
Total	13,870	18,201	18,875

Mr. WINN. The other costs are relatively lower—rents, communications and so forth. Those are just minor increases. The big bulk of this is our actual salary costs.

Mrs. HANSEN. Salary and assessments?

Mr. WINN. That is right. Our actual salary cost in 1969 was $384,000, not counting benefits, and in 1971 it will be $443,000 for the same number of people, with just salary increases during that period of time.

CARRYOVER FUNDS

Mrs. HANSEN. You had an unobligated carryover balance of $105,000 from 1969 to 1970, yet you indicate no carryover to fiscal year 1971. Why is this?

Mr. WINN. Madam Chairman, the reason that we had this carryover available was, as we indicated in last year's budget justification, the bulk of this was from the Virgin Islands comptroller change in funding.

As a result of this savings from that, we have applied that to absorb the pay raise costs. Actually, last year we were programing in 1970, $65,000 in unobligated carryover for our 1970 program. To that we have added the $40,000 for the pay costs for this year. That is the only addition that we have made to this.

TOTAL PAY RAISE COSTS

In the addition of territories appropriations we have a total pay raise cost of an estimated $138,000, which we have absorbed, all of it, either in the program or by picking up within the program our unobligated balances.

I have a summary here with an explanation of these balances I could furnish.

POSTAGE COSTS

Mrs. HANSEN. Supposing the postal rates go up another cent, what affect would such an increase have on your department for the next 2 years? Will you please insert this information in the record, Mr. Hite?

Mr. HITE. I will place it in the record, Madam Chairman.

With respect to this departmental assessment, these are made on a percentage of participation basis.

(The information follows:)

EFFECT OF 1 CENT INCREASE IN POSTAGE COST FOR DEPARTMENT OF THE INTERIOR

Year	Present estimate	1 cent increase	Total revised estimate
1970	$2, 643, 760	$440, 626	$3, 084, 386
1971	2, 698, 032	449, 672	3, 147, 704

Mrs. HANSEN. I know. I will be very interested in knowing what the assessments are for.

Mr. HITE. We will furnish them.

Mr. FLYNT. Would you yield to me at that point?

Mrs. HANSEN. Surely.

Mr. FLYNT. Off the record.

(Discussion off the record.)

POPULATION GROWTH RATE FOR VIRGIN ISLANDS

Mr. FLYNT. I would like a little information from Mr. Leedom—or anyone else who can furnish it—on the rate of population growth in the Virgin Islands.

Mr. LEEDOM. The rate of growth has been very great. From the standpoint of local vital statistics it has been compared to India, it has been perhaps exceeding the rate of India. But apart from that, there has been a tremendous influx of new residents, both the alien and the statesider wishing to live there.

I don't know that we can give you an accurate population figure. The 1970 census is upon us and we are hopeful that maybe within the immediate future we will have a hard figure.

Mr. FLYNT. Maybe I can help you in giving me a general answer, if not a specific answer. I have been told that the rate of population growth in the Virgin Islands is higher than the rate of population growth of any other part of the continental United States or insular territories.

Mr. LEEDOM. I would not argue.

Mr. FLYNT. Is that statement basically correct?

Mr. LEEDOM. I could not say that it was not. For example, according to the statistics compiled by the local government, the population of the Virgin Islands in 1960 was 33,425. In 1968 they estimated that the population was 62,802. Now, depending upon who you talk to and the purposes for which the figure has been given, you can get sincere, well-intentioned people who will tell you that the population today is 100,000. I only mean to suggest that we cannot prove a figure today.

Mr. FLYNT. Will we get a figure presumably in the 1970 census?

Mr. LEEDOM. Yes, sir.

Mr. FLYNT. The Virgin Islands will be included in the census-taking procedure?

Mr. LEEDOM. Yes.

RATE OF ECONOMIC DEVELOPMENT

Mr. FLYNT. In your opinion, has the rate of economic development in growth kept pace with, or exceeded, the rate of population growth in the Virgin Islands?

Mr. LEEDOM. I think that you can say that it has kept pace and probably exceeded the rate of growth. I don't know how you define the rate of growth percentagewise, but it has just been exceptional. There is no way really one can explain it. I don't think anyone in the late 1950's or in 1960 would have ever anticipated it.

1962 BUDGET COMPARED TO 1969'S

For example, the total expenditures, the Government budget, in 1962 for the government of the Virgin Islands was $200,050,000. In fiscal year 1969, it was $96,331,000. In 7 years this is a 400 percent, almost 500 percent, increase.

REVENUE STRUCTURE

Mr. FLYNT. Mr. Leedom, will you briefly describe the revenue structure in the Virgin Islands?

Mr. LEEDOM. The government of the Virgin Islands derives its income from a variety of sources. As Mrs. Farrington pointed out in her opening statement—very correctly—while the government of the Virgin Islands does not come to the Congress of the United States for any substantial appropriation, they are nevertheless rather heavily subsidized by Federal funds.

Mr. FLYNT. In the form of grants usually?

INTERNAL REVENUE COLLECTIONS REFUNDED

Mr. LEEDOM. In two basic ways. The Congress many years ago made the U.S. income tax applicable to the Virgin Islands, but as a territorial tax with the provision that the total proceeds be retained in the Virgin Islands.

In 1954 the Government was really two governments. They had the municipalities at that point in time. In the 1954 Organic Act, because they were still operating at a deficit, the Congress made provision for an annual return to the local government of the excise taxes collected by the Federal Government on the products of the Virgin Islands shipped to the United States. This was set up as a matching procedure. The Government Comptroller, the Federal Comptroller, annually would certify the total revenue of the local government, and that would be matched from this pot of Federal excise taxes.

This worked very effectively in the early 1950's to obviate the need for the local government to come in for deficit financing. Well, the growth has been such in recent years that there is no longer any matching element. The local revenues far exceed any amount in the pot. So the local government now gets back annually that entire pot. It varies, of course, from year to year, but it is about $12 million a year.

APPROPRIATION FOR GOVERNOR'S OFFICE

That, recently, of course, has been made the source of the funding of the Comptroller's Office and is reduced to that extent, that is, the money that goes to the local government.

Mr. FLYNT. For the last half of fiscal year 1971 and for the future years, beginning with fiscal year 1972, do you foresee any cost for which appropriations will be required on the same basis that funds for the Governor's Office are presently required and will be required for the first half of fiscal 1971?

Mr. LEEDOM. No, sir. The only appropriations sought today for the government of the Virgin Islands is the appropriation for the Governor's Office, which will terminate. And I see no prospect of some other category surfacing.

Mr. FLYNT. For the first half of fiscal 1971, I see two figures. One is a figure of $40,000 and the other is a figure of $60,363. The latter figure, $60,363, is that an increase over the cost of the year before? Or is that total cost?

Mr. LEEDOM. That represents half of it.

Mr. WINN. It was $112,000 for this year, and this $60,000 is actually just half of that figure. The total cost that will run in the office for this current fiscal year is an estimated cost of $112,000.

Mr. FLYNT. So the amount that is shown as an increase of $40,000 is not a real increase at all?

Mr. WINN. It was all entirely financed from savings from the Virgin Islands Comptroller's Office.

Mr. FLYNT. So really there are no added expenses?

Mr. WINN. It is really a reduction of $60,000.

NEW VIRGIN ISLANDS AIRPORT

Mr. FLYNT. Mr. Leedom, are you prepared to comment on the development of a new airport at Charlotte Amalie on St. Thomas?

Mr. LEEDOM. At whatever length the committee would care.

Mr. FLYNT. I think it should be in the record, if you will give us a description of it at this point.

AIRPORT AT CHARLOTTE AMALIE, ST. THOMAS

Mr. LEEDOM. I will try to be very brief on this.

Mr. FLYNT. Could you begin with the present Harry S. Truman Airport facilities, and a brief description of that, and then go into the new proposal?

MARINE AIR STATION AT ST. THOMAS

Mr. LEEDOM. Certainly. In the late 1930's and early 1940's there was a Marine air station on the Island of St. Thomas. After the war, the military withdrew and the property was made available first by permit to the Federal Government who repermitted it to the local government. And that Marine Corps fighter strip became the commercial airport for the Island of St. Thomas. Over the years, it was developed, modified, amended to take into account the——

Mrs. HANSEN. The committee will recess until 2 o'clock.

AFTERNOON SESSION

Mrs. HANSEN. We will resume our discussion of the Virgin Islands airport.

Mr. LEEDOM. Over the years, the existing facility has had to be changed in many ways and many times to accommodate changes in service. It is now accommodating pure jets up through the 727 and DC–9 class. Since the 1950's, there has been a belief held by many that something had to be done about the airport situation on St. Thomas.

There have been many, many studies conducted over the years. They have led to several sites having been identified and one that is always identified is a mangrove lagoon area on the southeast coast, and about 3 years ago a serious effort was begun to cause a new jet airport to be constructed at the so-called lagoon site.

That has resulted in a very substantial controversy. The controversy as to whether a new airport should be constructed or the existing facility further modified has involved discussions both of the effect upon the ecology of the new airport site, and the cost of the new

airport versus a revamping of the existing facility, as well as the long-range impacts on the Virgin Islands community of a major airport that can accommodate the biggest airplanes now in service.

Historically, at this point in time the government of the Virgin Islands through its port authority is continuing to pursue the plans for the new airport at the lagoon site. In this particular instance, the Department of Interior and particularly the Secretary has a very real role because the construction of the proposed new airport will involve submerged lands which are now the property of the United States and which must be conveyed to the local government before they could be utilized for the new airport.

That conveyance can be made only by the Secretary.

So, again, historically at this moment we are in the position of the local government, or at least part of it, planning for the new airport and the Department of Interior having a decision yet to make as to the propriety of the new airport.

ENVIRONMENTAL PROBLEMS

Mr. LOESCH. May I add just a word?

On Monday I heard the Secretary speak to this and while I do not want to say he has arrived at any conclusions, I may tell the committee he is gravely concerned by the environmental questions that the new airport raises.

I am certain that, especially after his experience with the everglades port, he will give careful consideration to this before coming to a decision.

Mr. FLYNT. I am very glad to have you add that because my reason for asking Mr. Leedom and other witnesses present that question, is my concern about what it might do to the environment.

I want to emphasize that I used the word "might." I have certainly reached no conclusion on it. But I do think it is of such importance that this particular record of the hearing on this particular date might be the best and most appropriate place to discuss it from the standpoint of the House of Representatives.

ESTIMATED COST OF PROPOSED NEW AIRPORT

Mr. Leedom or Mr. Secretary, do either of you have any estimate of what the cost of a new airport in the lagoon area that would accommodate DC–8's, 707's and 747's might cost?

Mr. LEEDOM. I do not have a recent estimate.

Mr. FLYNT. If such an estimate has been prepared and is available to the Office of the Director of Territories, would you supply it for the record?

Mr. LEEDOM. We will be glad to.

Mr. FLYNT. Add to it if you want to.

(The information follows:)

The most recent cost estimate for the proposed new jetport is contained in a document captioned "Progress Report 1969—Proposed St. Thomas International Airport," prepared by J. E. Greiner Co., Inc., consulting engineers. That report contains the following information:

"For the first usable increment of the new airport, these items include all site work, the pavement of 8,000 feet of runway, a taxiway system, aircraft terminal parking apron, a terminal facility, maintenance facilities for the airport, and those structures and other work required to satisfy preservation and retention

of the ecology of the area. To this it is usual to allow for contingency items which cannot be predicted before construction starts and the fees for engineering design, supervision of the work, soils and materials testing, administration and legal fees must also be included as part of the project cost. This brings the total project cost to approximately $48 million. However, it is estimated that between now and the time the new airport is ready for use, Truman Field will produce a cash operating surplus which, together with the sale value of land now occupied by aviation on the Truman Field site, would amount to about $12 million. This would be used to reduce the budget requirements for the new airport to some $36 million."

ALTERNATIVE AIRPORT COSTS

Mr. LEEDOM. It would probably be between $40 and $50 million, and that is very rough, subject to submitting the correct figure later. The figure that we do not have, cannot get at this moment, but are very much interested in, is what it will cost in lieu of the airport at the lagoon to make a suitable facility out of the existing one. That is something we are pursuing but will not have for a time.

Mr. FLYNT. Suitable for what?

Mr. LEEDOM. Suitable for—well, to meet——

Mr. FLYNT. Suitable for what type of aircraft?

Mr. LEEDOM. I doubt we could more than make it a suitable facility for what is going in there now. I do not see that—I am not an engineer and am being presumptuous in this respect, but I do not believe it can be converted to an airport that would accommodate 707's or DC–8's, for example.

Mr. FLYNT. As of now, do you know of any requirement for an airport that would serve 707's and larger planes?

TYPE OF AIRCRAFT TO BE ACCOMMODATED

Mr. LEEDOM. I am sure the public carriers, the airlines, would much prefer an airport in St. Thomas which would accommodate at least 707's or DC–8's. Because I have been told that the distance from the New York and the Baltimore-Washington area to the Virgin Islands is such that it is a marginal flight for a 727.

FLYING TIME BETWEEN WASHINGTON AND ST. THOMAS

Mrs. HANSEN. What is the flying time between Washington and St. Thomas?

Mr. LEEDOM. It is about 3 hours.

Mrs. HANSEN. Would the airlines who might want to fly in planes larger than the 727 and DC–9 be willing to pay substantially higher landing fees?

Mr. LEEDOM. It is anticipated that a major portion of the proposed new airport, if it were to be built, would be funded by revenue bonds, and the revenue would be derived from commitment by the carriers, the use of terminal facilities, increased fees, and this sort of thing.

Obviously bond counsel would not approve such bonds unless there were commitments in hand from the carriers.

ENVIRONMENTAL PROBLEMS POSED BY AIRPORT

Mr. LOESCH. May I add a couple of points here, Madam Chairman.

The conversion or the improvement of the present airport also poses some very substantial environmental questions, especially involving

the destruction of a large and beautiful hill that is off the end of the airport.

The Secretary is worried about this. I think it is going to be a difficult decision to balance the environmental considerations in one respect against those in another respect. He is going to have to make this decision in the very near future.

I presume he will do this in the light of the figures that you have requested information on.

Mr. LEEDOM. I think what Secretary Loesch has said is very important in this because it is too easy to oversimplify this particular controversy in the Virgin Islands and put it on wholly ecological or conservation grounds. It really goes far beyond that.

When you look at the existing facility which no one would deny publicly, the FAA has said publicly, this is the most marginal of marginal facilities we are flying into today. No one would deny there are all sorts of problems there. The noise, pollution over the principal urban community, the only way they can take off is right over the city. There are matters of clearance, as well as matters of existing waivers of rules to permit the use of the planes in there they are using today.

The proximity of the College of the Virgin Islands creates suffering every day from noise. The problems are just so varied and so many that it is not an easy question to answer.

Mrs. HANSN. In connection with the size of the airport that would be required to meet FAA recommendations, would you state for the record the size of the entire island upon which this airport would be located?

Mr. LEEDOM. As far as square miles, I do not believe I can give you a figure offhand.

Mrs. HANSEN. Will you insert this information in the record.

Mr. LEEDOM. Certainly, it is the kind of thing I should know instantly, but I am sorry, I do not.

(The information follows:)

The island of St. Thomas has an area of 28 square miles and is approximately 9 miles long and 3 miles wide. For comparative purposes, the island of St. John has an area of 20 square miles and the island of St. Croix 84 square miles.

Mrs. HANSEN. Is the size of the island about 3 to 5 miles in width and 12 to 15 miles in length?

Mr. LEEDOM. Again I could not argue with you if you gave me those figures. It is quite close.

Mrs. HANSEN. I ask this question for the purpose of relating the size of the airport to the size of the island.

VOLUME OF BUSINESS AT AIRPORTS

Mr. LEEDOM. At the same time, Mrs. Hansen, you have to look at the business they do. The airport there at St. Thomas is as busy today as a number of the better known Florida airports. They are within just a few aircraft movements of requiring a second strip for general aviation purposes. They have that much activity at this point.

When you think that—even as recently as the early fifties, the only air service beyond a few private planes was Caribair going into St. Thomas with DC–3's. That is all there was.

But this question has been before the government of the Virgin Islands, and before the department since mid-1967 now and one of the solutions that got serious consideration was to take out the airport and to have no air service to St. Thomas.

That is hardly realistic when you think about the American traveling public.

Mr. FLYNT. Would they all fly to St. Croix?

ST. CROIX AIRPORT AND HYDROFOILS

Mr. LEEDOM. Yes, make St. Croix Airport the principal airport. It sits there today capable of handling anything that flies and has room to expand. Then you would have fast boats, and hydrofoil service.

Mrs. HANSEN. How far is it by boat?

Mr. LEEDOM. Forty or fifty miles. If you could persuade the American public to take boats instead or airplanes, it could be done.

Mrs. HANSEN. Mr. Leedom, in your consideration of airports not only in the Virgin Islands, but Samoa and the Trust Territory are you looking ahead to what the transportation needs will be in 20 years. Today there are practically no major airports in the world that can accommodate the 747 without some immediate corrective measures.

Mr. LEEDOM. That is right.

Mrs. HANSEN. Transportation by air will probably progress faster than almost anything else.

Mr. LEEDOM. That is very true.

USE OF HELICOPTERS

Mrs. HANSEN. Are you going to use helicopters to transport people from one island to another? Are you going to use boats? What are you going to do?

The American public can be persuaded to use a wide variety of transportation if they feel that it is part of the natural environmental heritage.

ALTERNATE TRANSPORT METHODS STUDIED

Mr. LOESCH. Again without attempting to second-guess what the Secretary's decision will be, I can tell you he is looking again, an intense look, at the hydrofoil question and also the possibility of going by means of helicopter.

Mrs. HANSEN. For example, the crossing from Denmark to Sweden by steamer service used to take all night. Now with the use of hydrofoils the crossing time has been greatly reduced.

DISCUSSION OF PROBLEM WITH DEPARTMENT OF TRANSPORTATION

I think the Department of Transportation and the Department of Interior ought to sit down and look at their designs and plans for increasing transportation needs.

Mr. LOESCH. As a matter of fact, Secretary Hickel is presently in at least informal discussion with Secretary Volpe on the very question we are here discussing.

AIR BOAT POSSIBILITIES

In addition to the hydrofoil boat thing, I think both the Secretaries are interested in the air boat possibilities, the air-cushion boat. I do not know a lot about that. It appears to be a possibility.

Mr. FLYNT. If you would tell the Secretary that if he desires consultation with members of this committee, at least some of the members would be glad to do that.

Mrs. HANSEN. The committee would like to be kept advised of the steps taken and decisions made because they do have a relationship to other places in the world with which we are concerned.

COMPARISON OF AIRPORTS ON ST. THOMAS AND ST. CROIX

Mr. FLYNT. Can you equate facilities and capabilities of the Truman Airport on St. Thomas with the jet airport on St. Croix?

Mr. LEEDOM. There is really no comparison between the two.

Mr. FLYNT. I know what they are, but I want it for the record.

Mr. LEEDOM. The St. Croix Airport is of fairly recent vintage, it has an adequate strip to accommodate the 707 and other aircraft. It is readily expandable as to runway length. It is in an eminently suitable geographic area for expansion. This as contrasted with Truman Airport, which is in the midst of low-cost housing. It is certainly a make-do arrangement which grew over the years from the old military facility.

It poses many of the problems we have identified because of its proximity to the town.

As I say, it is a most marginal facility whereas the St. Croix Airport is really quite respectable.

LANDING DELAYS AT ST. THOMAS

Mr. FLYNT. Could you obtain from the Federal Aviation Agency the number of flights that have had more than a 10-minute delay on landing on St. Thomas after such aircraft arrived in the air space over St. Thomas?

Mr. LEEDOM. We can certainly try to.

(The information follows:)

The information regarding the instances in calendar year 1969 when aircraft landing at the St. Thomas Airport were delayed for 10 minutes or more after entering the landing pattern, is not available. The following may be helpfully illustrative of the traffic at that airport:

Total operation (either landing or takeoff) for the months of November and December 1969, and January and February 1970 are as shown:

Month	Air carrier	Military	General aviation	Total operations
November 1969	1,195	121	7,386	8,702
December 1969	1,578	165	8,663	10,406
January 1970	1,427	136	8,115	9,678
February 1970	1,248	264	7,813	9,325

Other useful standards for judging traffic are the "peak day" and "busy hour" statistics. Peak day statistics for the St. Thomas Airport, for the arbitrarily selected months of July and August 1969 and the busy hour statistics for the same period, are set out below. It should be noted that each category reflects the highest number of operations for a day or an hour during the months indicated and therefore are to be considered independently.

	Air carrier	Itinerant aircraft	Highest total activity	Total instrument operations
Peak day:				
July 1969	55	324	342	92
August 1969	60	357	364	102
Busy hour:				
July 1969	19	51	79	14
August 1969	23	60	81	44

Mr. FLYNT. I think the reason for my asking that question is clear, but in case it should not be, I am inclined to find out the extent of traffic delays caused by oversaturation of the airspace and the landing area.

PRESENT AIRLINE SERVICE

Mr. LEEDOM. To just interject a point here, I started a few moments ago to say how business has picked up. In the past fiscal year just for the record, there are five scheduled airlines, four scheduled air taxis, nine nonscheduled air taxis, and charters, and three cargo airlines operating into the St. Thomas-St. Croix Airport.

Mr. FLYNT. I notice you are referring to a reproduction of either an article or some notes of some kind. If you would like to include all or part of that in the record at this point, I would ask unanimous consent that you be allowed to do so.

VIRGIN ISLANDS PORT AUTHORITY REPORT

Mr. LEEDOM. This is a copy of the proof pages from the 1969 Governor's Report of the Virgin Islands concerning the Virgin Islands Port Authority, and has a modest amount of information concerning boat and airport operation.

Mr. FLYNT. If there is no objection, I would like to have it included.

Mrs. HANSEN. Without objection, it is so ordered.

Mr. FLYNT. Thank you very much.

(The information follows:)

VIRGIN ISLANDS PORT AUTHORITY

(Personnel: 236—Operating Appropriation, $2,042,293)

Prior to February 12, 1969, the responsibility for the seaports and marine terminals of the Virgin Islands was under the Marine Division of the Department of Commerce. Also, prior to that date, air terminals and various industrial, commercial, residential, and recreational developments were the responsibility of the Virgin Islands Airport and Industrial Resources Agency, a temporary agency within the office of the Governor. On February 12, 1969, the Virgin Islands Port Authority was activated under authority of act No. 2375 of the Virgin Islands Legislature. This act combined the functions of the former Marine Division and the Virgin Islands Airport and Industrial Resources Agency into a new instrumentality, the Virgin Islands Port Authority, with a new form or organization.

In accordance with the legislative enactment the purpose "of the Authority shall be to establish, acquire, construct, develop and improve, own, operate and manage any and all types of air terminals, marine terminals and industrial, commercial, residential and recreational developments, and to make available the benefits thereof in the widest economic manner, thereby promoting the general welfare and increasing commerce and prosperity."

The Virgin Islands Port Authority was established as an autonomous instrumentality of the Government of the Virgin Islands with authority to contract

and to hold title to property in its own name separate from the Government of the Virgin Islands. The Authority is governed by a nine-member Board of Directors, on which the Governor of the Virgin Islands is a statutory member with one vote.

The first meeting of the board of directors was held on Friday 12, 1969, and meetings have been held at regular intervals since then to direct the affairs of the Authority. Specifically, the authority has responsibility for the management, operation, maintenance, and development of the following areas: Harry S Truman Airport, Sub Base, Veterans Drive bulkhead and apron, St. Thomas harbors, Red Hook dock, Cruz Bay dock, Coral Bay pier. Gallows Bay Marine Terminal, Christiansted harbor, Port Harvey (public area), Frederiksted pier, Frederiksted harbor, Lindbergh beach, and Alexander Hamilton Airport.

The report of the authority for fiscal 1969 covers the activities of the Virgin Islands Airport and Industrial Resources Agency through February 12, 1969, when this agency was incorporated into the newly-created port authority.

During the fiscal year, five scheduled airlines, four scheduled air taxis, nine nonscheduled air taxis and charters, and three cargo airlines operated in the Virgin Islands.

Major capital improvement projects continued or planned during the year were as follows:

1. Preparation of a master plan for a new jetport in St. Thomas.
2. Construction of a new International Arrivals Building at the Alexander Hamilton Airport.
3. Improvements to Terminal Building, Alexander Hamilton Airport.

A special feature this year was the conduct of an air show in St. Croix in January 1969.

OTHER HIGHLIGHTS OF THE YEAR

During the year continued efforts were made toward development of the plans for a new airport in St. Thomas. Contracts were executed for preparation of preliminary airport layout plans, construction plans, specifications, and a revenue feasibility study.

It is expected that when this phase of planning is completed, the construction of a new and safe airport capable of meeting the future needs of the islands will have advanced one more step toward becoming a reality.

A new customs preclearance facility was constructed at the Harry S. Truman Airport in St. Thomas and was put into operation during the fiscal year.

ST. THOMAS AIRPORT AND INDUSTRIAL OPERATIONS

Revenues realized from the operations of port authority facilities in St. Thomas amounted to $905,395. The receipts were supplemented by contributions from the Government to meet the total operating budget of $1,066,701.

Once again the number of passengers, aircraft landings, and cargo movements through the Harry S. Truman Airport reached record heights in the fiscal year 1969. There were 566,586 in-bound passengers, an increase of 59,141 passengers over the previous year.

New activity at the Harry S. Truman airport included the inauguration of direct air service from New York to St. Thomas by Trans Caribbean Airlines, and Eastern Airlines service between St. Thomas and Miami.

ST. CROIX AIRPORT OPERATIONS

The cost of operation for the Alexander Hamilton Airport amounted to $390,-050. These costs were funded by revenues and supplemental allotments provided by the Government.

At this airport, in-bound passengers numbered 228,417, an increase of 55,090 over the previous year.

MARINE OPERATIONS

Revenues generated from harbor operations in the Virgin Islands amounted to $453,077, in the fiscal year 1969 with operating cost of $459,582.

A total of 491 cruise ships visted the Virgin Islands during the year(an increase of 149 over fiscal year 1968. Of these visits, 424 were made to St. Thomas and 67 to St. Croix ports. The ship visits brought a total of 213,541 passengers to the islands, an increase of 47,424 over the previous year.

Mrs. HANSEN. Mr. Reifel.

Mr. REIFEL. Only to add, Madam Chairman, I am encouraged that the Secretary is giving this close attention. I know his predecessor Secretary Udall was concerned about it during his tenure of office, because of the possible danger to unbalancing the wildlife, fish, mangrove complex.

It should be given the most careful attention so we do not disturb the ecological balance down there.

Mr. LEEDOM. I am reasonably certain we would all assure that is being given close attention.

Mr. LOESCH. In further response, Mr. Congressman, the conversation that I am referring to took place between myself and the Secretary, Secretary Glasgow of Fish, Wildlife, and Parks, and two or three other assistants to the Secretary. And believe me, Secretary Glasgow is much concerned with the fishing boat from the sport and commercial standpoint and with the irreplaceability of the mangrove ecology if it is taken out by the proposed new airport.

So I can assure everyone that our Department is not going to go off halfcocked in this connection at all.

Mr. REIFEL. Thank you.

Mrs. HANSEN. Mr. Wyatt.

VIRGIN ISLAND POPULATION FIGURES AND EMPLOYMENT

Mr. WYATT. I have just one request, Mr. Leedom. Would you furnish to the committee for the record the most accurate estimate possible as to the population of residents—this would exclude aliens on each of the major three islands—as of the end of 1969, and also the number of Virgin Island government employees on each of the three islands as of the same date.

Mrs. HANSEN. Will you please insert in the record the number of employees in the local government.

Mr. WYATT. See if there are more employees than there are residents.

(The information follows:)

The estimated total population in the Virgin Islands at the end of February 1970 is 70,000. That population is divided as follows:

St. Croix—residents and citizens, 20,000; aliens, 12,000.

St. Thomas and St. John (combined)—residents and citizens, 28,000; aliens, 10,000.

The total government employees on the three islands is 7,104; 5,099 of whom are permanent and 2,005 are temporary. The latter are intermittently employed—when actually employed—or in special duty status. The government employees are divided between the islands as follows:

St. Croix—permanent, 2,252; temporary, 738.

St. Thomas and St. John (combined)—permanent, 2,847; temporary, 1,267.

It is easier for the members of the committee to follow some of the discussions about our islands and our problems if we have the maps in front of us.

Mr. FLYNT. Madam Chairman, it might be a good idea to include some of the maps in the report of hearings in order that the other Members of Congress, as well as this committee, could know a little bit about the geography of the areas we are discussing.

Mrs. HANSEN. That is my feeling.

VIRGIN ISLANDS TOURISM, 1955 COMPARED TO 1968

Mr. FLYNT. I have one more question. I would like to ask an additional set of figures to go with the figures that the gentleman from Oregon just asked for, and that is the number of tourists who visit the Virgin Islands each year for the past 4 years.

Mr. LEEDOM. Perhaps this will answer that question, among others. I would like to give you a tabulation of statistics from 1955 through 1969, many statistics on the Virgin Islands, including tourist travel by ship, by air, however, water power, et cetera. It is particularly, I think, helpful to illustrate the fantastic growth of the Virgin Islands.

Mr. FLYNT. Give us the 1955 figure and the 1968 figure of tourists.

Mr. LEEDOM. It is broken out here by passengers by air and cruise ship and others for 1955—approximately 91,000 in both categories and about 78,000 in 1968. The 1969 figure is in excess of a million.

Mr. FLYNT. I have heard a figure of a million estimated for 1969 as you say.

Thank you very much.

INCOME AND EXPENDITURES OF VIRGIN ISLANDS, 1962–69

Mr. LEEDOM. I do not want to volunteer more than I should here, but I have with me, and the committee might find interesting for the record, or your use, comparative statements from 1962 through 1969 of the total income and expenditures of the Government of the Virgin Islands.

Mrs. HANSEN. We would be delighted to have the information. We will place it in the record. Thank you very much.

(The information follows:)

SELECTED STATISTICS ON PROGRESS IN VIRGIN ISLANDS 1955-1969

GROWTH AREAS	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
POPULATION	29,616	30,061	30,530	31,250	31,994	33,425	34,450	35,430	38,270	41,913	49,742	50,870	56,699	62,802
TOTAL REVENUES	2,780,128	3,685,084	6,154,511	7,908,324	9,827,953	18,376,746	17,429,650	19,950,288	23,124,450	29,305,906	39,976,942	45,988,338	65,959,681	76,907,222
INCOME TAXES	1,059,632	1,549,310	1,863,494	2,239,415	3,054,223	4,329,018	5,619,721	7,221,088	7,511,216	10,707,373	13,233,677	17,462,234	22,927,643	25,942,774
TRADE, EXC., GROSS REC.	585,308	393,687	669,293	719,962	886,513	1,185,744	1,357,491	1,655,596	1,941,241	3,388,502	4,211,310	5,281,572	6,322,389	7,942,547
REAL PROPERTY	230,611	218,210	268,632	278,587	276,349	372,725	348,175	499,414	590,080	760,043	835,759	959,449	1,096,052	2,208,296
TOTAL EXPENDITURES	5,887,913	4,885,562	4,738,210	5,848,034	7,896,602	13,340,286	15,662,923	2,005,080	18,111,861	30,182,901	34,903,324	40,614,684	61,978,853	73,955,709
EDUCATION	862,759	1,180,308	992,329	1,075,666	1,386,648	1,859,453	2,916,833	2,566,571	3,025,727	4,367,503	5,004,319	7,260,881	9,984,649	9,608,697
HEALTH	1,341,981**	1,462,758	1,202,444	1,313,943	1,479,446	2,096,589	3,160,393	2,945,601	2,919,239	4,168,548	5,383,947	6,447,322	8,350,704	11,429,370
PUBLIC WORKS	1,177,007**	579,588**	600,652	982,446	1,342,781	2,189,011	4,695,302	9,108,430	5,895,733	9,572,185	10,099,826	9,144,283	13,889,226	11,868,645
IMPORT	16,255,575	18,947,426	21,239,242	23,622,093	33,642,297	42,282,052	50,208,444	61,803,509	76,031,860	76,000,000	118,675,918	137,720,755	172,171,848	260,160,366
EXPORT	4,118,053	5,597,161	5,006,873	3,334,805	6,273,623	8,255,017	9,133,124	20,064,920	23,962,206	22,638,030	34,695,490	56,145,017	74,491,732	153,782,838
PASSENGERS-AIR	54,864	63,000	76,200	85,800	107,400	124,400	146,100	187,712	215,809	285,610	356,371	436,775	516,295	648,137
CRUISE SHIP PASS.- OTHERS	36,763	47,800	44,035	46,200	56,600	79,700	108,600	103,338	115,440	110,635	109,341	117,659	122,906	165,381
NUMBER CRUISE SHIPS	33	36	48	74	69	126	157	131	163	261	238	255	296	341
HOTEL BEDS	1,351	2,115	2,272	1,887	2,439	2,820	3,063	3,327	3,519	3,594	3,911	4,345	4,876	5,615
TOURIST EXPENDITURE	6,784,000	9,977,000**	13,170,000	16,070,000	21,738,000**	24,760,000**	25,817,000	35,145,000	41,070,000	48,158,074	54,014,852	59,456,245	75,035,860	100,894,308
POWER OUTPUT (KWH) mil.	103.0	17.5	20.9	24.3	28.2	34.3	43.2	48.8	62.4	75.6	90.5	116.2	147.3	190.6
BUILDING PERMITS	367	386**	409	471	464	588	684	777	933	624	650	705	1,501	1,913
VALUE OF CONSTRUCTION	1,645,579	2,407,784**	3,209,989	2,840,132	3,258,753	5,190,527	6,363,482	7,017,972	9,051,455	19,963,667	18,236,000	17,145,301	33,700,000	48,068,900
VOLUME OF MAIL	2,000,000	2,700,000**	3,300,000**	3,900,000	4,500,000**	5,200,000**	6,000,000**	12,000,000	18,779,000	26,924,000	23,033,100	23,991,200	24,683,700	39,526,700
BUSINESS LICENSES	683	815	1,718	1,776*	1,795	2,113	2,397	2,436	2,750	3,496	3,735	3,852	4,308	5,649
VEHICLES LICENSED	2,786	3,533	4,104	4,439	4,774	6,396	7,134	8,444	9,232	11,175	14,343	14,739	16,671	18,623
WATER CONSUMP. (GALS)	43,000,000**	55,000,000**	69,641,090	58,439,070	102,110,675	115,818,748	138,888,340	158,001,200	228,189,240	320,857,850	247,900,000	292,538,300	438,000,000	263,600,000
BANK DEPOSITS									51,938,768	58,721,006	74,084,224	97,511,601	134,898,669	222,113,946

*Calendar year **Estimated

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41-447 O - 70 - pt. 1 -- 35

GOVERNMENT OF THE VIRGIN ISLANDS

ALL FUNDS

COMPARATIVE STATEMENT OF OPERATING REVENUES AND LOANS, FISCAL YEARS 1962-69

	1969	1968	1967	1966	1965	1964	1963	1962
Revenues:								
Real property taxes	$2,207,808	$2,308,206	$1,006,052	$959,440	$835,759	$760,043	$590,080	$499,414
Income taxes	38,212,304	25,942,774	22,927,643	17,462,234	13,233,677	10,707,373	7,511,216	7,221,686
Inheritance taxes	114,206	77,385	820,963	89,870	24,786	59,309	18,898	37,530
Revenue stamp taxes	615,794	464,558	337,885	323,020	307,946	195,116	144,335	135,719
Trade, excise, corporation, gross receipt taxes	9,794,853	7,994,996	6,375,572	5,317,683	4,252,254	3,434,618	1,974,344	1,676,071
Taxes held in escrow	8,789,385	5,935,637	5,100,217	1,899,959	720,703	1,032,027	443,473	305,100
Gasoline taxes	742,587	626,920	532,257	582,387	342,442	294,516	274,498	259,383
Other taxes	24,556	388,984		135,300	10,228	30,087		
U.S. custom dues	6,762,343	4,804,000	3,600,000	2,100,000	1,475,000	1,375,000	1,260,000	747,085
Licenses, fees and permits	1,815,122	1,304,094	1,103,772	833,472	752,326	664,839	536,210	462,066
Fines, forfeits and penalties	154,750	118,180	86,134	77,603	71,073	84,706	109,427	64,874
Court costs, fees and charges	17,186	15,289	17,585	15,504	14,743	12,897	20,447	19,227
Hospital service charges	775,661	870,613	498,812	315,622	264,129	313,505	209,238	204,379
Sewerage service charges	35,814	40,674	32,531	32,708	36,493	31,562	28,437	32,191
Water supply service charges	802,411	665,435	429,129	239,611	211,890	194,099	159,320	149,123
Harbor service charges	165,492	138,242	121,471	86,525	82,489	81,203	55,658	184,552
Revenue from use of money and property	944,126	1,699,248	1,198,503	392,445	312,150	221,392	300,847	234,571
Sale of government property	13,920	71,007	33,131	15,210	28,126	7,838	27,456	45,632
Matching fund contributions	12,627,871	12,367,772	11,073,732	10,405,984	8,313,413	7,042,107	7,682,529	6,173,478
Federal grants-in-aid	6,107,086	4,903,532	5,737,652	3,064,894	2,193,395	2,465,852	1,647,192	1,351,405
Proceeds from royalties	1,380,000							
Other revenues	3,331,148	1,157,130	381,640	238,867	233,929	297,817	130,850	147,324
Total operating revenues	95,434,513	71,894,766	61,504,681	44,588,338	33,716,942	29,305,906	23,124,450	19,950,288
Loans:								
Bond anticipation notes	352,000	6,853,000	4,455,000	1,400,000	6,260,000			
Proceeds from bonds	725,000							
Total loans	1,077,000	6,853,000	4,455,000	1,400,000	6,260,000			
Grand total	96,511,513	78,747,766	65,959,681	45,988,338	39,976,942	29,305,906	23,124,450	19,950,288
Fund source:								
General	56,117,511	43,011,233	35,682,116	26,562,898	20,548,761	17,090,386	11,757,858	11,094,489
Matching	12,756,771	12,672,145	11,258,244	10,533,210	8,387,143	7,260,028	7,770,630	6,214,954
Essential project		9,924	5,814	16,431	21,462	34,573	50,775	47,759
Special and other	26,560,231	16,201,464	14,558,507	7,475,799	4,759,576	4,920,919	3,545,187	2,593,086
Bond anticipation notes	352,000	6,853,000	4,455,000	1,400,000	6,260,000			
Proceeds from bonds	725,000							
Total Fund source	96,511,513	78,747,766	65,959,681	45,988,338	39,976,942	29,305,906	23,124,450	19,950,288

GOVERNMENT OF THE VIRGIN ISLANDS

ALL FUNDS

STATEMENT OF STANDARD GOVERNMENT OPERATING REVENUES AND PROCEEDS OF LOANS, JULY 1, 1968 TO JUNE 30, 1969

Source of revenue	Total	General fund	Matching fund	Essential projects fund	Special and other funds
Taxes:					
Real property taxes	$2,607,808	$2,207,808			
Income taxes	38,212,304	38,212,304			
Inheritance taxes	114,606	114,296			
Stamp taxes	615,794	615,794			
Corporation franchise taxes	79,816	79,816			
Production taxes	24,556	24,556			
Gasoline taxes	742,587				$742,587
Gross receipts taxes	6,127,549	6,127,549			
Trade and excise taxes	3,587,488	3,587,488			
Taxes held in escrow	8,789,385				8,789,385
Total taxes	60,801,583	50,969,611			9,531,972
Government operating income:					
Sewerage service charges	35,814	31,475			4,339
Water supply charges	802,411	779,994			22,417
Hospital service charges	775,661				775,661
Miscellaneous service charges	221,287	221,287			
Sale of property and equipment including homestead land	13,920	2,257			11,663
Court costs fees and charges	17,186	17,186			
Harbor dues and services	165,492				165,492
Total government operating income	2,031,771	1,052,199			979,572
Other revenues:					
Licenses, fees, and permits	1,815,122	1,367,934			447,188
Fines, forfeits, and penalties	154,750	37,311			117,439
Collections from United States customs	6,762,343	2,560,871			4,201,472
Rents and concessions	944,126	34,153			909,973
Federal contributions including internal revenue returns	18,734,957		12,627,871		6,107,086
Private contributions	23,186				23,186
Refunds and over deposits	611,751		125,900		485,851
Department services	442,754	7,395			435,359
Proceeds from royalties	1,380,000				1,380,000
Miscellaneous receipts	2,032,170	88,037	3,000		1,941,133
Total other revenues	32,901,159	4,095,701	12,756,771		16,048,687
Total operating revenue	95,434,513	56,117,511	12,756,771		26,560,231
Loans:					
Bond anticipation notes	352,000				352,000
Proceeds from bonds	725,000				725,000
Total loans	1,077,000				1,077,000
Grand totals	96,511,513	56,117,511	12,756,771		27,637,231

GOVERNMENT OF THE VIRGIN ISLANDS

ALL FUNDS

COMPARATIVE STATEMENT OF NET EXPENDITURES—FISCAL YEARS 1962–69

Department or agency	1969	1968	1967	1966	1965	1964	1963	1962
Virgin Islands legislature	$895,664	$848,503	$641,426	$472,126	$429,638	$260,663	$181,389	$232,394
Electoral boards	77,004	46,317	60,132	30,230	48,290	33,773	29,080	5,977
Supervisor of elections	38,027	64,606	40,877	32,910	36,834	46,490	5,205	
Municipal court of the Virgin Islands	341,301	289,160	247,642	253,332	151,523	94,313	66,767	74,365
Executive offices of the Governor	2,992,293	2,632,878	2,061,397	1,344,955	1,160,144	935,365	778,707	495,375
Office of the government secretary	377,826	328,481	323,856	284,871	303,308	269,257	265,467	290,445
Department of Law	503,261	379,693	264,617	222,335	195,184	124,259	122,782	
Department of Finance	26,500,036	24,414,249	9,254,112	5,264,615	4,134,211	3,231,846	1,273,069	868,605
Department of Property & Procurement	2,872,552	2,626,114	2,344,657	1,048,020	450,908	572,324	289,049	318,127
Department of Health	13,526,604	11,426,853	8,350,704	6,447,322	5,383,947	4,168,548	2,919,239	2,945,601
Department of Education	12,718,085	9,608,697	9,984,649	7,260,881	5,004,319	4,367,503	3,025,727	2,566,571
Department of Social Welfare	3,837,402	3,126,324	2,614,084	2,141,723	1,943,577	1,670,935	985,121	1,189,246
Department of Public Safety	3,770,906	2,399,095	1,803,434	1,521,550	1,241,571	1,045,647	829,992	818,554
Department of Public Works	13,912,853	11,868,645	13,889,226	9,144,283	10,099,826	9,572,185	5,895,733	9,108,430
Department of Commerce	2,811,858	2,094,550	1,873,127	1,657,335	1,330,562	1,219,194	932,621	766,308
Department of Housing and Community Renewal	2,378,482	2,478,262	1,533,743	1,079,462	1,287,453	1,276,875	98,389	
Department of Agriculture and Labor				407,263	705,528	572,461	284,270	239,586
Department of Labor	422,060	359,093	325,271	155,610				
Department of Agriculture (Note 1)[1]	1,690,622	2,123,699	1,404,745	479,246				
Virgin Islands airport and industrial resources	2,405,378	1,717,373	2,411,047	128,886				
Virgin Islands employment agency	630,252	479,045	451,678	371,404	326,369	256,019	129,284	130,589
Virgin Islands board of public accountancy	359	301	182	192	132	244		96
College of the Virgin Islands—Local contributions (Note 2)[2]	1,554,880	1,325,000	1,120,303	866,133	670,000	465,000		
Commission on human services	312,193	219,093	106,950					
Department of Conservation and Cultural Affairs	1,671,662							
Totals	96,331,560	80,856,031	61,197,859	40,614,684	34,903,324	30,182,901	18,111,861	20,060,808
Source:								
General fund	53,411,264	41,676,755	33,878,229	25,867,883	21,353,778	13,741,307	11,314,974	8,809,207
Matching fund	6,097,445	5,792,701	7,566,841	4,900,417	5,165,284	6,382,561	2,892,513	5,179,855
Essential projects fund	165,436	45,037	652,915	228,583	1,055,718	3,464,305	2,731,394	3,000,753
Special and other funds	36,657,415	33,341,538	19,099,874	9,617,801	7,328,544	6,594,638	1,172,908	2,970,993
Totals	96,331,560	80,856,031	61,197,859	40,614,684	34,903,324	30,182,901	18,111,861	20,060,808

[1] Note 1: Formerly Department of Agriculture and Recreation.

[2] Note 2: Extracted from Department of Finance expenditures.

Mrs. HANSEN. I would like to express my appreciation to the Office of Territories for your able presentation today. I think it has been one of the frankest the committee has had.

WEDNESDAY, FEBRUARY 25, 1970.

GUAM

WITNESSES

HON. CARLOS G. CAMACHO, GOVERNOR
GEORGE W. INGLING, COORDINATOR OF FEDERAL PROGRAMS
ANTONIO B. WON PAT, GUAM'S WASHINGTON REPRESENTATIVE
RICHARD R. HITE, DIRECTOR OF BUDGET, DEPARTMENT OF THE INTERIOR

Mrs. HANSEN. It is a great pleasure to have the representative of Guam before the committee. The principal witness today is Dr. Carlos Camacho. Governor, it is a pleasure to have you with us here today. I may say I deeply regret that the distinguished speaker of the House in Guam had to leave and cannot be present. However, I am sure Mr. Won Pat, who has been a frequent visitor to the committee, will make an excellent substitute.

Governor, now will you introduce your associates.

Governor CAMACHO. Mr. Ingling, our Federal coordinator.

Mrs. HANSEN. He practically needs no introduction. It is a pleasure, Mr. Ingling, to have you here today.

BIOGRAPHY OF GOVERNOR

Governor, since this is your first appearance before the committee, will you please insert your biography in the record.

Governor CAMACHO. I do have that.

(The biography follows:)

BIOGRAPHY OF GOV. CARLOS G. CAMACHO

Gov. Carlos Garcia Camacho was born on November 16, 1924, in Agana, Guam. His parents are Mr. and Mrs. Felix M. Camacho, of Tamuning..

He is married to the former Lourdes Duenas Perez. They have six children: Carlos Anthony, 12; Felix James, 11; Thomas John, 10; Mary Margaret, 8; Ricardo Jose, 5; and Francis Gerard, 2.

The Governor has three brothers: Juan, a retired Navy chief; Luis, a doctor of dentistry; and Eduardo, an insurance manager; and one sister—Mrs. Josefina C. Tanaka. They all reside in Tamuning.

Prior to World War II, Governor Camacho attended the Guam Institute and the Guam Evening High School. In 1941, his education was interrupted by the enemy occupation, which lasted 32 months.

Following the island's liberation in 1944, the Governor worked as a clerk for both the provisional military government and the Naval Government of Guam. In 1946, he left for the U.S. mainland to pursue higher studies.

From 1946 to 1949, he attended Aquinas College, Grand Rapids, Mich. He then entered the School of Dentistry, Marquette University, Milwaukee, Wis., and 3 years later, in 1952, he received his degree in doctor of dental surgery.

Following graduation from Marquette, Governor Camacho returned to Guam and went into practice as a staff member of the Catholic Medical Center. In 1956, he was inducted into the U.S. Army and served in the Dental Corps for 2 years, with the rank of a reserve captain. Upon separation from active military service, he returned to Guam and resumed his practice in dentistry.

Governor Camacho entered into active politics in 1964 when he and 12 other candidates of the Territorial Party (now defunct) were elected as members of the Eighth Guam Legislature for a 2-year term. He was chairman of the committee on public health and welfare, and member of the committee on rules, committee on education and labor, committee on municipal affairs, and committee on economic development.

After an unsuccessful attempt for reelection in November 1966, Governor Camacho and several Territorial Party leaders left the party and formed the Republican Party of Guam. He is one of the four incorporators of the local Republican Party and was chairman of the Guam delegation that attended the National Republican Party Convention in Miami Beach in 1968. The delegation sought and attained recognition from and affiliation with the National Republican Party during this trip.

On May 6, 1969, he was nominated by President Nixon for the post of the Governor of Guam and was confirmed by the U.S. Senate on June 20, 1969. He was sworn into office during an inaugural ceremony in Agana, the capital of Guam, on July 1, succeeding Democratic Gov. Manuel F. L. Guerrero.

Governor Camacho is a member of the Guam Dental Society, American Dental Association, and the Knights of Columbus.

STATEMENT OF GOVERNOR

Mrs. HANSEN. Governor, will you please insert your general statement in the record and summarize it for the committee.

Governor CAMACHO. If it meets with your approval, I would like to submit the statement for the record.

Mrs. HANSEN. Very good.

(The statement follows:)

This being my first appearance before this distinguished body I wish first of all to extend to you a warm "Hafa Adai" from myself and the people of Guam. It is my great pleasure to be here today, and I would like to solicit your understanding and generosity on behalf of your fellow Americans who live thousands of miles away in the Western Pacific. Despite our remoteness from the continental United States, we are nonetheless an integral part of America and cherish mostly proudly the ideals and the heritage that our founding forefathers fought and died for.

Since Mr. George Ingling, our Federal program coordinator, is here with me today, I shall ask him to answer questions concerning the details of our budget request. With your permission, I would like at this time to give this committee an overview of the condition of our territory and what direction it is heading.

NEW POLITICAL ERA

As you know, Guam is entering into a new political era. This November, we will elect, for the first time, our Governor and Lieutenant Governor through popular ballot. This is made possible by the enactment of the Guan Elected Governor Act in late 1968. With this election, we on Guam usher in a new day of greater self-government.

KEY U.S. MILITARY BASTION

We take great pride in the fact that Guam is where America's day begins. Our island territory, since the end of World War II, has been a key U.S. military bastion, a strategic outpost in our over-all national defense posture. We are very much involved in the Vietnam war, for from Andersen Air Force Base B–52's take off daily on a bombing mission to support our ground troops.

In addition, thousands of our sons have fought and are still fighting for the cause of peace and freedom in that country, and to this day, 54 have died in the battlefield. By itself, this figure seems insignificant when compared with the more than 40,000 U.S. fatalities in this war thus far. But may I point out that on per capita basis. Guam holds a higher death rate than any other U.S. community comparable in population.

We are loyal and patriotic Americans, and despite the loss of our 54 boys in Vietnam, I am proud to report there has not been a single public demonstration against our Nation's involvement in that war. And for your information, many of our boys are voluntarily requesting assignment to the war zone for a second or third time.

SHOWCASE OF AMERICAN DEMOCRACY

Although I have stated that Guam is a key military bastion, it is, however, not only that, more importantly, Guam is a showcase of American democracy in the Pacific. The eyes of various nations in the Far East and Asia are looking at us at all times. It is, therefore, most important that we build our Territory in the true image of a modern American community—a place where our Asian neighbors can see democracy in action under which free people live in peace and prosperity.

FINANCIAL ASSISTANCE

To build and maintain this image, however, requires a multitude of things, especially huge financial resources. Because Guam presently has limited capability in this respect, we therefore look towards our Federal Government for much assistance. And I am happy to say they have been very generous to us, and we hope they will continue to do so. You can rest assured that every cent the Federal Government infuses into our island is well spent.

ECONOMIC DEVELOPMENT

Our economic development for the past several years has taken on a most encouraging pattern. Our government and our private enterprises have been pooling their resources in an overall effort to develop a stable and sustaining civilian economy. We are growing in practically all directions, and we are confident that the future holds much more promise.

The gross business receipt, according to our Department of Commerce, totalled $215,293,061 for fiscal year 1969—an increase of $47 million over the previous year's.

The availability of loans and other banking services in Guam has also increased, with the opening of a branch last month by the First National City Bank of New York. This brings to three the number of banks now serving the Territory. The other two are the Bank of America and the Bank of Hawaii and, in addition, we have the Guam Savings and Loan Association.

COMMERCIAL PORT

Guam imports approximately 96 percent of essential goods, including canned, frozen and fresh foodstuffs. To better handle the inflow and outflow of commodities, we have built a new commercial port with funds generously made available by the U.S. Congress on a 50–50 loan and grant basis. Officially opened last month, it includes container operation using a 30-ton gantry crane to facilitate loading and unloading of cargo. The new port, located at Cabras Island in Apra Harbor, is a modern $12-million complex which took 3 years to build.

TOURISM

Tourism appears to be the No. 1 stimulus in our economic growth. Five years ago, tourists were hardly seen on the island. Today, one sees busloads of visitors making daily sightseeing tours around the island. For the past 3 years, the inflow of tourists has grown at a comparatively fantastic rate. In fiscal year 1967, the Guam Tourist Commission reported 4,500 visitors who spent an estimated $400,000 while on the island. That figure rocketed to 18,000 visitors and $3,609,000 in fiscal year 1968 and in the previous fiscal year, it again increased to 30,000 tourists and $10 million spent on Guam. According to a projection, fiscal year 1970 will see some 40,000 visitors coming to our shores and spending an estimated $15 million.

The vast majority of the tourists are from Japan, of which a good percentage are honeymoon couples. Next are the Australians who come in large groups aboard cruise ships making a brief stop-over while on a circle tour of the Orient.

Among other things, the growth of tourism may be attributed to the expansion of air passenger service to Guam from various points. Five years ago, only Pan Am was servicing Guam from Honolulu and Tokyo and Manila. Now we have two additions, Continental Airlines and Trans World Airlines (TWA) which have daily scheduled flights to the United States and the Far East.

AIRPORT EXPANSION

With the increased air service, the 4-year-old Guam International Airport must be expanded to provide adequate accommodations. This is an urgent and immediate requirement, for at the moment the terminal has only one hardstand where as many as five planes are on the ground at one time, with hardly any parking space available. It is for this reason that we are asking $1 million in the budget before you so that we can develop the land area to the east of the terminal and build additional hardstands which are badly needed. This project will require land filling which can be obtained by leveling a nearby hill, which area can later be used for parking space for the new 747 jetliner.

HOTEL CONSTRUCTION

With tourism offering promising economic growth, the island is also witnessing a boom in hotel construction. The luxurious Guam Tokyu Hotel, built on the shores of scenic Tumon Beach, began operation in November, although not all of its 150 rooms have been completed. Another hotel-complex by Continental is under construction, offering 150 private rooms and cottage-type accomodations when completed sometime next year. A first-class Guam Hilton Hotel with 200 rooms will soon begin construction in the Tumon Beach area as will another luxurious tourist hotel. These new complexes are supplements to the five hotels and motels now in operation, which offer total room accommodations of 700.

With the population continually increasing and communities likewise growing, there is an urgent need to expand the island's water and sewer systems. For this purpose, we are requesting $362,000, of which $137,000 is earmarked for the expansion of the northern water system and $225,000 to install a sewer system for the villages of Chalan Pago and Ordot where wells have been drilled and need protection from contamination.

Sewer systems are being developed through funds made available under the Guam Rehab Act. Presently, sewer facilities are either already available or are under construction in 11 of the island's 19 villages.

POWER FACILITIES

Our power facilities also need immediate expansion. With the increase in business activities and construction of residential subdivisions and individual homes, the demand for power has exceeded the supply available. In a move to resolve this problem, the Guam Power Authority was created by law in May 1968 as an autonomous corporation. To provide financial cushion for its massive operation, the GPA was authorized to issue revenue bonds to the public.

Among other things, the authority has obtained commitment of $11 million from the Bank of America for the purchase of bonds which will be used to finance generation and plant facilities. GPA has already sold $1,425,000 in bonds to pay for 11,000 kilowatts of generating power to be produced by four diesel plants and has purchased another 11,000-kilowatt generating unit, all of which will be installed and operating this year. The committed funds will permit the construction of a large steam generating plant which is expected to be completed in 2½ years.

EDUCATIONAL SYSTEM

Of primary concern of my administration and of the people of Guam is the continued upgrading and expansion of our educational system. This is particularly urgent, since student enrollment continually increases every year, thus requiring additional classroom space and equipment. In the public elementary and secondary schools, for example, the September enrollment was 21,781, which was 1,319 more than the previous year. It is projected to increase by approximately 2,500 annually for 1971 and 1972.

It is, therefore, highly necessary that we expand our facilities to provide adequate accommodations. In this respect, we are asking for $7,187,000 in the 1971

budget request for additional classroom facilities. This amount will be used to build a new junior high school, 47 additional elementary classrooms, and additional classrooms for the Guam Trade and Technical School. Likewise, it will be used to construct 20 kindergarten classrooms to supplement the 20 already funded in the 1970 program. These will be utilized for kindergarten training of some 2,000 children who first learn to speak the Chamorro language and have difficulty with English.

PUBLIC FACILITIES AND SERVICES

Like in any other American community, expansion of public facilities and services is a continuing thing. There are a multitude of tasks to be performed which require much spending on the part of the government. This is particularly so in Guam, where we are still in the process of building an island community that has been ravaged by World War II and by a devastating typhoon in 1962.

Much remains to be done. In addition to what I have discussed, our highways and roads need to be expanded and upgraded, our telephone system is wanting of much improvement, the shortage of standard and decent homes for every family must be attended to, and we need to expand and improve our hospital and health care facilities as well as our social services to our less fortunate citizens, and undertake more capital improvement programs.

BUDGET REQUEST FOR FISCAL YEAR 1971

The funds we are requesting for fiscal year 1971 total $8,549,000. Of this amount, $7,187,000 is for educational facilities, $362,000 for water and sewer systems, and $1 million for the expansion of our airport. Additionally, we are requesting $52,000 for the operation of the Governor's office for the first half of fiscal year 1971. From then on, such operational funds will come from local source, as provided by the Guam Elective Governor Act.

We can never overstress our need for Federal assistance at this stage of our development. Although our revenue grows annually it is, nonetheless, absorbed by the demand for greater public services and capital improvements that a surplus never exists. We are pooling all our human and financial resources to respond to the ever-increasing needs of the public, but we are just barely meeting them.

Every assistance we can get from the Federal Government will be greatly appreciated by the people of Guam. It is my sincere hope that this committee will look favorably upon our request for fiscal year 1971, and again help us, as it has done in the past, to build a better tomorrow for your fellow Americans in Guam where America's day begins.

Hafa Adai and Si Yuus Maase.

Thank you very much.

Mrs. HANSEN. Thank you.

Governor CAMACHO. With your permission, I would like to summarize the statement.

Mr. Chairman and members of this committee, for more than 7,000 miles over sea and land I have traveled to be here today to testify in support of Guam's 1971 budget request for rehab programs. This is my first appearance before this distinguished committee, and I would like, first of all, to extend a most cordial "Hafa Adai" on behalf of myself and your fellow Americans on Guam.

Likewise, I want to say "Si Yuus Maase" for your kind understanding and generosity in the past. We on Guam truly appreciate the assistance which has been extended us by this committee.

I come in great hope that you will look favorably upon our much-needed budget request. This I ask of you because I can assure you that every cent of the $8,601,000 we are now seeking is vitally essential to implement the programs for which they are earmarked.

NEED FOR NEW SCHOOLS, WATER AND SEWER SYSTEMS AND AIRPORT EXPANSION

Of this amount, $7,187,000 is for the construction of a new junior high school and additional badly needed classrooms, $225,000 for the installation of sewer systems in the villages of Ordot and Chalan Pago; $137,000 for the installation of a water system in the northern area of the island, and $1 million for the expansion of our airport facilities.

Mr. George Ingling, our Federal program coordinator, is also here today to provide further details on our budget request and to answer other questions the committee may wish to ask.

Gentlemen, I would like to impress upon you today the fact that Guam is still in the process of developing into a modern American community. Much remains to be done. Our educational facilities must be continually improved and expanded to meet the ever-increasing student enrollment every year. Our roads and highways are wanting of much improvement, as are our water, sewer, power, and telephone systems.

INCREASE IN ECONOMY

But we are progressing in many ways and things are looking brighter. Our economy is picking up steam, with gross business receipts for fiscal year 1969 totaling $215,293,061—an increase of approximately $47 million over the previous year.

TOURISM

Our fledgling tourist industry, which holds great economic promise, is growing at a rapid pace with 30,000 visitors coming last year, and we expect 40,000 during the current year. To accommodate the influx of tourists, three new luxurious hotels are being built to augment the five we already have.

POPULATION OF GUAM

Guam is a strategic military outpost in the Western Pacific. But more importantly, it is a growing American community where 100,000 American citizens reside. Because of our location, we also serve as the showcase of American democracy to our Asian neighbors. It is most important that we build a good image—an image that will further enhance the prestige of our great Nation. But our financial capabilities are limited, and it is for this reason that we continually turn to our Federal Government for vitally needed assistance.

STATUS OF LOANS AND REPAYMENT

Gentlemen, what we are requesting is not all grants. Of the $8.601 million, $4.55 million is in loans which we will eventually repay. For your information, under the Rehabilitation Act we have so far paid back $1,682,260 in principal and interest.

The people of Guam where America's day begins, will greatly appreciate your favorable consideration of our 1971 rehab budget request now before you.

Hafa Adai and Si Yuus Maase.

Thank you very much.

STATEMENT OF THE SPEAKER OF THE HOUSE, GUAM

Mrs. HANSEN. Thank you very much.

Mr. Won Pat, will you please present the statement of Mr. Arriola, the Speaker of the House of Guam.

Mr. WON PAT. I have not read it. We left at your office Monday the original resolution adopted by the legislature. I have a copy of the resolution and of the statement.

Mrs. HANSEN. You may insert Mr. Arriola's statement and the resolution in the record.

(The information follows:)

STATEMENT OF JOAQUIN C. ARRIOLA, SPEAKER, 10TH GUAM LEGISLATURE

Mr. Chairman and members of the committee, I am honored to be permitted to present to you today the position of my colleagues in the Guam Legislature respecting our government's request to the Congress for appropriations under the Guam Rehabilitation Act for this coming fiscal year 1971. It has been my privilege to appear before your committee in the past with the same task, and I deeply appreciate the many courtesies extended me and the close attention given my views .The Congress has always responded to the needs of the people of Guam, and I am sure that once more, with your committee's aid and assistance, necessary funds will be made available so that we can complete the rehabilitation of Guam that has commenced so favorably, thanks to the previous funding of the Guam Rehabilitation Act.

Although most probably think of Guam as a sleepy tropical island, somnolent under the hot sun of the Pacific with the natives desultorily fishing in the lagoons and husking coconuts, this is a completely inaccurate view, the reality being far different, and in my own opinion, far better. Guam has the second highest traffic density of any American community, being surpassed only by Los Angeles. It has been said that if all the cars on Guam were all to be on the highways at the same time, every mile of the Guam territorial road system would be filled with cars with only one car length between vehicles. The traffic crunch in the metropolitan areas of Guam between 7 and 9 in the morning and 4 and 6 in the evening is as bad as any place I know of. Thus, we must have funds to expand our territorial highway system. Our main road, Marine Drive, is totally insufficient and something has to be done.

Another facet of our daily life that is hardly typical of the sleepy South Seas is our fantastically growing public school system. We have three high schools already and a 4-year university. It is clear that we must have another high school in the immediate future and with islandwide kindergarten being provided for the first time this fall, our need for additional classrooms is very great. The department of education perforce has had to rent old quonsets left over from the Second World War and other substandard buildings, some even antedating World War II to be used for Operation Headstart and for beginning kindergarten. At one time in the early 1960's when the population growth of Guam was closely studied, it was announced that our population increase was the highest in the world, surpassing even Egypt and other places of well-known high birth rates. The median age of our population is approximately 14. This means that a very large proportion of local tax money must be spent on education, and that we cannot keep up with the demands for additional capital facilities for education.

Another crisis we are facing is that of public power, which cannot keep pace with the increasing demand by the civilian community. Our power outages are now frequent occurrences to the extent that several business establishments have installed their own generators. We have established an independent Guam Power Authority and our own government of Guam power-generating facilities will soon be on the line. Unhappily, we need even more such facilities just to keep up with the growing power consumption of our community.

Not too many years ago, Guam was serviced by only one air carrier and flights from the mainland and Manila—the only two directions one could come from—were only three a week. Now, TWA has gone into competition with Pan American and is servicing Guam on its round-the-world flight via Hong Kong 6 days a week and this is soon to increase to two flights daily. Pan American

has substantially increased its own flights and now in addition flies direct between Tokyo and Guam, bringing daily more and more Japanese tourists to our territory. Continental Airlines is operating from Guam throughout the trust territory and to Okinawa and Honolulu. Japan Airlines will be landing on Guam by May of this year. We are rapidly becoming the central terminal of air travel in the Western Pacific, just as was predicted by the examiner in the Trans-Pacific route case.

To take care of this influx of tourists, two new hotels have opened in Tumon Beach, Guam's Waikiki, Hilton will soon have a Guam branch, a Continental hotel is to open soon, and two other Japanese resort hotels are planning for openings in 1971. When our new airport was dedicated in 1967, there were no resort hotels in Guam. In the very near future there will be six. Guam is thus rapidly becoming a center of tourism in the western Pacific. Because of the very reasonable roundtrip fare between Tokyo and Guam, and the fact that compared to Tokyo with its smog, bustle and huge population, Guam is a sunny and relatively unpopulated place, our island is rapidly becoming the Niagara Falls of Japan, a very large proportion of the Japanese tourists being young honeymooners.

It is indeed ironic that Guam, the only part of America occupied by the enemy during the Second World War, and that American community that suffered most heavily at the hands of the Japanese—all of us having personal experience with the brutal enemy—is now receiving a tremendous economic boost by the same Japanese, who now come as tourists with dollars in their hands, rather than bayonets. We of Guam harbor no ill will nor do we savor our bitter memories. We are glad to welcome the Japanese as tourists and we hope to attract even more of them in the future.

Finally, in an attempt to get the Government of Guam out of those businesses we inherited from the old naval government, we in the legislature are studying a bill introduced in our January session that would authorize the sale of the Government of Guam telephone system to private owners.

I would, therefore, wish to sum up my statement to this committee to say that Guam is trying to catch up with the rest of America in becoming a modern progressive American community which is not totally dependent on the vagaries of defense budgeting but can operate successfully with a mixed economy of its own even when the so-called Guam doctrine results in the dismantling of American defense bases in the Far East. We therefore again solicit your help in bringing this economic independence, by lending us the money we need to build the infrastructure of a modern American community, our country's showcase for democracy in the Far East. Guam is where America's day begins. Let it begin with a bang, not a whimper.

Thank you very much.

TENTH GUAM LEGISLATURE 1970 (SECOND) REGULAR SESSION

Resolution No. 398

(Introduced by Committee on Rules, by request of the Governor in accordance with Section 6(b) of the Organic Act of Guam)

RELATIVE TO EXPRESSING THE CONCURRENCE OF THE GUAM LEGISLATURE IN THE REQUEST OF THE GOVERNOR OF GUAM FOR APPROPRIATION BY THE UNITED STATES CONGRESS PURSUANT TO THE PROVISIONS OF PUBLIC LAW 170, 88TH CONGRESS AS AMENDED.

Be it resolved by the Legislature of the Territory of Guam:

Whereas, section 2 of Public Law 170, 88th Congress as amended, "An Act to provide for the rehabiiltation of Guam, and for other purposes," provides for concurrence of the legislature with requests of the Governor for funds authorized by said act; and

Whereas, the Governor has submitted to the legislature a list of projects and the estimated cost thereof, for which appropriation requests for fiscal year 1971 must be made to the Congress; and

Whereas, the legislature has had the opportunity to examine such budget requests, and finds that said requests should be made to the Congress; now therefore be it

Resolved, That the 10th Guam Legislature does hereby on behalf of the people of Guam, concur with the requests for appropriation under Public Law 170, 88th Congress as amended, to be made by the Governor of Guam, such requests being listed in the exhibit annexed hereto; and be it further

Resolved, That the 10th Guam Legislature does hereby concur with the request of the Governor of Guam for payment of any funds appropriated for the projects shown in the attached list; and further authorizes the speaker of the legislature to execute on behalf of the legislature such documents relative thereto as may be required; and be it further

Resolved, That in the event changing or other development not now foreseen make adjustments necessary in said schedule of projects and/or amounts, the Committee on Finance and Taxation is authorized to act for the legislature in approving the same; and be it further

Resolved, That the speaker certify to and the legislative secretary attest the adoption hereof and that copies of the same be thereafter transmitted to the Governor of Guam.

Duly and regularly adopted on the 10th day of February, 1970.

JOAQUIN C. ARRIOLA,
Speaker.

JAMES T. SABLAN,
Legislative Secretary.

1971 PROJECTS (REHABILITATION ACT, PUBLIC LAW 88–170 AS AMENDED)

Trade and technical school: One four-classroom addition	$207,400
Inarajan Junior High School: One 20-classroom building with cafetorium, library, and administration area	2,225,000
Elementary school facilities: One 29-classroom building with library, audio visual room, cafetorium, and administration area, one 28-classroom building	3,738,600
Kindergarten classrooms: 20 classrooms	1,016,000
Chalan Pago-Ordot sewer system: To provide sewer facilities for the villages of Chalan Pago and Ordot	225,000
Water expansion—Northern area: Ysengsong Road water line extension and construction of reservoir	137,000
Air terminal development: To provide fill in sublevel area for additional hardstands	1,000,000
Grand total	8,549,000

Mr. WON PAT. I am sure if you ask questions pertaining to Guam, I will be able to answer them.

Mrs. HANSEN. I am sure you can.

Mr. FLYNT. Mr. Pat is a walking encyclopedia on Guam.

Mr. WON PAT. I think I am fairly conversant with the legislation.

Mrs. HANSEN. Mr. Won Pat is very conversant with affairs of Guam.

Public Law 90–497 provides for the popular election of the Governor of Guam. The first election for Governor and Lieutenant Governor shall be held on November 3, 1970.

How does the legislature, and the people of Guam, feel about this election?

Mr. WON PAT. You know it is a natural outgrowth for many people and they feel that they are able to exercise a greater autonomy and greater participation in their own government.

And with the passage of the Governorship Act, which provides for the people of Guam to choose their own Chief Executive, people of Guam expect to take part in democratic aspirations. I think the legislature enacted recently a primary law that will provide a medium for greater participation of the electorate to exercise a choice rather than in the typical way of convention which has been done in the past. Of course, the democratic party of Guam by rules has established a primary system in the last 2 years.

The law enacted by the legislature, which is subject of course to the approval or disapproval of the Governor, I think calls for a primary election in June of this year for all parties.

POPULATION STATISTICS

Mrs. HANSEN. What is the total population of Guam and how many are Federal employees?

Mr. WON PAT. It would be difficult for me to say.

Mrs. HANSEN. Mr. Ingling probably has the information.

Mr. INGLING. The total population of Guam now is around 105,000. It is subject to ups and downs due to the military area.

About 71,000 are civilians, the balance are military, about 34,000 military, 71,000 civilians.

SIZE OF GUAM

Mrs. HANSEN. What is the size of Guam?

Mr. INGLING. 210 square miles.

LAND ACQUIRED BY THE MILITARY

Mrs. HANSEN. What proportion of the land is owned by the military?

Mr. INGLING. Approximately one-third.

Mrs. HANSEN. I think the Director of Territories this morning noted to the committee the continuing desire by the military to acquire lands which bring the resulting problems to the territory.

Do you have any comment on that one?

ECONOMIC DEVELOPMENT ASSISTANCE

Mr. WON PAT. While the people of Guam did object in the past to the utilization of more land for national defense for security, as a matter of fact we are on record asking the military to expand their facilities in the island.

But, on the other hand, we have been making tremendous strides in our economic development through the congressional enactment of legislation which provided for economic development assistance. And as a consequence of that legislation, the people of Guam have taken action in developing the civilian aspect of the territory's economy.

We feel that certain areas where the military want to—I will give an illustration like the recent announcement by the military to acquire Sella Bay. The map shows it here. This is undeveloped area. It is what you call a natural harbor there which has a great potential for tourist development. And the Navy would like to use this area for ammunition docks.

Mrs. HANSEN. Does the Navy propose to purchase the area or lease it?

Mr. WON PAT. You see, they could acquire it by eminent domain. Heretofore, we have had no objections to the use of any part of the land for national defense. But we feel since the ammunition dump is right here in the harbor and the reason for relocating this is because we have established a commercial port out here—it has recently opened, a couple of months ago.

To relocate that, you see bringing in the ammunition here and taking it out by truck all the way out to the northern part of the island. It goes through the main island.

Mrs. HANSEN. The ammunition has to be trucked across the island?

Mr. WON PAT. Yes, ma'am. We feel they could find places much closer to where they keep the ammunition where they do not have to use this land which has great potential for our development.

Mrs. HANSEN. Governor, does the military sit down and talk with you and the Legislature of Guam on such decisions as to whether to relocate the ammunition docks?

Governor CAMACHO. Not on that problem. They went ahead and made the press release without the benefit of me knowing what the plans are.

I have been trying to stress to the Navy they have their role, their mission on the island, so the civilian governor has his mission to his people, and unless we can get together on a planning purpose, then we will always be against their acquiring more land on this basis. We think they have more lands in their possession now than they really need.

Mr. FLYNT. If you yield to me at that point, I am disappointed to hear the distinguished Governor of Guam have to make such a statement.

I think that the action of the Navy officials in not communicating this information to you privately before you read the press release that was given to the public on their part was inexcusable. And I hope that the chairman of our subcommittee will take the necessary action to convey this to the chairman of the appropriate subcommittee which has jurisdiction over the naval forces in Guam.

Mrs. HANSEN. This is an unconscionable breach of Government policy.

Mr. Secretary, you had better underline the concept that our Government has to act in good faith with the people of a territory.

Mr. LOESCH. In that regard, I fully agree, the Navy's failure to notify the Governor and the legislature ahead of time was very poor. I may say that the Department of Defense has assured the Interior Department that it will discuss in full its plans ahead of time with regard to the taking of any land in the Trust Territory.

Mrs. HANSEN. I think we should have complete cooperation between the civilian and the military requirements in those areas.

The committee has discovered many times that departments have never discussed joint problems with each other.

Mr. REIFEL. Madam Chairman?

Mrs. HANSEN. Mr. Reifel?

Mr. REIFEL. In this area where the Navy plans to expand, is that below Nimitz Beach?

Mr. LOESCH. It is a little to the south of Agut; further south.

Mr. REIFEL. We experience time and again throughout the United States that the riskiest business any community faces is depending on the military, whether it is air bases, naval bases, or whatever.

And in the Speaker's statement, he says that Guam is rapidly becoming one of the recreational centers of that part of the world, which would materially contribute to your economy.

Mr. LOESCH. That is right.

Mr. REIFEL. I think the Navy should be very, very careful it does not despoil an area that can become a tourist attraction upon which Guam will eventually depend a great deal for its future economy.

Hopefully, tensions will ease and wherever the Navy may be expanding here, they may not need it any longer and pull out, but by that time they will have despoiled the whole area, and it seems they should put the ammunition dump some place else.

It would help the Department and people of Guam to bring this matter to their attention upon which you will eventually depend, because I think you have to look down the road in these places like Guam and the Trust Territory to a self-sufficient economy of its own that does not depend on the military.

Mr. WON PAT. That is our objective.

Mrs. HANSEN. In the South Pacific the United States is on parade before the eyes of the world. It does not do this country any good to talk about how we are going to cure all of the environmental problems at home and then destroy one of the loveliest areas in Guam.

Mr. WON PAT. In this connection, I am hopeful the matter will be definitely decided, but I have asked Secretary Laird about an explanation of this and they have called my office and said they will send it to me.

Mrs. HANSEN. The committee requests that the Secretary of Defense and the Secretary of Interior act together to solve this problem equitably.

JUSTIFICATION MATERIAL

Insert pages 9 through 16 of the justifications in the record.

(The pages follow:)

GUAM

Federal facilities: Fiscal year 1970, $7,536,000; fiscal year 1971, $8,601,000; increase $1,065,000. The increase consist of:

	Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(a)	-50,000	--	52,000	4	Governor's Office expenses for period July 1 to January 4, 1971 at which date expenses funded locally.
(b)	-182,166	--	4,455,500		Rehabilitation projects (Loans).
(c)	+1,297,166	--	4,093,500		Rehabilitation projects (Grants).
	+1,065,000	--	8,601,000	4	

(a) Governor's Office
FY 1970, $102,000; FY 1971, $52,000. Decrease due to funding only July 1, 1970 to January 4, 1971 in accordance with P. L. 90-497, amending Section VI of the Organic Act.

(b) Loans - FY 1970, $4,637,666; FY 1971, $4,455,500 Dec 182,166
(c) Grants - FY 1970, $2,796,334; FY 1971, $4,093,500 Inc 1,297,166
Totals - FY 1970, $7,434,000; FY 1971, $8,549,000 Inc $1,115,000

Funds requested will provide for continuation of the Guam Rehabilitation Program. The budget year program for FY 1971 includes the following projects:

Projects	Loans	Grants	Total Estimate
Trade & Technical School Addition	103,700	103,700	207,400
Inarajan Junior High School	1,112,500	1,112,500	2,225,000
Elementary School facilities	1,869,300	1,869,300	3,738,600
Kindergarten Classrooms	508,000	508,000	1,016,000
Chalan Pago-Ordot Sewer	225,000	--	225,000
Ysengsong Road Water extension	137,000	--	137,000
Air Terminal Development	500,000	500,000	1,000,000
Total	4,455,500	4,093,500	8,549,000

The detailed justification for Rehabilitation Program projects for fiscal year 1971 follows:

TRADE & TECHNICAL HIGH SCHOOL ADDITION, $207,400

This is a continuation of the program started for fiscal year 1970 in providing more shop space for the local students enrolled in day and night classes who will acquire skills to replace alien workers now on the island. This will lead to improvement of the local economy.

Shop space which is urgently needed for trade instruction is occupied by classrooms. By constructing four classrooms with companion toilet facilities, 3,600 square feet will be opened for trade instructional purposes with funds provided by the current budget request.

Cost Factors

4 classrooms of 900 square feet each @ $30 per square foot		$ 108,000
Toilet facilities of 900 square feet @ $40 per square foot		36,000
Site development		10,000
Design		10,000
Contingency and administration		24,400
	Construction cost	188,400
Equipment		19,000
	Total cost	$ 207,400

SUMMARY:

Labor	94,200
Materials	75,360
Equipment	37,840
Total	207,400

INARAJAN JUNIOR HIGH SCHOOL, $2,225,000

A twenty classroom junior high school in the lower end of the island of Guam is essential to provide classrooms for the projected increase of 598 pupils for the fiscal year 1973 over the fiscal year 1972. This school, if funded for 1971, will be ready for the 1973 fiscal year when 5,814 junior high pupils are expected. On a 26 to 1 pupil-teacher ratio established for Guam, 224 classrooms would be required against the 170 available without those covered by the budget request. However, by enlarging the pupil-teacher ratio to around 30 to 1, the junior high school population can be accommodated by 190 classrooms or 20 extra classrooms for fiscal year 1973.

The projected increase in enrollment follows:

Fiscal year 1969-70 - 4,176
" " 1970-71 - 4,516
" " 1971-72 - 5,216
" " 1972-73 - 5,814

Cost Factors

20 classrooms, 1,000 square feet each @ $31 per square foot	$ 620,000
Cafeteria, 7,875 square feet @ $41 per square foot	322,800
Library, 5,825 square feet @ $36 per square foot	209,700
Administration Building, 4,500 square feet @ $39 per square foot	175,500
Gymnasium, 8,500 square feet @ $36 per square foot	306,000
Site development	100,000
Design	75,000
Contingency and administration	251,000
Construction cost	2,060,000
Equipment	165,000
Total cost	$2,225,000

SUMMARY:

Labor	1,030,000
Materials	824,000
Equipment	371,000
Total	2,225,000

ELEMENTARY SCHOOL FACILITIES, $3,738,600

Guam is experiencing and expects a sharply growing enrollment in elementary schools with the 14,389 pupil number projected for the current school year 1969-1970 expected to increase to 17,502 per fiscal year 1972 when the school facilities to be constructed with the 1971 budget request will be completed. The expected 1972 enrollment of 17,502 will require 648 classrooms on a 27 to 1 pupil-teacher ratio with most classrooms having 29 as special enrollment classes contain only 15 pupils. Present construction plans indicate that only 468 will be available without additional construction. By increasing the class number to an average of 29.9 with most classes having 33 to 35 pupils the school system can operate with 582 classrooms or 57 additional as covered by the budget request. These large classes will create a difficult teacher problem due to the island's heat and high humidity and the problem is worsened by the bilingual barrier which requires closer individual instruction.

The funds requested will provide two complete schools; one with 29 classrooms and the other with 28 classrooms. Each will have a cafetorium, library and audio visual room, and an administration area.

Cost Factors

29 classrooms, 1,000 square feet each @ $30 per square foot		$ 870,000
Cafetorium, 7,500 square feet @ $40 per square foot		300,000
Library and audio visual, 3,500 square feet @ $35 per square foot		122,500
Administration area, 1,400 square feet @ $38 per square foot		53,200
Site improvement		100,000
Contract administration and contingency		209,000
Design and Engineering		90,100
	Construction cost	1,744,800
Equipment		144,000
	Total cost	$1,888,800

SUMMARY:

Labor	872,800
Materials	697,600
Equipment	318,400
Total	1,888,800

28 classrooms, 1,000 square feet each @ $30 per square foot		$ 840,000
Cafetorium, 7,500 square feet @ $40 per square foot		300,000
Library and audio visual, 3,500 square feet @ $35 per square foot		122,500
Administration area, 1,400 square feet @ $38 per square foot		53,200
Site improvement		100,000
Design and Engineering		90,100
Contract administration and contingency		205,000
	Construction cost	1,710,800
Equipment		139,000
	Total cost	$1,849,800

SUMMARY:

Labor	855,410
Material	684,310
Equipment	310,080
Total	1,849,800

KINDERGARTEN CLASSROOMS, $1,016,000

This project will provide 20 classrooms and the second increment of a 40-classroom program to provide badly needed preparation in English for preschool local children with Chamarro language background. Funds for the first 20 classrooms were included in the fiscal year 1970 budget request. Approximately 2,000 children will need this program in fiscal year 1972 with 1,000 covered under the first increment of 20 classrooms with two sessions daily. The additional 20 now request-

ed are needed to aid the remaining 1,000 children.

Cost Factors

20 classrooms, 1,200 square feet each @ $31 per square foot		$ 744,000
Site improvement		20,000
Design		45,840
Contingency and administration		110,160
	Construction cost	920,000
Equipment		96,000
	Total cost	$1,016,000

CHALAN PAGO-ORDOT SEWER SYSTEM, $225,000

Lack of a sewer system for these villages jeopardizes the safety of the water system in this area where 11 water wells have been drilled recently. Reliance is presently placed by the inhabitants on septic tanks, cisterns, and privy holes which may easily contaminate the water source.

This project will provide 3 1/2 miles of sewer line which will be hooked up to the central sewer system recently installed.

Guam is eligible for and has obtained sewer grants from the Department of Housing and Urban Development on a 50-50 basis. Accordingly, only 50% of the project cost of $450,000 is included in the budget request. It is planned to seek a grant from the agency indicated for the balance of $225,000.

Cost Factors

Trunk sewer		
4,000 feet, 10 inch pipe @ $19.45		$ 77,800
6,000 feet, 8 inch pipe @ $17.90		107,400
Lateral sewers		
6,000 feet, 8 inch @ $16.50		99,000
Pumping Station		75,000
Design and Engineering		35,000
Contingency (9%) and administration		55,800
	Total cost	450,000
	Less grant	225,000
	Budget cost	$ 225,000

SUMMARY:

Labor	180,000
Materials	225,000
Equipment	45,000
Total	450,000

YSENGSONG ROAD WATER PROJECT, $137,000

Extension of the water line in the northern area to integrate the system and construction of a reservoir for backup supply and fire protection is vital to service this fast-growing area where some one thousand additional homes are already in the planning stage.

Guam's Public Utility Agency is eligible for and has received grants for water projects representing 50% of construction cost. It is planned to seek a grant for the 1971 project and accordingly only $137,000 is included in the budget request.

Cost Factors

8,700' of 8 inch pipe @ $9.00 per l.f.	$ 78,300
One million gallon reservoir	110,000
Design	15,000
Contingency and administration cost	32,500
Total cost	235,800
Less grant	98,800
Budget request	$ 137,000

SUMMARY:

Labor	94,320
Materials	117,900
Equipment	23,580
Total	235,800

AIR TERMINAL DEVELOPMENT, $1,000,000

Three airlines are now serving Guam and on many days as many as five airlines are on the ground with only one hardstand available and one under construction to accommodate them, requiring storage on taxiways which deteriorate under the load. Three additional hardstands are essential and these can be placed in the sublevel area adjacent to the air terminal which requires fill. This fill can be taken from a hilly area farther east, making this land available at a later date for 747 passenger airplanes. Growth of passenger cargo and mail loads to Guam has grown sharply and is expected to increase further in the future as shown below and will attract other airlines which have already shown interest in a route through Guam. The number of planes requiring parking will thus increase daily in the future, making expansion action now mandatory. The projection follows:

	PASSENGERS	CARGO (LBS)	MAIL (LBS)
1967	77,438	5,010,183	5,103,594
1968	101,107	5,663,798	6,557,476
1969	126,869	7,326,951	7,001,692
1975	424,000 est	22,000,000 est	18,500,000 est

Cost Factors

Mass fill, 160,000 cy. yd. @ $3.50 cy. yd.	$ 560,000
Grading, 47,000 sq. yd. @ $.40 sq. yd.	18,800
Drainage	
54" reinf. conc. pipe, 1,650 lf @ $55 lf	90,750
60" reinf. conc. pipe, 2,650 lf @ $66 lf	174,900
Manholes, 9 @ $1,717 ea	15,450
Design	25,000
Contingency and administration	115,100
Total cost	$1,000,000

SUMMARY:

Labor	500,000
Materials	400,000
Equipment	100,000
Total	1,000,000

2. GUAM

Government Comptroller: Fiscal year 1970, $239,400; fiscal year 1971, $118,000; decrease, $121,400. The decrease consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1) $ -121,400	-	$ 257,490	15	$118,000 financed by transfer from Sec. 30 funds, and balance of $139,490 from FY 1969 savings.
-121,400	-			

(In thousands of dollars)

	1969	1970	1971	Increase
Funded by transfer	162	239	118	-122
Unobligated balance carried forward	-160	-139	-	+140
Unobligated balance applied to Budget program	-	160	139	- 21
Total Program requirement	2	260	257	- 3
Full-time permanent positions authorized	15	15	15	

Program of Work

P.L. 90-497 established a new office and provided that the salaries and expenses shall be paid from funds otherwise covered into the Treasury of Guam, pursuant to Section 30 of the Organic Act of Guam (64 Stat. 384, 48 U.S.C. 1422).

Due to delay in setting up the new office as a result of recruitment difficulties, $160,090 of the $162,200 available in F.Y. 1969 remained unobligated on June 30, 1969. Of this amount $20,600 has been applied to the current 1970 fiscal year program, and the balance of $139,490 has been applied to the FY 1971 total program to reduce the amount funded by transfer from Sec. 30 funds to $118,000.

The FY 1970 program reflects the cost of operating this activity at a staffing level of 12 permanent positions, plus related operating costs. The budget year program remains at approximately the same level. The small net decrease in the total program is due to the non-recurring nature of costs related to new employees -- e.g. travel and transportation, shipment of household goods, and office equipment.

UNOBLIGATED AND UNEXPENDED BALANCES

Mrs. HANSEN. On January 31, 1969, you had about $2 million unobligated and $14.2 million unexpended of total funds previously appropriated for Guam. What are the comparable figures as of your latest reporting date?

Mr. INGLING. I have a report here of the balances and the appropriations for Rehabilitation Act projects. We have had $43 million appropriated and we have withdrawn $38 million.

The unexpended balances I have tabulated here in a statement. It shows on January 31, 1970, we had $11,830,742.73 unexpended.

On January 31, 1970, we had $7,104,490 unobligated.

Mrs. HANSEN. Is this largely construction funds?

Mr. INGLING. Practically all construction. We had some plans.

Mrs. HANSEN. Will this balance be obligated?

Mr. INGLING. This unobligated balance will be obligated by June 30 of this year. I am sure of that.

Unfortunately, we had only $190,808 unobligated on June 30, 1969. This was out on bid at that time and was obligated by the end of July.

There will not be any sizable expenditure out of the obligations this year; it will be spent next year.

These are all important projects for Guam and, unfortunately, we have not moved as fast as we would like to, but we are moving fast now.

Mrs. HANSEN. Why?

REHABILITATION PROJECTS

Mr. INGLING. We have had trouble in selecting the sites, we have had trouble in designing the projects to come within the money, and we have been hit by the water pollution emphasis. The recent plan adopted by Guam for an islandwide sewer system indicates that we should take the sewage from Yona to the lee side of the island and we are redesigning this system to come down the road to Chalan Pago and go on through there to the outfall to the sea instead of as originally contemplated, taking the sewage by trunk line through a treatment plant to the windy side of the island.

BALANCE OF FUNDS FOR PORT PROJECT

Mrs. HANSEN. Of the total amount you reported unexpended as of January 31, 1969, $5.9 million related to the commercial port. What is the current unexpended balance in connection with this project?

Mr. INGLING. Unexpended balances in connection with the commercial port are $396,247.96 for the first phase, $38,995.21 for the second phase, and $348,921.61 for the third phase.

BALANCE OF FUNDS FOR SEWER SYSTEM

Mrs. HANSEN. Your total unexpended figure for January 31, 1969, was $1.7 million for the sewer system. What is the current unexpended balance for this project?

Mr. INGLING. The sewer system first phase balance is $39,143.67; the second phase, $584,724.10.

The third phase is $1,182,372.35.

SINAJANA URBAN RENEWAL PROJECT

Mrs. HANSEN. What progress are you making on the urban renewal project at Sinajana?

Mr. INGLING. Urban renewal is moving well. The land has been acquired and the first phase of the project requiring development of the area is now out on bid.

The companion nontitle one subdivision, as we call it, is under construction. It has been bid out and is now under construction.

Mrs. HANSEN. Do these bids cover the $1.6 million unexpended as of January 1, 1969?

Mr. INGLING. Yes.

Mrs. HANSEN. I think it would be well for you to place in the record an identical table to that included on page 447 of last year's hearing, indicating your unobligated and unexpended balances of June 30, 1969, and also as of January 31, 1970.

These amounts should be broken down by the year in which the funds were appropriated and by each project involved for which funds have been appropriated.

Mr. INGLING. I have that for the record.

Mrs. HANSEN. Very good.

(The document follows:)

GUAM, REHABILITATION ACT PROJECTION, UNEXPENDED BALANCES

	June 30, 1969	Jan. 31, 1970
Fiscal year 1965 projects:		
Educational facilities:		
George Washington Senior High	$4,515.60	$4,515.60
Merizo Elementary School	2,395.16	2,058.16
Trade and technical school	0	0
Education administration building	0	0
College library building	426.56	426.56
College fine arts building	521.78	521.78
Village development:		
Sinajana	0	0
Asan	0	0
Public works:		
Public works buildings	0	0
Public utilities buildings	0	0
Procurement and supply warehouse	0	0
Penitentiary	0	0
Juvenile institution	5,112.71	5,112.71
Sewer plans	0	0
Sewer system (1st phase)	238,037.07	39,143.67
Resources development:		
Air terminal	139.37	139.37
Economic development plan	8,498.52	8,498.52
Water system:		
Dededo-Tumon (1st phase)	0	50.00
Master plan	0	0
Power: Contribution to Piti powerplant	8,830.00	8,830.00
Fiscal year 1966 projects:		
Educational facilities: College science buildings	6,481.32	7,649.00
Village development: Agana partial lots	45,185.29	41,163.70
Public works: Juvenile institution (add)	0	0
Resources development: Commercial port (1st phase)	412,153.96	396,247.96
Water system: Waterline replacements	28,220.50	28,220.50
Power system: Power substation	10,163.50	10,163.50
Telephone system: Satellite exchange	0	0
Fiscal year 1967 projects:		
Educational facilities:		
Dededo Elementary (addition)	9,792.77	9,792.77
Yigo Elementary	(15,943.39)	9,594.22
Public works: Sewer system (2d phase)	549,056.88	584,724.10
Water system: New sources (2d phase)	115,022.53	115,022.53
Fiscal year 1968 projects:		
Educational facilities: Dededo Elementary (Wettengel)	(69,450.23)	13,970.70
Public works: Sewer system (3d phase)	1,309,239.22	1,182,372.35
Resources development: Commercial port (2d phase)	173,065.64	38,995.21
Water: Water system (3d phase)	205,053.49	80,072.49

GUAM, REHABILITATION ACT PROJECTION, UNEXPENDED BALANCES

	June 30, 1969	Jan. 31, 1970
Fiscal year 1969 projects:		
Educational facilities: Elementary classrooms (26)	$1,052,611.00	$1,010,335.00
Village development:		
Sinajana urban renewal	33,168.72	333,168.72
Sinajana subdivision	198,658.00	117,032.00
Resources development: Commercial port (3d phase)	1,275,731.56	348,921.61
Fiscal year 1970 projects:		
Educational facilities:		
George Washington Junior High (addition)	0	530,000.00
Trade and technical school	0	200,000.00
Dededo Elementary School (24 classrooms)	0	1,400,000.00
Mongmong-Toto Elementary (20 classrooms)	0	630,667.00
Brodie School (addition)	0	280,000.00
Kindergarten classrooms	0	840,000.00
Village development and urban renewal: Yona Urban Renewal	0	662,362.00
Public works:		
Yona sewer	0	577,000.00
Public health and sewer system headquarters building	0	1,200,000.00
Resources development:		
Cabras Industrial Park development	0	429,471.00
Air freight and cargo building	0	392,000.00
Air terminal expansion plans	0	120,000.00
Water system: Northern area water expansion	0	172,500.00
Grand total	5,906,687.53	11,830,742.73
Unobligated balances (fiscal year):		
1969 Sinajana subdivision	190,808	0
1970 George Washington Junior High (addition)	0	496,748
1970 Trade and technical school	0	188,596
1970 Dededo Elementary School (24 classrooms)	0	1,321,694
1970 Mongmong-Toto Elementary (20 classrooms)	0	630,667
1970 Brodie School addition	0	264,624
1970 Kindergarten classrooms	0	789,328
1970 Yona urban renewal	0	662,362
1970 Yona sewer	0	577,000
1970 Public health and sewer system headquarters building	0	1,200,000
1970 Cabras Industrial Park development	0	429,471
1970 Air freight and cargo building	0	371,500
1970 Air terminal expansion plans	0	0
1970 Northern area water expansion	0	172,500
Total	190,808	7,104,490

SCHOOL ENROLLMENT

Mrs. HANSEN. Based on present population trends, please insert in the record a projection of your elementary and secondary school enrollment for the next 5 years. The information should be listed by school year and should be broken down by elementary and secondary school population.

Would you also insert in the record the total number of youngsters in elementary and secondary schools in 1960, 1965, and 1969. Also include the number of students that went on to college.

(The information follows:)

PUBLIC SCHOOL ENROLLMENT PROJECTION

	1971	1972	1973	1974	1975
Elementary	15,856	17,502	19,329	21,107	23,318
Junior high school	4,516	5,216	5,814	6,544	7,565
Senior high school	4,205	4,210	4,302	4,653	5,182

NUMBER PUPILS 1960, 1965 AND 1969

	1960	1965	1969
Elementary	9,316	9,436	12,895
Junior high school	2,717	3,594	4,224
Senior high school	1,556	3,110	3,794
Percentage of school age children in school	[1] 96	[1] 97	[1] 97
Seniors going to college	98	229	309

[1] Guam has mandatory school attendance law through age 16. Number not attending are physically handicapped and exceptional children.

SEWAGE NEEDS

Mrs. HANSEN. Would you explain for the record, how you are meeting the sewage needs of Guam.

Mr. INGLING. Currently we have nine villages sewered.

Mrs. HANSEN. Out of how many?

Mr. INGLING. Nineteen. None of them are finished. These are all to some degree under construction.

Mrs. HANSEN. How long have we been in Guam?

Mr. INGLING. Since 1898.

Mrs. HANSEN. In 72 years only nine out of 19 villages have a sewer system? How long has it taken to do these nine? When did you begin sewer construction?

Mr. INGLING. Two villages were partly sewered, this was Agat, about half the village of Agana.

I think they were done by the military after World War II.

Mrs. HANSEN. Two were done by the military?

Mr. INGLING. Yes.

Mrs. HANSEN. When did sewer construction become a Guamanian responsibility?

Mr. INGLING. In 1951.

Those that I mentioned, Agat and Agana are included in our sewer system. We are finishing the sewers for these two villages.

Mrs. HANSEN. At the present rate, how long is it going to take to complete the sewage program?

COMPLETION OF SEWER SYSTEMS

Mr. INGLING. Sewage disposal has been uppermost in our minds. Each year we have added a sewer system, but we have so many needs we cannot devote all of the money to sewage.

Mrs. HANSEN. The budget should be at an adequate level so that sewer systems are completed in a reasonable amount of time. At the present rate you are not going to complete the systems before year 2000.

Mr. INGLING. We are shooting for 1975, but it could well be 1980.

Mrs. HANSEN. I do not blame the officials of Guam. How can environmental programs mean anything if basic sewer systems are not being provided.

Mr. WYATT. Mr. Ingling, of your nine systems that are either finished or underway, are these just sewage collection systems or do you have treatment plants?

Mr. INGLING. Agat has a treatment plant planned. At Yona we planned a treatment plant but we are revising the plan with sewage to flow to the central system, which has an outfall going out into the ocean approximately a thousand feet beyond the reef where the pipe is 90 feet below the surface, and the engineers feel the underflow will take everything out to sea.

Mr. WYATT. It is raw sewage?

Mr. INGLING. Yes.

The possibility of beach pollution indicates to us that we will have to put a treatment plant in Agana and that will be in next year's program.

Mr. WYATT. Ultimately your aim would be to treat all and have no raw sewage?

Mr. INGLING. That is correct.

Mr. WYATT. I think that is certainly commendable and must be done.

Mrs. HANSEN. Is it not true that if you install sewage systems in your villages there is a corresponding decrease in the incidence of disease?

Mr. INGLING. No question about that.

NAVY EXPENDITURES ON GUAM

Mrs. HANSEN. How much does the U.S. Navy Department spend per year in Guam?

Mr. WON PAT. The total defense expenditure is about $170 million.

TOTAL SEWER EXPENDITURES OVER PAST 72 YEARS

Mrs. HANSEN. How much do you spend per year on sewers?

Mr. WON PAT. I do not know that.

Mrs. HANSEN. Will you please insert this information in the record.

(The information follows:)

The amount spent in Guam on sewers during the past 72 years by the U.S. Navy, U.S. Air Force, and civilian agencies totals $13,887,922.

Mrs. HANSEN. I think these are dramatic figures. The longer you wait to develop complete sewer systems the more costly they become.

How many villages have water systems?

Mr. INGLING. All villages.

Mrs. HANSEN. When was the first and last water system completed?

WATER SYSTEMS ON ISLAND

Mr. INGLING. The first was under the military. It has been in for many years. I do not know the exact date.

Mrs. HANSEN. Has the majority of the systems been completed by the Territorial Government?

Mr. INGLING. The Navy put in a reservoir on the lower end of the island which supplied 80 percent of the water for the civilian area. The Air Force has wells which supply the airbase in the upper end of the island.

We started our water project seriously with the first appropriation that was made for fiscal year 1965 under the Rehabilitation Act. This was a project involving seven wells at Dededo and a reservoir. Each year we have had water projects and we spent several million dollars in putting in water facilities to the point where now we take only 15 percent of our water from the military and supply the rest from our own sources.

Mrs. HANSEN. Do you have an adequate water supply?

Mr. INGLING. An adequate supply of water. The upper end of the island has a large water table underneath the soil. In the lower end we have some well water and we have the Ugum River that could be dammed and have a big reservoir there.

Mrs. HANSEN. Is your water supply going to be able to meet future needs?

Mr. INGLING. Plenty of fresh water for the future.

STATUS OF HOUSING

Mrs. HANSEN. What is the present condition of housing?

Mr. INGLING. Housing is not good overall. We have a lot of substandard housing, but since Typhoon Karen, there have been a large number of concrete houses built in Guam with concrete roofs. These will withstand typhoons. But the majority of houses in Guam are substandard.

Mrs. HANSEN. When was your last typhoon?

Mr. INGLING. April of 1963. The big one was November 1962 and then another in April 1963.

Mrs. HANSEN. What percentage of the Guamanian population is adequately housed?

Governor CAMACHO. Roughly 45 or 50 percent.

Mrs. HANSEN. How long do you think it will take to provide adequate housing for a hundred percent of the population?

Governor CAMACHO. It will take a long time. We are still fighting now because we ran through the housing program allocation and are short of money up to June. We are asking for an increased allotment now. But the money situation is very tight on the island. A majority of the people fall in the low-income bracket.

Mrs. HANSEN. The incomes are not at a level to provide the necessary cash for the purchase of housing?

Governor CAMACHO. Yes, ma'am.

Mrs. HANSEN. Do you have public housing for low-income residents?

Governor CAMACHO. Yes, low rental housing.

Mr. WON PAT. The first 250 units are under construction. We have not made a housing survey recently. For moderate-income families, one of the developers of the island, Hawaii Kai, has built over a thousand substantial buildings of concrete, and they are now, of course, in the process of constructing another 1,500 homes there. But the main trouble back there is what they call Fanny May funds. You know the financers, the institutions that finance all of this must be able to call on FNMA.

INTEREST RATES

Mrs. HANSEN. Does the high interest rates affect Guam?

Mr. WON PAT. Oh, yes.

Governor CAMACHO. Eight and a quarter right now.

AVERAGE INCOME OF GUAMANIAN

Mrs. HANSEN. What would you say is the average income of a Guamanian?

Mr. INGLING. Per capita income in Guam now is about $2,100.

AVERAGE COST OF A HOUSE

Mrs. HANSEN. How much does a house cost?

Mr. INGLING. A house will cost a minimum of $15,000.

Governor CAMACHO. A lot of people now are beginning to realize the probability of their houses being lost because of the typhoon storms so that they are desirous of a better type housing, what we call reinforced concrete roofing, which makes typhoon-proof housing. The cost is really higher than the normal shingle house.

Mrs. HANSEN. On a $2,100 a year income, the people of Guam are not going to be able to buy many houses.

Governor CAMACHO. We do have within the Government of Guam really a very low interest rate type housing program, but we just do not have the money to do it.

Mrs. HANSEN. Where does the Government of Guam derive funding for low-income housing?

Governor CAMACHO. From local appropriations.

Mrs. HANSEN. From the local legislature?

Governor CAMACHO. Appropriated funds through the budgetary process. We budget funds whereby low-income people below the poverty level or just a little higher could have houses available.

Mrs. HANSEN. Can you participate in any of the U.S. Federal housing programs?

Mr. WON PAT. Yes.

Mrs. HANSEN. Is money available?

Governor CAMACHO. No money available, so we are trying to get some more.

AVERAGE INCOME FOR FAMILY OF FOUR

Mr. REIFEL. Madam Chairman, I wonder if it would be helpful if Mr. Ingling would give us an average family income figure rather than the per capita. You say $2,100. How about a family of four?

Mr. INGLING. It averages $4,500 a family. Local people supplement their income with chickens and pigs and eggs, and plants and vegetables.

The directors in the government get $15,750. Salaries are not high in Guam compared to the stateside salaries.

COST OF LIVING

Mrs. HANSEN. What is the cost of living in Guam?

Mr. INGLING. Cost of living is higher than in the States. It is ameliorated by bringing in products from Australia. Butter will sell for 60 cents a pound. Other products are proportionately low, but stateside meat will be $2 a pound. So there is quite a difference.

Probably the same meat will sell for 90 cents a pound brought in from New Zealand, but stateside meat is $2 a pound. Cereals you buy on the mainland for 23 cents would cost 45 or 50 cents.

Mrs. HANSEN. Yet the salary is well below U.S. salaries.

Mr. INGLING. Well below the States.

Mrs. HANSEN. Isn't this a strange anomaly?

Mr. INGLING. The high cost of food is caused by importation and a good example of that is low-priced automobiles such as the Valiant would cost $750 for freight from San Francisco to Guam, plus the freight on the mainland. So you immediately have a $750 difference in the cost of that article.

ROADS

Mrs. HANSEN. Do you have adequate roads in Guam?

Mr. INGLING. No. The roads are in very, very poor shape.

Mrs. HANSEN. How many miles of roads do you have in Guam?

Mr. INGLING. We have, as I remember, 125 miles of roads outside the military reservations. Most of these roads were constructed by the military after the war and are gradually breaking up now.

Guam built a new road around the lower end of the island to go by Sella Bay, but all of the rest were there when Guam took over.

Mrs. HANSEN. What is your total overall road funding needs, if you were going to bring your roads up to a good standard?

Governor CAMACHO. The latest figure is $52 million.

Mrs. HANSEN. How much are you spending this year on construction and maintenance of your roads?

Governor CAMACHO. $3 million just for maintenance, no new construction.

Mrs. HANSEN. As your roads deteriorate your maintenance costs keep going up.

Governor CAMACHO. What we are trying to do is to allocate and earmark taxes from local revenue specifically for road purposes.

Mrs. HANSEN. Does the funding for roads come out of the local revenue?

Governor CAMACHO. Yes.

Of course, if the Federal Government could help us along on that, because the military is using our roads. We do not participate in the Highway Act.

Mrs. HANSEN. Does the military make any reimbursement for the use of the roads? Can you tax the gasoline the military uses?

Governor CAMACHO. Yes.

Mr. WON PAT. They are doing that now.

GASOLINE TAX RECEIPTS

Mrs. HANSEN. What is your gasoline tax?

Mr. INGLING. Liquid fuel tax runs around $3.7 million now overall, collection from everything, including the tax for aviation fuel and the tax paid on gasoline sold on the military bases.

Mrs. HANSEN. Not all of the gasoline tax revenue at the current time is used for highways?

Governor CAMACHO. It goes into the general fund. But we are proposing, the latest policy of the administration is to try to get legislation to earmark that revenue specifically for roads.

PLAYGROUNDS AND RECREATION

Mrs. HANSEN. Will you discuss your recreation and playground facilities?

Mr. INGLING. We have a playground with every school.

Mrs. HANSEN. Is this also available to the community?

Mr. INGLING. No. There is a danger in that and they are trying to fence all of the schools because it is difficult to supervise them at night. But I think practically every village now has a playground lighted at night with a basketball court that can be used.

Mrs. HANSEN. The necessity to supervise your playground facilities, is this because of juvenile delinquency or crime?

Mr. INGLING. Vandalism.

DRUG PROBLEM

Mrs. HANSEN. Are you having any difficulty with the drug problem in Guam?

Governor CAMACHO. At the time, no. It is minor. I have known only one or two cases of marijuana. We are aware of it.

Mrs. HANSEN. Are you taking steps to prevent the drug problem from increasing?

Governor CAMACHO. To prevent it.

JUVENILE DELINQUENCY AND CRIME

Mrs. HANSEN. Do you have very much juvenile delinquency in Guam?

Governor CAMACHO. Other than petty vandalism, it is very low.

Mrs. HANSEN. What is your crime rate?

Governor CAMACHO. The crime rate is very, very low.

Mrs. HANSEN. Very good.

CONSTRUCTION PROGRAM

How have your estimated construction costs in the past few years compared with actual construction costs?

Mr. INGLING. They have compared very well except recently when, due to labor cost changes, our last bid came in high. We were able to fund it. Consequently, we have raised the cost in our current budget to $30 a square foot per classroom which we hope will be adequate.

TRADE AND TECHNICAL SCHOOL ADDITION

Mrs. HANSEN. You have asked for an additional $207,400 for your trade and technical high school. How many pupils will it accommodate and what are the specific needs?

Mr. INGLING. We have currently enrolled 489 day students in the trade and technical school and 1,600 students at night.

Mrs. HANSEN. Does your night school include adult education?

Mr. INGLING. Yes; there are adults as well. Mainly adults, in fact, who are trying to upgrade their skills.

Mrs. HANSEN. Do you receive any assistance from Federal programs for developing your educational programs?

Mr. INGLING. Yes. They give grants for construction in this area. The main purpose in asking for money is to take out of the shop space, space now used for classrooms, and build separate classrooms, because the enrollment and need is so great that we need as much of the space in the shop areas as we can have for trade instruction purposes, carpentry, and what have you.

Mrs. HANSEN. Has this training assisted young people and adults in securing jobs?

Mr. INGLING. Yes; all of our graduates in the trade and technical school find jobs quickly, but you have to understand that when they graduate they are only apprentices, they are not full-fledged carpenters.

Mrs. HANSEN. I understand.

LABOR AND MATERIALS COSTS

Are your construction labor costs high in Guam?

Mr. INGLING. I would not say so, because they are geared to the Guam pay scale, which is lower than stateside.

Mrs. HANSEN. Do your construction materials cost more in Guam?

Mr. INGLING. They are higher because they are imported from the United States.

Mrs. HANSEN. Is this also true of equipment?

Mr. INGLING. Yes.

NEW JUNIOR HIGH SCHOOL

Mrs. HANSEN. You have asked for funds for a junior high school. How many students will this accommodate?

Mr. INGLING. This will provide 20 classrooms for 598 pupils on the basis of 30 pupils to a classroom.

EMPLOYMENT OF TEACHERS

Mrs. HANSEN. Do you have any difficulty securing teachers in Guam?

Mr. INGLING. We have to import the teachers from the mainland. About half the teachers are recruited from the mainland.

Mrs. HANSEN. What do you offer a teacher in addition to a basic salary? Also, what is the basic salary?

Mr. INGLING. The salary for a bachelor of arts graduate without experience, is $5,632, and then if he has a year of experience he gets the next step and so forth, up to a maximum of $7,176. If he has a masters degree without experience he gets $6,340, and then depending upon experience the starting salary goes up in the grade to $8,112.

Mrs. HANSEN. What fringe benefits do you offer?

Governor CAMACHO. Travel out and housing subsidy.

Mrs. HANSEN. They don't have to pay rent?

Governor CAMACHO. They pay rent, but minimal.

Mrs. HANSEN. Do the teachers pay for utilities?

Governor CAMACHO. They pay utilities.

Mrs. HANSEN. Mr. Reifel?

Mr. REIFEL. What about the Guamanian teacher; is the salary scale the same?

Governor CAMACHO. Yes.

Mr. REIFEL. You are stepping up your efforts to get more of your own people to become teachers?

Governor CAMACHO. Very much so, through the University of Guam.

Mr. REIFEL. Is this number increasing each year, more teachers are Guamanians?

Governor CAMACHO. Yes.

Mrs. HANSEN. What percentage of the teachers are Guamanian?

Governor CAMACHO. About 50 percent, even in number. We are picking up as the years go by.

Mrs. HANSEN. Will you insert in the record a chart showing for the last 10 years the increasing number of Guamanian teachers?

(The information follows:)

SCHOOL TEACHER STATISTICS

Year	Total teachers	Local	Military dependents	Off-island
1960	585	269	125	191
1969	971	437	167	367

NEW ELEMENTARY SCHOOL FACILITIES

You are asking for $3,738,600 for elementary school facilities. How many classrooms will this provide?

Mr. INGLING. That provides for a total of 57 classrooms. This money will be used for two schools, one of 29 classrooms and the other 28 classrooms at the ratio of 30 averaged out at 1,700.

Mrs. HANSEN. Are all of your school facilities air conditioned?

Mr. INGLING. Schools are not air conditioned; only the administrative area.

Mrs. HANSEN. Why?

Mr. INGLING. Two reasons: one is cost and the other is the power situation.

(Off the record.)

Mrs. HANSEN. We are in an age where people are not willing to live by the primitive standards of yesterday. Young people are demanding progress and the United States has to rise to the challenge.

The things that were acceptable yesterday will not be acceptable tomorrow. Twenty years ago if you mentioned to the average man that nutrition had a direct bearing on a youngster's school accomplishments, he would not have been impressed.

Today we understand that basically good nutrition is an innate part of a scholastic achievement of any youngster and is an integral need of the next generation.

Mr. REIFEL. Madam Chairman?

Mrs. HANSEN. Mr. Reifel.

SCHOOL CHILDREN OF MILITARY PERSONNEL

Mr. REIFEL. Do the Defense personnel children attend the same schools as Guamanian children.

Governor CAMACHO. Yes. There is one system.

Mr. REIFEL. So the Defense personnel children attend nonair-conditioned classrooms just the same as the others?

Governor CAMACHO. Yes.

Mr. REIFEL. There is no distinction?

Mr. WON PAT. No segregated schools. We used to have before the war.

IMPACTED AID RECEIVED

Mrs. HANSEN. How much impacted aid does Guam receive?

Mr. INGLING. Last year we received $2,194,727 under Public Law 874 and we received $903,710 under Public Law 815; that is for construction.

SCHOOL CHILDREN OF MILITARY PERSONNEL

Mrs. HANSEN. How many military youngsters attend public schools?

Mr. INGLING. 4,933 representing 24 percent of the school population.

Mrs. HANSEN. Therefore, if there are sizable cuts in impacted aid, additional problems are created for your school system?

Mr. INGLING. It will because we get only 50 percent of the per pupil cost for the military children.

Mrs. HANSEN. Who pays the other 50 percent?

Mr. INGLING. We do; the Government of Guam.

Mrs. HANSEN. If impacted aid was cut would the difference have to be paid by the Government of Guam from local funds?

Mr. INGLING. Yes.

Mrs. HANSEN. Local funds already have difficulty in meeting present problems?

Mr. INGLING. That is correct.

Mrs. HANSEN. Thank you very much.

CONSTRUCTION OF CAFETERIA

You have requested $300,000 for the construction of a cafeteria. Will this cafeteria be used only for school activities or is it also usable for community activities?

Mr. INGLING. This is used primarily for school purposes but at times it is used for community gatherings.

KINDERGARTEN CLASSROOMS

Mrs. HANSEN. You have requested $1.016 million for 20 kindergarten classrooms. How many of the 2,000 children that need this program, will these 20 classrooms provide for?

Mr. INGLING. One thousand based on 25 to one ratio and two sessions a day.

KINDERGARTEN

The legislature passed a compulsory kindergarten bill.

Mrs. HANSEN. I congratulate you.

Mr. INGLING. And it was signed into law and that starts this September. We will not be ready for classrooms for that and we will have to rent space to accommodate the kindergarten children. These kindergarten children are only age 5. And from present indications the number is going to exceed our estimate of 2,000. They are presently being enrolled and we do not know the total.

BASIC LANGUAGE

Mrs. HANSEN. What is your basic language in Guam?

Governor CAMACHO. Basically English. We do have dialect.

Mrs. HANSEN. Your kindergarten program is very necessary because of the language barrier. The kindergarten program is the first step toward curing the language barriers.

HEADSTART PROGRAM

Governor CAMACHO. Yes. Before the kindergarten, we went into the Headstart program. It will be 10 years. We are running into a difficult money situation. With the kind of kindergarten in effect now, I think that will cover the need before they become first graders, but there is difficulty in the language barrier.

Mr. INGLING. We have 20 classrooms in the 1970 budget. They will be under construction in a few months. They will not be ready for September so we will rent space to accommodate all of the children and then replace the rented space as fast as we can with good classrooms we are asking for in the present budget, and in the 1970 budget.

AIR TERMINAL DEVELOPMENT

Mrs. HANSEN. Will you give us the highlights on the million dollars requested for the air terminal development?

Mr. INGLING. Yes, I would like to give you more than highlights. I would like to show you a couple of pictures here. This will show why we cannot expand to the west of the terminal and this is a picture showing the terminal at the lower end with the open space to the east. Unfortunately, in expanding we face a very low area, which is this area to the left. This is another picture showing the drainage ditch in that area. Our problem at the moment is, as you can see from the color picture, we only have one hardstand and at times we have five jets on the ground. The jets, by virtue of their weight and heat, break up asphalt quickly and we have to build cement hardstands for them.

So we want to fill this area to the east and put five hardstands there which we will put in with our own money, but the first problem is to fill this, to level it and put a drainage line underneath so that the landing space can be expanded.

Currently we have Pan American, TWA, and Air Micronesia-Continental coming to Guam. Japan Airlines is coming in shortly. TWA is putting in a second flight a day so that the air terminal traffic is getting very heavy, but we cannot accommodate them.

Mrs. HANSEN. 1967 you had 77,438 airline passengers; in 1968, 101,000 passengers; in 1969, 126,869. Has your cargo and your mail shipments reflected this same type of increase?

Mr. INGLING. Everything is going up in Guam. That is the transportation area and the main area for achieving some measure of self-dependency.

Mrs. HANSEN. What would happen if funds are not appropriated for your air terminal?

Mr. INGLING. We will be in bad straits because the runways will break up and they will not be able to park planes there. That is what is happening now.

Mrs. HANSEN. Which literally stops communication with the outside world.

Mr. INGLING. It will stop good communication to Guam.

Mr. REIFEL. Does the Navy have landing fields?

Mr. INGLING. This is a Navy landing field.

Mr. REIFEL. You use it together?

JOINT USAGE OF NAVY AIRFIELD

Mr. INGLING. The Navy and Government of Guam and civilians. The only planes that come into the air base at Anderson other than military are the MATS, the R. & R. flights that come from Vietnam and other areas in the Far East. Occasionally they come into the air terminal when they are overloaded at the airbase, but the main landing for the civilian planes is the Navy airfield, which we use.

Mr. REIFEL. Does the Navy, the Government of Guam, and the Federal Government all participate in the maintenance of the airfield?

Governor CAMACHO. The Navy has the airfield, sir. We are just given the right, the privilege of landing there, but we do not have as of today a joint use agreement yet. But this area in the terminal area we maintain ourselves, but not the runways and the other facilities that the Navy has.

Mrs. HANSEN. In other words, the Navy has one set of facilities and you have another set?

Governor CAMACHO. That is right.

Mr. INGLING. They are on the far side; we are on this side.

Mr. REIFEL. But you use the runways in common?

Mr. INGLING. Yes.

Mrs. HANSEN. Who maintains the runways?

Mr. INGLING. The Navy.

Mrs. HANSEN. Do you need your own air facilities?

Mr. INGLING. Yes. We have taken on ourselves the development of the parking area for commercial planes and we have built this one hardstand, we have another one under construction next to it, and we want to put five more in this area.

By the way, by tearing down the hill that is shown to the east on this picture, this hill that you see beyond the shrubbery here, that will open the way for 747 planes.

We will use this area up here for parking hardstands for 747 planes. They will be coming to Guam some day but there is no indication of any coming in the near future.

Mrs. HANSEN. Have any airlines given you an indication when 747's will be landing in Guam?

Mr. INGLING. I called Pan American and TWA before I left and neither said they had any word as yet.

FLIGHTS TO GUAM

Mrs. HANSEN. Do all airlines flying into Guam originate from Honolulu?

Mr. INGLING. No.

Governor CAMACHO. They come from Okinawa, Japan, Honolulu, and of course return flights from the Philippines—Hong Kong. We have approximately 53 flights a week in either direction.

Mrs. HANSEN. Mr. Obey?

Mr. OBEY. No questions.

Mrs. HANSEN. Mr. Reifel?

Mr. REIFEL. No questions.

Mrs. HANSEN. Thank you very much, Governor. It has been a pleasure having you with us today. I want you and Mr. Won Pat to convey to the people of Guam our continuing interest in your problems.

Governor CAMACHO. We are trying to conserve Guam and retain the identity and not destroy the beauty. We are very interested in conservation problems.

Mrs. HANSEN. I congratulate you on your vision. Thank you very much. You have done a very able job.

Mr. REIFEL. Having been a member of the executive branch in the past, I am always a little apprehensive when my former colleagues come up before our committee, but I never have that kind of apprehension when they have Mr. Ingling along. You know he has the answers.

I wanted to commend you and Mr. Won Pat and the Governor. He is very well informed. I noticed he was helping you pick out some of the places where the answer could be found.

Mrs. HANSEN. You not only understand the needs of your island, your lands, and the needs of your people, but you also have a tremendous reservoir of information.

Governor CAMACHO. Thank you.

FEBRUARY 25, 1970.

TRUST TERRITORY OF THE PACIFIC ISLANDS

WITNESSES

REPRESENTING THE TRUST TERRITORY OF THE PACIFIC ISLANDS:

EDWARD E. JOHNSTON, HIGH COMMISSIONER
RENDEL B. ALLDREDGE, PROGRAM AND BUDGET OFFICER
EMERSON TUBBS, BUDGET ANALYST
BAILEY OLTER, CHAIRMAN, SENATE WAYS AND MEANS COMMITTEE
HENRY SAMUEL, VICE SPEAKER, HOUSE
RAYMOND SETIK, CHAIRMAN, HOUSE APPROPRIATIONS COMMITTEE
R. BURL YARBERRY, DIRECTOR OF EDUCATION
T. M. NOSEK, DIRECTOR OF PUBLIC WORKS
ARTHUR AKINA, DIRECTOR OF PERSONNEL
LEO A. FALCAM, EXECUTIVE OFFICER

REPRESENTING THE OFFICE OF TERRITORIES:

MRS. ELIZABETH P. FARRINGTON, DIRECTOR

REPRESENTING THE DEPARTMENT:

HARRISON LOESCH, ASSISTANT SECRETARY, PUBLIC LAND MANAGEMENT
RICHARD R. HITE, DIRECTOR OF BUDGET

ITEMIZATION OF ESTIMATE—TRUST TERRITORY OF THE PACIFIC ISLANDS, OFFICE OF TERRITORIES

	Actual, 1969	Estimate, 1970	Estimate, 1971	Increase (+) or decrease (−)
Program and financing:				
Total obligations	$36,606,641	$51,459,656	$60,000,000	+$8,540,344
Unobligated balance available, start of year	−9,954,297	−3,347,656		+3,347,656
Unobligated balance available, end of year	3,347,656			
Appropriation	30,000,000	48,112,000	60,000,000	+11,888,000
Obligations by objects:				
Personnel compensation	3,434,600	3,946,000	4,238,000	+292,000
Personnel benefits	209,659	241,181	256,000	+14,819
Travel and transportation of persons	89,050	125,000	129,000	+4,000
Transportation of things		2,000	2,000	
Printing and reproduction	4,100	19,000	19,000	
Other services	14,025	57,000	61,000	+4,000
Supplies and materials	21,075	17,000	17,000	
Equipment	27,050	14,000	19,000	+5,000
Grants, subsidies, and contributions	36,089,082	50,764,475	59,285,000	+8,520,525
Portion of foregoing obligations originally charged to object class 41	−3,282,000	−3,726,000	−4,026,000	−300,000
Total obligations	36,606,641	51,459,656	60,000,000	+8,540,344

TRUST TERRITORY OF THE PACIFIC ISLANDS

PERSONNEL SUMMARY

	1969 actual	1970 estimate	1971 estimate
Total number of permanent positions	280	311	352
Average number of all employees	263	277	315
Average GS grade	9.9	10.1	10.2
Average GS salary	$11,225	$12,259	$12,431
Average salary of ungraded positions	$10,214	$10,074	$10,991

Mrs. HANSEN. We now welcome the representatives of the Trust Territory of the Pacific Islands.

We have as our principal witness, the high commissioner of the territory, Mr. Johnston. I may say it is a pleasure to have you with us today. I am sure you would like to introduce your staff.

I give a particularly warm greeting to our colleagues from the Micronesian Legislature. It is always a pleasure to have the members of other legislative bodies before the committee. I served as a member of my legislature in the State of Washington before I came to Congress.

I am still waiting for a woman to represent one of your territories.

Mr. OLTER. There will be in the next election.

Mr. JOHNSTON. First of all, our distinguished members of the Congress of Micronesia, the chairman of the House Budget Committee and the Joint Committee, the Honorable Ray Setik; of the Truk District Senate Ways and Means Committee, Honorable Senator Olter, Ponape District. We also have with us the vice speaker of the House of Representatives of the Congress of Micronesia, the Honorable Henry Samuel of the Marshalls District. The members of the executive office, Mr. Leo Falcam; our budget and program officer, Mr. Rendel Alldredge; Mr. Burl Yarberry, the director of education; Mr. T. M. Nosek, the director of public works; Mr. Emerson Tubbs in our budget department, and Mr. Arthur Akina, the director of personnel.

Mrs. HANSEN. I am pleased to see that some Micronesians are sharing in the executive branch responsibility.

GENERAL STATEMENT

Mr. Commissioner, will you insert your general statement in the record and summarize for us.

Mr. JOHNSTON. If it meets with your pleasure, Madam Chairman, we would like to place it in the record and I could briefly summarize the high points of it.

(The statement follows:)

It is with special pleasure that we of the trust territory appear before this committee to present to and discuss with you our fiscal year 1971 budget. Let us emphasize at the start that this is not a budget offered by the director of a federal bureau. Rather it is a budget for a people, the people of Micronesia. It is not a budget prepared for them by a foreign administrator who has made the decisions about what is right, good, and proper for a population of wards.

Quite the contrary. This budget was hammered out in full consultation with the elected representatives of the people of Micronesia—the Congress of Micronesia's Joint Committee on Programs and Budgets. We underline this budget as a common product of American and Micronesian endeavor by the fact that to present the fiscal year 1971 budget, the High Commissioner is accompanied by the Micronesian co-chairmen of the Joint Committee of the Congress of Micronesia: the chairman of the House Appropriations Committee, the Honorable Raymond Setik and the chairman of the Senate Ways and Means Committee, the Honorable Bailey Olter. Thus, the programs submitted to this committee for the trust territory are, in a substantial and significant way, programs prepared for the people of Micronesia and by them. This fiscal year 1971 budget, then, constitutes a planned common attack on the problems of our 3 million square mile trusteeship in the Western Pacific. It is a budget that represents the best interests of both the United States and the citizens of Micronesia.

Some difficulty is encountered in organizing in a concise and convincing way the budgetary needs of a complete government and a whole people. The trust territory government is a complete government. In one manner or another, in greater or lesser degree, the trust territory government performs nearly all of the functions of Federal, State and local governments in the United States. There are three exceptions. We have no defense establishment. The United States Post Office handles our mail. We neither mint coins nor print currency.

This is a government of not one, but many, cultures. There are nine to 11 different languages spoken—depending on how one defines a language. Population centers are separated by immense ocean distances.

A summary general statement is at best an oversimplification. The programs and projects of the fiscal year 1971 budget are concerned with the two basic ingredients of any society: the people and their resources. The current budget emphasis, reflecting the present condition of Micronesia, may be conceived as falling in three very broad areas.

MICRONESIAN INVOLVEMENT IN MANAGEMENT OF GOVERNMENT

The first area concerns the involvement of the people of this vast territory in the management of their government. For over 400 years Micronesia has been ruled or administered by foreign powers: Spain, Germany, Japan, and the United States.

During some regimes, foreign authority was exercised largely at the central government level with individual island authority resting in the hands of local chiefs. Other foreign regimes touched the daily lives of most if not all the people.

When the United States accepted the responsibility of this trusteeship from the United Nations in 1947, we began the first steps toward self-government for the Micronesians. Moving slowly at first, the process accelerated rapidly after the Congress of Micronesia was created—bringing together the representatives of the six administrative districts with their different languages and diverse cultures. And now we have pledged to move over more rapidly in this vital field of self-government.

Therefore, this budget emphasizes the training and upgrading of capabilities and skills in executive management, and administration of governmental affairs. Career ladders will be created so that skills can be built upon skills and Micronesians will take over an ever-increasing number of the top positions in their government.

We are happy to report that several notable steps have been made during the last 6 months. Among them, four Micronesians have been appointed district administrators with the full authority and responsibility of their own American predecessors. Our plan for decentralization of the government will enlarge their authority and responsibility. Another dramatic development in this phase of our program occurred recently when for the first time in recorded history—a Micronesian—our executive officer, Mr. Leo A. Falcam—served quite capably for several days as the acting chief executive of the entire trust territory.

The government of the trust territory has about 5,500 employees; roughly 5,000 Micronesians and 500 Americans. For many years we have operated under multiple wage and salary systems (presently 14 in all) the effect of which was to pay Micronesians one-fourth to one-half of the scale for U.S. employees without regard to the amount of work produced, the quality of that work, or the qualifications of the employee simply because they were Micronesian. Plans are now being drawn up to eliminate this sort of inequity. While not yet reflected in the budget, this plan represents an all-important step in pursuing the upgrading and training of Micronesians in government.

EDUCATION AND HEALTH FACILITIES

The second broad area of budget interest concerns personal human resources: education and health facilities.

The average Micronesian school teacher has less than 12 years total education and training. Every elementary teacher should have 2 years of further education and particularly teacher training. The inservice training program and the proposed new Micronesia Teacher Education Center will provide that.

The previous practice of constructing schools to U.S. specifications both required foreign contractors to undertake the work and retarded the creation of schools in which to place unschooled boys and girls. Every child deserves the opportunity of elementary and secondary schooling. A new policy—commenced

with our fiscal year 1970 supplemental; namely, to build with preengineered, prefabricated, or local materials utilizing local labor contracts—will provide those facilities in timely fashion. Not only do we get schools built, but income, employment, and new technological capability are created in island communities. This new approach will stretch 55 planned classrooms to 118 constructed classrooms in fiscal year 1970—moving us toward our ultimate goal of educational facilities for all of Micronesia's young people several years ahead of previous plans.

Last year nearly every boy or girl who graduated from the eighth grade in the Marianas, Yap, and Palau Districts could go on to high school. Not so in Ponape, Truk, and the Marshalls. In the latter two districts only 25 percent of the eighth-grade graduates could go to high school—because there was no space for 75 percent of them. The new construction program moves to accelerate the correction of this geographic imbalance.

Discussion of health services should record high praise for our corps of Micronesian medical officers and dental officers. Trained mainly at the Fiji School of Medicine, they direct the medical services in each district and staff all nine hospitals. Supported by a handful of U.S. doctors and the American director of health services, they conduct the diagnoses, prescribe the medicine, perform the surgery and monitor the convalescence of the sick and injured. To achieve higher standards of professional knowledge and competence training is emphasized in the fiscal year 1971 budget.

In the past the health services program has been largely, if not exclusively, oriented to curative medicine pursued through the district hospitals. We are now instituting broadly based programs in preventive medicine, featuring immunization, early case finding, sanitation projects, and the management of domiciliary care through a revitalized dispensary system.

ECONOMIC DEVELOPMENT

The third area of budgetary concern is perhaps the most critical at this point in time. That area is economic development. It is critical in the sense that it is here that general development has lagged most seriously. By comparison, political growth has been almost headlong, education has been comparatively brisk and health expeditious. Economic development has been threefold laggard: in economic acumen, in physical resource exploitation, and in infrastructure.

The phenomena we accept as a part of the economic scene: risk taking, profit seeking, and competition are rarely to be found in Micronesia. The basic skills of business organization: personnel control, marketing, storing, long- and short-term credit, and financial and statistical recordkeeping must be developed in every district. For example, though diminutive in comparison with needs, much of development loan fund went unused because citizens aspiring to enter business did not know how to go about organizing an enterprise or what to say about the idea that would obtain a loan. Our program of providing small business and industry adviser-promoters in each district will serve not only to galvanize economic activity (that is, create business establishments, jobs, income, and increased acquisition of consumer goods), but also to change to a money economy the now heavily subsistence-oriented economy.

The trust territory covers 3 million square miles, 99.98 percent of it water. These waters, open sea, lagoon and reef abound in or can be made to teem with tuna, mackerel, oyster, turtles, shark, pearl culture, marine algae, sardines, clams, crabs, lobsters, and so on. These are awaiting development or exploitation, though foreign incursions are getting there ahead of us. Exploitation of this marine treasure trove will open demand for shoreside facilities: ice plants, drydocks, and small boat building and servicing. This budget contains an action program to open the commercial resources of the sea to Micronesians. It is a stage in a far-sighted, long-range program.

Although the sea surrounds them, people live on and obtain sustenance from the land. Agricultural opportunities are significant and feasible, if not overwhelming. The proximity of suitable acreage in the Marianas to markets in Guam make truck gardening promising. There are lands in Ponape where, it has been urged, rice could be produced domestically to offset in part what may be an economically unnecessary near total reliance on imports. These export activities are of especial significance where the balance of trade is a negative four to one and growing (negatively) year by year. This budget proposes a pronounced strengthening in agriculture.

Another principal income-generating resource is now perceived to be scenery-climate-history. Coral atolls, rain forests, basalt "moonscapes," black sand beaches, lagoons that are natural tropic aquaria, remains of lost indigenous tribes, ruins of the Spanish period, famed battlefields of World War II, and Tinian, one of the four points in the world marking the birth of the Atomic Age, all set in a climate pleasant but not enervating, characterize Micronesia for its visitors. By 1974 the 18,000 visitors of 1969 could grow to 97,000. This can be merely the beginning.

NEED FOR BASIC FOUNDATION OF A MODERN CIVILIZATION

But how do we spring free this society, less than a generation away from a nearly pure basic subsistence existence? How do we ready the trust territory to export its fish and crops and entertain its visitors? The answer is to build under it the basic foundation of modern civilization: water to drink and wash and sluice away wastes; sewers and septic devices to discharge its wastes; power to pump its water, run its reefers, light its stores and schools and extend its usable day by 4 to 6 hours; roads on which to transport its merchandise and its people, ships on which to move its goods and its citizens, airports and harbors through which its goods and its visitors can flow in and out.

The conditions now? Some examples. For several months the people in the center of Majuro, capital of the Marshall Islands, have water perhaps 4 hours a day, but many residents rely year-round on shallow brackish wells. Water pollution standards limit coliform concentration to 3,000 MPN (most probable number) per 100 milliliter sample, but samples around Colonia, Yap, measured 24,000 MPN per 10 milliliter sample. For 14,000 people (15 percent of the trust territory population) living on nine nondistrict center islands, electricity is only a dream. Their 3,000 children sit in 120 classrooms in 32 schools and are treated in 34 dispensaries—none of which have electricity. The primary road on the south side of Moen, the capital island of the most populous district, can hardly be traced on foot through the jungle, let alone be driven in a jeep. One could write a catalog of analogous conditions almost indefinitely.

Detailed examination of the trust territory fiscal year 1971 budget will disclose heavy investment in utility and transportation infrastructure. To put these projects in place is essential to fulfilling the commitment of the U.S. trusteeship.

We provide here for basic necessities. There are no frills in this budget; schools (not U.S.-style edifices but basic structures to sit in and learn); roads (not paved thoroughfares but narrow, graded, all-weather traffic-bearing roads); water where it is impure or not enough, electricity where there is none; ships so that islanders can receive mail, goods, and visitors regularly every month or two.

In a society that stakes any claim to being modern, all are basic necessary ingredients without which living standards would be regarded as simply intolerable.

We look forward to the assistance and guidance that will derive from a close examination of this budget.

On behalf of Micronesia, I wish at this time to convey a sincere expression of appreciations to this committee. The attention which it has given to our problem, as well as our requests for funds, in the past has been most encouraging. Your outspoken support, your encouragement, and your concern have meant a great deal to all of us in the Trust Territory of the Pacific Islands.

Mr. JOHNSTON. We have three main areas of concern in the fiscal 1971 budget and I would emphasize right at the start that this is a budget which is the joint product of the executive branch of the government of Micronesia. I would certainly begin by thanking Ray Setik and Bailey Olter and their colleagues for the tremendous job they have done in working on the 1971 budget to make sure that it reflects the priorities of the Micronesians.

MICRONESIAN INVOLVEMENT IN GOVERNMENT

The first area that we are involved in is of the Micronesian people themselves in their government. I have already mentioned their involvement in the budget.

We are involving the Micronesians to a much greater extent in their own government. We have pointed out that our executive officer, Mr. Falcam, served very capably as the Acting High Commissioner for more than a week when both the High Commissioner and Deputy High Commissioner were out of town and we are in the process of moving more Micronesians as district administrators and with Micronesian assistants.

To continue upgrading the Micronesians in government, we have established a training division in the Department of Personnel and have a very definite program of building a career ladder for development of Micronesians within the government.

EDUCATION AND HEALTH

The second broad area of the budget interest is in the field of educational health. We need to upgrade our teachers and are asking substantial sums to increase the Micronesian teacher education center. A new policy which was started with our 1970 supplemental was to build schools and dispensaries of local materials with local labor and, for example, in one area where we had budgeted for 55 schoolrooms, we were able to get 118 by using a standard method of construction, and we are actually embarked on this program at the present time. We are doing the same thing with dispensaries.

We were able to get far more start on our program of construction than we would have had by using the standard American techniques and bringing in foreign contractors.

We still have two districts where only about 25 percent of our eighth-grade graduates can go on to high school, and the Congress of Micronesia in its last regular session declared these two districts education disaster areas, and we are moving to equalize this imbalance in the Truk and Marshalls districts.

Mrs. HANSEN. Why do only 25 percent of the eighth-grade students go on to high school?

Mr. JOHNSTON. We did not have the facilities for them; we did not have the classrooms or the dormitories or the teachers.

Mrs. HANSEN. Is transportation also a problem in getting the children to school?

Mr. JOHNSTON. Yes, ma'am. To bring the students from some of our islands to a central high school, we have to have a place for them to live, so that it is a combination of school facilities, classrooms, dormitories, and teachers.

In the field of health, I would say our major emphasis is on preventive medicine. Not that we are slacking off any at all on curative medicine, but we now have many broad-based programs in immunization, sanitation projects, and home sanitation.

IMMUNIZATION PROGRAM

Mrs. HANSEN. What percent of the population are you reaching with your immunization program?

Mr. JOHNSTON. About 66 percent of the population by fiscal 1971.

Mrs. HANSEN. What types of immunizations are you doing?

Mr. JOHNSTON. These are, in the main, smallpox and measles. Those are the two main innoculations—and polio.

Mrs. HANSEN. What are your most prevalent communicable diseases? Have they been smallpox, measles, and polio?

HEPATITIS

Mr. JOHNSTON. We have hepatitis to a certain extent. This has almost reached epidemic proportions a couple of times.

Mrs. HANSEN. What has caused the increase in hepatitis?

Mr. JOHNSTON. To a lack of pure water and to a coliform count in the water in some of our districts that far exceeds the bureau of health standards.

Mrs. HANSEN. Have you tried to attack the problem of hepatitis as quickly as possible so that the incidence of hepatitis will decrease?

Mr. JOHNSTON. Yes. We have brought it down a great deal by attacking the worst areas and have been working with the communicable disease center in Atlanta. There have been no major outbreaks of it this year, but it is always a threat and we are using preventive measures that were not used in the past.

ECONOMIC DEVELOPMENT

Then in the field of economic development, of course, we have admittedly lagged far behind. We are now increasing the utilization of the funds that are available to us for the economic development loan fund and feel that our two greatest areas of economic development will be in the field of tourism and marine resources.

As you know, the Governors of Guam, American Samoa, and the High Commissioner met in Hawaii last week on a joint project to develop new methods of catching skipjack tuna which is estimated to bring $100 million or so a year additional revenue. We have much to do in developing our marine resources.

TOURISM

We had about 20,600 tourists in 1969. That is the final official figure.

Mrs. HANSEN. How does this compare with 5 years ago?

Mr. JOHNSTON. It is up 58 percent from the previous calendar year. Five years ago the travel was virtually nothing.

Mrs. HANSEN. Where are the largest number of tourists coming from?

Mr. JOHNSTON. From Japan and the United States. I think those two nations would account for virtually a hundred percent of it. And it was estimated that they spent close to $1 million, which means that even in calendar 1969 tourism was second to copra production as an industry in Micronesia.

COPRA PRODUCTION

Mrs. HANSEN. What is the economic value of copra production in Micronesia?

Mr. ALLDREDGE. Copra agricultural output, $2.1 million in 1969.

TRUST TERRITORY POPULATION AND SIZE

Mrs. HANSEN. How many people are there in the Trust Territory?

Mr. JOHNSTON. About 100,000.

Mrs. HANSEN. How many islands and how many square miles are there in the Trust Territory?

Mr. JOHNSTON. We have about 700 square miles of land on a hundred populated islands. We have a total of some 2,100 islands over 3 million square miles of the total area.

AVERAGE YEARLY INCOME

Mrs. HANSEN. What was the average Micronesian's yearly income in 1969?

Mr. ALLDREDGE. We have been struggling to develop figures. I would say around $800 a year. This is a wild guess.

Mrs. HANSEN. The figure of $800 is probably too high.

Mr. ALLDREDGE. I would accept that.

LIVING COSTS

Mrs. HANSEN. Let's look at the $800 yearly income in terms of how it relates to costs. Are the costs of housing and food high?

Mr. ALLDREDGE. Cost of food in the areas where the population is concentrated in the district centers, where imported foods are most heavily consumed, I would place food costs at approximately the equivalent of that in the United States. Foods imported from the United States will cost more in Micronesia because of the distance, but there is effective competition from Australia.

Mrs. HANSEN. How does anybody survive on $800 a year?

Mr. ALLDREDGE. Reliance is placed on each family living close in to the district center having a farm on which they raise taro and bananas. They raise their own chickens and pigs. Chicken and pork are consumed in greater quantity than beef.

Mr. JOHNSTON. But we are raising indigenous beef now too. It is still a subsistence economy and if the average family did not supplement what they can buy at the grocery stores—actually prices are higher than they are in, say, Washington or Honolulu on almost every item.

Mrs. HANSEN. Are food costs higher in the Trust Territory than in Washington?

Mr. JOHNSTON. Oh, yes; they are.

Mrs. HANSEN. This disparity between income and costs is something that concerns this committee.

Mr. JOHNSTON. And we still have at least 15 percent of our population who have never seen an electric light, have no electricity whatsoever. These are the things that we are trying to solve over the next 5 years, of giving everybody, where there is any degree of concentration of population, water and power.

ELECTRIC POWER

We have worked out basic power packages for some of our non-district centers at a cost of about $25,000 each, where we will start bringing power not only to the district centers but to some of the

islands where we have only a few hundred people and it is not a district population.

Mrs. HANSEN. On an $800 yearly income the people of the Trust Territory are not going to be able to use very much electric power if they have to pay rates that are commensurate with costs. The higher the sophistication, the higher the need is for more income.

Mr. JOHNSTON. That is correct.

Mrs. HANSEN. The tragedy sharpens when you see tourists coming in with a great deal of money to spend, and the Micronesians, who are the owners of this land, have limited assets. You have the basic ingredients of what could be a catastrophe. You have to make jobs available, and be assured that your wage scale is on such a level that the people can afford to live in a reasonable manner.

Mr. JOHNSTON. I thoroughly agree with you on that.

It is also an embarrassing situation, this situation where government buildings on one side have the power and people living on the other side of the street do not have power. This has been sometimes just a thing as simple as not having the proper lines to run to the homes.

That basically concludes my opening remarks.

CRIME AND JUVENILE DELINQUENCY

As I have said before, this budget does not have in it some of the things we need to prevent crime and juvenile delinquency and some of the things you are referring to, it does not contain any sums for public parks, for development of beaches or recreational areas or gymnasiums or anything of this nature, it is just to get the basic standard of living to what we consider absolutely basic in any kind of a modern society.

SCHOOLS AND HEALTH FACILITIES NEEDED

Just the basic infrastructure and to build our school system to where every child who wants an education through the 12th grade will be able to get it, and to provide reasonable minimal health care for every person in the Trust Territory. Somewhere along the line in the future, we will have to start thinking about having at least a little money for recreation and things we may consider frills, but I think we will reach that point in a few years.

Mr. HANSEN. I am not one of the people that considers recreation a frill. If the cities in the United States had taken cognizance of their recreation problems and open space problems they would not have the difficulties they have today.

Mr. JOHNSTON. Right, and this is one of the areas we are going to try and develop from the local level with the impetus being taken by the municipalities and the districts and not be a part of the Trust Territory-wide funding at the present time.

LOCAL REVENUES

They generate some local revenues. The district, as the economy improves, will develop more and more revenue at the district level. And then as the Congress of Micronesia considers an income tax which they

have now considered twice and will possible pass at their next session of the Congress, there will be a revenue-sharing formula probably with the district.

GROSS NATIONAL PRODUCT

Mrs. HANSEN. What is the gross national product of Micronesia?

Mr. JOHNSTON. This is something we are working on. The U.S. Labor Department sent a man out there to do some basic studies on wages and hours and labor type statistics in Micronesia and we are trying to come up with figures like gross national product and so on.

Mrs. HANSEN. You are not going to get very much income tax revenue out of $800 a year individual income.

Mr. JOHNSTON. No; we are not.

Mrs. HANSEN. Mr. Reifel.

AGRICULTURE

Mr. REIFEL. You might just speak generally to the subject of subsistence agriculture. In what way is there an attempt made to provide cereals for the feeding of the chickens and pigs in order to grow more of them to improve the subsistence?

Mr. JOHNSTON. Our agriculture department has done a great deal. They have breeding stock, for example, so that they can improve the size and weight and quality of their pigs. We raise chicks at the agricultural station and sell them for very small sums.

One of the greatest increases in our proposed budget for 1971 is in the field of agricultural development. Not with the idea it will be a major export industry, although we are already exporting vegetables from Rota and Tinian to Guam. They have a contract on Rota with Anderson Air Force Base where they send over planes to pick up the vegetables and take them back to Guam and it is developing a good truck gardening industry.

We plan to have more agricultural extension agents working in the field to show people how to raise crops from the subsistence standpoint, better chickens and better pigs and better crops along with developing our major crops of copra and Ponape pepper and vegetables.

Mr. REIFEL. What State do you turn to, like Hawaii for the reserve necessary?

Mr. JOHNSTON. We have contracts with the University of Hawaii and the East-West Center. They have been very helpful to us.

Mr. REIFEL. Do you not need to import feed grains to finish off the poultry and the swine?

Mr. JOHNSTON. We do, yes.

Mr. REIFEL. You have to import feed grains?

Mr. JOHNSTON. Yes.

Mr. REIFEL. Are there any possibilities of developing the agriculture to the point that you will not have to import feed grains?

Mr. JOHNSTON. It might be possible. It has been discussed. I will not say definitely whether we could do that or not.

Mrs. HANSEN. I think you are well aware that you have to make a determination of what the highest benefit of the agricultural land should be. Are you doing that with your agricultural economists?

Mr. JOHNSTON. Yes, we have some out from AMFAC, Inc., of Honolulu. They arrived about 10 days ago. A team of three experts are on Ponape particularly with the idea of looking at areas that are suitable for rice production. We should have the results of their study before long.

FISH MEAL

Mr. LOESCH. If I could interject, while I do not know of any programing on at the moment, I think the development of a fish meal proposition such as they have in Samoa is very possible. The resource is there if we can get it developed, which of course would have a distinct bearing on feeding of chickens and any other kind of livestock.

STATEMENTS OF MEMBERS OF THE MICRONESIAN CONGRESS

Mrs. HANSEN. Mr. Commissioner, at this time will you introduce the representatives of the Micronesian Congress?

Mr. JOHNSTON. Congressman Setik, would you like to lead off?

Mr. SETIK. I have a statement for the record.

(The statement follows:)

STATEMENT OF CONGRESSMAN SETIK

Madam Chairman, the budget request of the Trust Territory for fiscal year 1971 before your committee indicates the general direction toward which we feel emphasis should be placed. The Congress of Micronesia and its committees which studied and evaluated the details of this budget justification recommended changes in emphasis and proposed funding levels both for the operation budget and for capital improvement projects, and your committee will find our order of program priorities reflected in the amount of funds requested for each operation and for each capital project.

The fiscal year 1971 budget had to be prepared within the constraints placed upon our programs but its configuration would show that we desire emphasis to be placed on education, public health, economic development, public works, and communications in that priority order. It is our consensus in the trust territory that the development of our manpower resources through education should command our first and foremost attention.

If the people of the trust territory must someday soon be given a greater degree of self-government they should be provided the opportunity at the earliest possible time to learn and to know about the world of the 20th century. Recognizing this need a proposed allocation of $9.6 million has been earmarked for education with another $4.6 million for education construction. This level of funding for education would provide education of children in the primary schools and a greater opportunity for those eligible to enter high schools to obtain secondary education. The aim is to further upgrade and strengthen basic education in Micronesia. Sufficient funds will also be devoted to the training and upgrading of teachers and to provide post-high school and vocational training.

Our second order of priority is in the medical program and the construction of health facilities. The amount of $5.1 million for medical program and $545,000 for construction of health facilities will hopefully increase our capabilities in further improving and expanding our services to the people at district centers and outlying islands. The proposed increase in funds both in operation and capital projects will enable our public health services to reach people in the peripheral communities and to provide other essential medical programs heretofore curtailed due to our financial limitations.

The third item of priority is in the area of resources and development for which the sum $5.1 million is being sought for fiscal year 1971. As your committee will see from the detailed breakdown of our justification in this area, the emphasis is being placed on the development in agriculture, fisheries, and land. We propose also to accomplish the foregoing by providing support in water,

sewer, and power projects at $10.9 million, transportation and communications at $5.2 million, and other capital improvements at $3.1 million.

The Congress of Micronesia considers the net increase of $11,888,000 from our fiscal year 1970 budget request to be essential and most needed if we are to continue improving the development of the Trust Territory. The Office of the High Commissioner and the Congress of Micronesia painstakingly worked together to develop what is considered a well-balanced developmental program for the Trust Territory for fiscal year 1971.

We hope that your committee will agree with us and recommend approval and enactment of our budget request.

Mrs. HANSEN. Do you wish to summarize your general statement?

Mr. SETIK. I think, Madam Chairman, the High Commissioner already covered most of the points that I could present to the committee.

Mrs. HANSEN. If you have any thoughts from time to time as we proceed in the hearing, please do not hesitate to voice your opinion.

Mr. SETIK. All right.

Mr. JOHNSON. Senator Bailey Olter.

Mr. OLTER. I will submit my statement.

(The statement follows:)

It is an honor and a privilege to appear before this body today to present the budget for fiscal year 1971. This budget is the product of a great deal of work and careful consideration. I think it can be said that it is very significant, for it marks the first such budget which can truly be said to be a basically Micronesian product. As you know, the Joint Committee on Budget and Program Planning has spent weeks and months in coordination with the administration in preparing the document which you have before you. In this regard, it should be noted that Mr. Rendel Alldredge, the trust territory program officer, has provided the committee with invaluable assistance.

The involvement of the Congress of Micronesia in planning and programing is an important step in the direction of Micronesian control of Micronesian affairs. The Congress of Micronesia has long sought such participation, and it is now becoming a reality. We hope that in the future we will be able to become even more involved, through submission of preliminary documentation of planning and programing to our district legislatures to enable them to have time for thorough consideration of priorities and complete expression of opinion on such matters. We believe that the district legislatures have the best sources of information as to what the people of Micronesia believe the priorities are for development of the trust territory and that the legislature should in the future be the primary source of Micronesian input in planning. I can assure you that steps are being taken to this end and we look forward to complete district involvement.

While endorsing the 1971 budget, we feel it is constrained by two factors—the ceiling imposed on appropriations and on personnel. We have found it necessary to provide only minimal funding for many projects and activities in order to stay within the appropriations ceiling. We find that we are able to plan on meeting only our most pressing needs, putting others off until later years, and only meeting immediate needs in the most minimal way. Very simply—we would like to be able to do things right. We would like to present to you a budget which says "these are our goals and this is how they may be best accomplished" rather than saying "these are the needs of Micronesia which have to be met immediately and this is the manner in which they may be met in a minimal way."

Another constraint on our budget has been our inability to recruit and fill the positions that have been authorized and which would enable us to more effectively utilize these funds. The present budget continues these authorized positions and we will make every attempt to fill our vacancies. We must continue to rely on a number of persons with technical and professional skills from outside Micronesia. It has been difficult for us to obtain the services and expertise of these people, due to various factors, with the result that carefully laid plans often can only be carried out slowly, if at all.

The 1971 budget reflects the direction which we think programs in the trust territory should take. In the area of public health, we are proposing more em-

phasis on preventive medicine and environmental health and sanitation in concert with the Public Health Department of the United States. Imaginative steps will be taken in the area of education to upgrade our elementary school system. Over 900,000 will be added to the 1970 budget level to provide our young people with adequate textbooks and supplies, functionally designed curriculum and most importantly, better trained teachers. The elementary education system has long suffered from the lack of adequately trained teachers. The 1971 budget contains funding to carry out a thorough teacher training program in all districts, with the intended result that our children will receive the quality of instruction which they must have to get a sufficient education.

The 1971 budget also starts the trust territory down the long road of correcting the long-standing imbalance in access to secondary schools in the districts of the trust territory. The secondary school systems in the eastern districts are capable of admitting only an average of 25 to 30 percent of all young people eligible to attend secondary school.

One of the major obstacles to the development of the trust territory has been the lack of skilled and well-educated Micronesian manpower, and the secondary school system has been the major source of this difficulty. In 1971, initial expansion of existing secondary schools in the eastern districts will begin, with the eventual goal of providing equal access to secondary education for all eligible students in all six districts.

The need for business advisors in each district to help promote the economic development of Micronesia will be partially met by the 1971 budget, which provides at least one such adviser for each district. These business advisers will provide our businessmen with the kind of expertise which will enable them to make their enterprises more productive. In addition to this function, it is expected that the business advisers will help mobilize existing capital and persons to initiate profitmaking enterprises.

These are but a few of the features of the 1971 budget. I wish to add my personal endorsement of our 1971 budget request and thank you for this opportunity to appear before you.

Mrs. HANSEN. Do you have any further comments?

Mr. OLTER. Not now.

AVERAGE INCOME LEVEL

Mrs. HANSEN. Let me ask both of you one question.

Do you feel somewhat concerned about the average income level in Micronesia?

Mr. SETIK. I think the $800 is too high. It is around $250 or $300.

Mrs. HANSEN. Do you feel that this is one of the areas that has to be stressed?

ECONOMIC DEVELOPMENT NEEDED

Mr. SETIK. Yes. I think the High Commissioner mentioned about economic development, and the past couple weeks we have had a series of hearings with the administration in development of the agriculture in Ponape and commercialized some of the island so they will be able to produce copra.

I think it is one of the areas we felt we should emphasize more along the same line with the education and public health and communications and transportation.

Mrs. HANSEN. If the people of the Trust Territory do not have a sufficient income, sufficient food to eat, sufficient clothing, or sufficient basic ingredients of life, then other programs are of little consequence.

Mr. REIFEL. I would like to ask the representatives a question.

Does the Micronesian Government now have any representation here in Washington to contact Members of Congress in support of your program that you have in mind?

Mr. JOHNSTON. We basically rely on our representation through the Interior Department through Mrs. Farrington's office, the Office of Territories, and Assistant Secretary Loesch, and Secretary Hickel. We do have one liaison man here now, a young man named Fred Radewagon, who serves as our representative here and pushes if something needs to be entered through channels and he helps us that way.

Mr. REIFEL. I appreciate there are the Federal executive representatives, but sometimes they are limited in what they can do.

Mr. JOHNSTON. That is right.

Mr. REIFEL. And one minority in this country, the American Indian, has their people here that are walking up and down the Halls of Congress talking to the Members about their needs. I am just wondering whether the Micronesian people will eventually get organized so they might do the same thing.

This is not to say the executive branch representation is not doing what it should be doing, but there are times when if the administration says, and the executive branch says, "this is the program," there is not much, say for Mrs. Farrington, to go out and say it ought to be different. But there would be nothing to keep your government representative from coming down here and saying this.

Mr. JOHNSTON. Sort of a Tony Won Pat.

Mr. HANSEN. I want to say to my Micronesian friends that this committee wants to develop a complete feeling of kinship. We must work together to solve your problems. Your voices are needed to work with our voices to raise the total level of living in Micronesia.

Mr. LOESCH. Could I say one word?

Mrs HANSEN. Yes, Mr. Secretary.

Mr. LOESCH. First of all, Mr. Hite brought to my attention a remark I evidently missed. I want to make it very clear Mr. Radewagon is not the type of liaison man that Mr. Reifel was speaking to as I left the room. He represents the executive branch and while he performs a very useful function in keeping us closer together than we have been in the past, he is not a representative of the Congress of Micronesia.

I would be very glad if the Congress could see its way clear to financing such a man to have one here. I assure you I spent 2 weeks in January preaching to the territory just the sort of thing you have been saying and that the thrust of my administration, our administration, is to have this partnership type of thing. In order to do this, we do have to get the full involvement of the Congress of Micronesia in all governmental processes.

Mrs. HANSEN. Senator Olter.

Mr. OLTER. May I add something to help my friend the Secretary out.

The question came up about a session ago whether to create that

job and fund it. But the Congress of Micronesia at this point just does not have the kind of money to maintain it.

Mrs. HANSEN. You have other priorities.

Mr. OLTER. Yes, we have other priorities. We have scholarships to set up. So we closed that out for the time being.

Mrs. HANSEN. I understand.

MAJOR ACCOMPLISHMENTS

Mrs. HANSEN Mr. Commissioner, you have held your present office for about 10 months. What would you say have been your major accomplishments thus far.

Mr. JOHNSTON. I think maybe the greatest accomplishment is the new spirit of cooperation with the executive branch and the local administration working together and the decentralization policy into the district where the district administrator who formerly could spend no more than a hundred dollars without having to wait weeks or months for permission from Big Daddy at headquarters can now make decisions and carry them out within a certain framework. More power is now placed in the districts where the work is done.

NUMBER OF DISTRICTS IN TRUST TERRITORIES

Mrs. HANSEN. How many districts do you have?

Mr. JOHNSTON. Six administrative districts.

Mrs. HANSEN. Do you have one administrator in each of the six districts?

Mr. JOHNSTON. Yes, ma'am.

Mrs. HANSEN. If you have an immediate problem on water supply, could the district administrator solve this problem without first getting approval from headquarters?

Mr. JOHNSTON. Yes, he can; and we would, if he needs it, send somebody out from headquarters to help him. But he could get started on it.

REPAIR OF BUILDINGS AND DRAINAGE PROBLEMS

Mrs. HANSEN. The committee last year had a great many recommendations concerning basic problems. They were such fundamental things as repair of buildings, drainage problems, and road maintenance.

What have you done in this area?

Mr. JOHNSTON. A great many of these little problems are being handled by the civic action teams which have been working in the various districts.

Mrs. HANSEN. What percent of the population are the civic action teams reaching?

Mr. JOHNSTON. That would have to be a guess. I would say at this point probably 60 to 70 percent because they are working in our district centers.

Mrs. HANSEN. Are these in the major settled areas?

Mr. JOHNSTON. Yes. One of our civic action teams is going to the Island of Pagan, which is not one of the major population centers. One of the teams is now on Kusaie which is a population center, although not a district center. It is in the Ponape district.

PONAPE TRANSPORTATION AUTHORITY

Going back to your question, Madam Chairman, I think one of the most interesting projects we have in Micronesia now is in Senator Olter's district. In fact, he is the chairman of the Ponape Transportation Authority.

And this is a local group where we can give the group a grant and they build roads and do things that some of the other districts have just been waiting for headquarters to do, waiting for somebody to move them.

Using this as a pilot program, we have just signed a contract with them making $200,000 available for them to build roads, water catchments and other projects primarily in the area of roadbuilding through local contractors. And they have been tremendously successful with this concept of local self-help and it is something we hope would grow throughout the other six administrative districts.

DISTRICT POPULATION STATISTICS

Mrs. HANSEN. Will you please insert in the record the reported population of each of the districts?

Mr. JOHNSTON. All right.

(The information follows:)

Trust Territory of the Pacific Islands

Estimated population by district, 1970:

Marianas	12,220
Palau	20,273
Yap	12,703
Truk	20,143
Ponape	28,137
Marshalls	7,331
Total	100,807

CONTRACTING

Mr. REIFEL. Mr. Johnston, you mentioned contracting locally. This is contracting locally with Micronesians to do the work?

Mr. JOHNSTON. Right. Sometimes we contract for say just a hundred yards of roadway, but it is training people to make contracts with people and fulfill their contracts and get the job done according to specifications.

Mr. LOESCH. I might interject here that Senator Olter is the chairman of the Ponape Transportation Board and as such has overseeing authority on this.

POLITICAL OUTLOOK

Mrs. HANSEN. Please briefly summarize the current opinion of Micronesians with regard to the future affiliation with the United States.

Mr. JOHNSTON. I think that could best be summarized by a Micronesian.

Mr. OLTER. I think way over the majority attitude now is to seek for some form of association with the United States. Exactly what that association provision might become depends——

MAJOR PROBLEMS

Mrs. HANSEN. Mr. Commissioner, what would you say are the major problems confronting you as Commissioner within the next few years.

Mr. JOHNSTON. We are embarked on a 5-year program that we hope will be carried on by whomever may be in power then.

I think one of our big problems is this income of the people. One of the most difficult problems we have is the fact that we have 14 separate pay scales in Micronesia. This is an administrative problem.

Mrs. HANSEN. What are those 14 pay scales for?

Mr. LOESCH. Do not ask us.

Mrs. HANSEN. Why do you have 14 pay scales?

Mr. JOHNSTON. This, like they say, sort of grew like Topsy. This is one of the problems we have to solve administratively. This is our biggest problem.

It makes it, as Mr. Akina can tell you, virtually impossible to administer a government personnelwise, and that is one thing that we are working on right now.

Basically, our problem is getting enough funding to put in an infrastructure to have the road, the harbors, the airfields, the water, the sewers, the power, to do anything else.

Mrs. HANSEN. And also boats?

Mr. JOHNSTON. And the boats; the harbors, and the docks.

I recall very clearly that before I went out to Micronesia, when the thought had merely been suggested to me, I had an opportunity to meet with a group of Micronesians, the future political status commission, and I remember one of the first questions I asked them, what is your major priority, and they looked at each other and said it is so hard to pinpoint one.

And having been out there 10 months, I have that same feeling. We are so far behind; for some years things were so badly neglected, that we are in the process of catching up.

Mrs. HANSEN. The tragedy of catch-up is the same as our country faces.

In the early years of our country, we emerged and grew up in the age of sailing ships. All of a sudden this country is in a jet age and there is no time to catch up.

This is what makes present-day governmental problems so increasingly hard to solve. There is no time to wait. The problems are here and they must be solved. Isn't this one of the Micronesian problems?

Mr. JOHNSTON. Right.

Mr. LOESCH. If I could again interject at this point, I want to say, from the standpoint of this administration, I think that the major problem facing Micronesia over not the next 3 or 4 years but for 8 or 10 or 12 or a substantial period of time is how to build a sufficient economic base for the people in the island so that their income will automatically rise to a satisfactory or semisatisfactory point.

Their cultures are diverse in the different districts. It would be a tragedy if the cultures were destroyed or seriously damaged. I do not know the answer. I do not think anybody does. Because, as of the near future, the prospects of having Micronesian self-sufficiency are negligible, nonexistent.

Mrs. HANSEN. Then we are going to have to accept larger governmental responsibility?

Mr. LOESCH. We do, Madam Chairman.

Of course, this is one subject that in the department, in the High Commissioner's area, in the Congress of Micronesia, I am sure there is unanimity that we must face this and that the Congress of the United States, if I may say so, must face it.

Mrs. HANSEN. I think the Congress is deeply aware of this responsibility. Congress does not take pride in the fact that the people are hungry or sick because of lack of funds provided.

We have to understand that until the people of the Trust Territory are self-sufficient, which is many years away, this country must accept additional responsibility. We have no alternative.

Mr. LOESCH. We do not, and if we do not because the human dignity and pride of a people or a diverse set of peoples will willy-nilly be seriously damaged.

We will no doubt get to ceilings later in the discussion but this is why we are so seriously concerned at this point about our ceiling legislation and where we go from here.

Mrs. HANSEN. Will you briefly discuss the current influences on trade in the Micronesian economy being exerted by other nations.

TRUSTEESHIP AGREEMENT

Mr. JOHNSTON. The trusteeship agreement which we entered into in 1947 in its most favored nation clause allows the United States as the administering authority to invest U.S. capital in Micronesia, but if we grant that right to any other nation, then it must be granted to every member nation of the United Nations equally.

So only American and Micronesian capital is currently operating in Micronesia today. However, Japan does exercise an influence, a great influence in Micronesia because of her proximity and the fact that products manufactured in Japan——

But when she is that close, most of the products sold in our stores—for example, Saipan recently got television and we have it 6 days a week, 5 hours a day.

Except for one merchant who had three or four GE sets on hand and quickly disposed of them, there has not been an American television set sold on Saipan. There are dozens of Japanese models. A great deal of foodstuff we have comes from Japan and some of it from Australia and New Zealand. So that other nations are in the marketplace there through their products, but not actually doing business.

TRADE WITH UNITED STATES OF AMERICA

As far as our trade with the United States is concerned, we cannot move goods into the United States tariff free as Guam and American Samoa can.

Mrs. HANSEN. Under your present tariff status?

Mr. JOHNSTON. Yes.

Mr. LOESCH. There is legislation up for that as we remarked yesterday or this morning.

Mrs. HANSEN. Where do you sell your copra?

Mr. JOHNSTON. High-grade copra goes to the United States, and low-grade is going into Japan.

Mr. LOESCH. I think our friends have some observations on that.

Mr. SETIK. It goes to the Japanese mostly.

Mr. ALLDREDGE. A little high-grade copra goes to some of the soap manufacturers in the United States.

Mrs. HANSEN. Is it not a general part of the trade?

Mr. ALLDREDGE. No.

Mrs. HANSEN. What action has been taken or is being contemplated to alleviate various restraints of trade between the Trust Territory and the United States?

You have previously mentioned legislation.

Mr. LOESCH. If the U.S. Congress should lift off tariff restrictions as far as Micronesia is concerned, this would be perfectly satisfactory with the United Nations. So I understand from the State Department group we are connected with.

FOREIGN INVESTMENT

Mrs. HANSEN. To what extent is private industry showing an inclination to locate in the Trust Territory. Also, is capital available for development?

Mr. JOHNSTON. Capital is available in far greater amounts than it is being used.

Mrs. HANSEN. Why?

Mr. JOHNSTON. There is a desire to proceed, I feel, with caution to not let someone come in who does not have the best interest of Micronesia at heart. At the last special session of the Congress of Micronesia, they passed an act which I signed into law on February 17, that will create an economic development and foreign investment board in each one of the six administrative districts.

The board will be composed of Micronesians appointed by the district administrator by and with the advice and consent of the district legislature.

And when a person applies for a business permit to do business in Micronesia, his permit will go to the district board in which he wishes to do business. If it is to be territorywide, all six boards would consider it simultaneously and make a recommendation to the High Commissioner.

We have just an avalanche of applications to do business. And of course, Japanese capital is available at the drop of a hat, all the Micronesians could use.

But as I say, under our present status as a trusteeship under the United Nations, if we allow Japanese capital in, then every other nation must be accorded the same and there just is not that much of an area for development yet.

DEDICATION OF U.S. EMPLOYEES IN THE ISLANDS

Mrs. HANSEN. You have about 560 U.S. civil service and contract employees. What would your general evaluation of this work force be with regard to initiative, energy, dedication and real contributions to the task at hand?

Mr. JOHNSTON. We have made some changes and I would say in general that the work force are very dedicated to what they are doing.

Mr. Falcam and I recently had a very fascinating meeting on Guam with some 200 Micronesian students at the University of Guam.

One of the first questions one of the students asked of me and of the executive officer was, under your administration, Mr. Johnston, will the Trust Territory continue to be a retirement home for Federal civil servants?

TRUST TERRITORY GOVERNMENT WITH MICRONESIAN STAFF

This is the basic concept that this young person had. We do still have some civil service people there who I do not believe have the dynamic outlook that we need to get things going in Micronesia. And I think eventually—I said this before and will keep saying it—eventually our answer is going to be to have a Trust Territory government, just as there is the government of Guam and the government of American Samoa.

And there will not be a federal establishment, a contract establishment in three or four parts, and a Micronesian establishment. We will have one work force on one pay plan.

As I say, it will not only be much more effective administratively, but will get the job done and keep the ball rolling much better.

EQUALITY OF WAGES PAID

Mrs. HANSEN. Do you pay Micronesians the same salary for similar positions as Stateside personnel.

Mr. JOHNSTON. No, ma'am.

Mrs. HANSEN. You are not abiding by the American Constitution?

Mr. JOHNSTON. That is correct. And that is one of the primary goals of our administration. We are now in the final stages of classifying all of the jobs and will start moving——

Mrs. HANSEN. In other words, a certain salary is established for a particular job, and it doesn't make any difference to you who fills it, that pay is for that job?

Mr. JOHNSTON. That is correct.

And this is actually being done at the present time under Mr. Akina's supervision.

Mrs. HANSEN. When do you expect to complete job reclassification?

Mr. JOHNSTON. By July 1, 1970.

Mr. SAMUEL. That is the plan.

Mrs. HANSEN. How long will it take to implement this plan?

Mr. JOHNSTON. It would probably take, and I think my friend in the Congress agrees, it would take maybe 5 years from an economic standpoint to implement in even increments over a period of say 4 or 5 years. The plan so we can start leveling off and equalizing will be available by July 1 of this year.

Mrs. HANSEN. I think this is a mandatory step toward the goal of making Micronesians equal.

Mr. LOESCH. If I could speak to this, Madam Chairman, this is, as the High Commissioner has stated, one of the goals of this administration.

The Secretary spoke to it on his visit last May to Micronesia and I am charged with getting it implemented. It has very severe and complicated problems in several areas. And it is not something that we can do out of hand.

I think if we did let it get out of hand, it would bring about serious disruption of the economy for one thing, but that is not primary. We do have the cooperation of the U.S. Congress in funding this project and it will take some time.

I think as far as my discussion with the Micronesian committee is concerned, that they are agreed that the time schedule as presently proposed is satisfactory. But I am greatly concerned about, first, our ceiling legislation and, second, the overall cost and willingness of this Congress, that is the U.S. Congress over the years to go along with it.

Perhaps that is a useless worry. This committee certainly has been thoroughly helpful.

Mrs. HANSEN. You will not have any problems with this committee.

Mr. LOESCH. Yes, ma'am. I am proud of what has happened in the last 10 months since the High Commissioner went out there, and I am proud of what our administration has done so far.

The proof of the pudding is yet to be tested by final results, of course.

Mrs. HANSEN. I think you have made an excellent statement, Mr. Commissioner.

We cannot go on planning forever. It is like telling a youngster tomorrow you will have something to eat but tomorrow never comes.

This committee is interested in the people of Micronesia. It does not matter which side of the aisle we sit on.

You have two of the most dedicated human beings here in the room, Mr. Reifel and Mr. Obey.

Mr. LOESCH. I do not mean to imply criticism.

Mrs. HANSEN. I know.

Mr. LOESCH. Actually, I would say in the fifties it was worse and the last administration got this show on the road anyway.

Mrs. HANSEN. It has been a long series of tragedies brought about by the usual circumstances of a great many miles between the federal establishment and the people of the Trust Territory.

(Off the record.)

Mrs. HANSEN. We will adjourn until 10 o'clock tomorrow morning. Thank you so much.

Mr. JOHNSTON. Thank you.

Mrs. HANSEN. The committee will resume its hearings Thursday, February 26, 1970, on the Trust Territory.

COOPERATION FROM WASHINGTON, D.C., HEADQUARTERS

What are your comments on the cooperation and the assistance you have been getting from the Washington, D.C., headquarters office?

Mr. JOHNSTON. I think that one of the secrets of success that we have had in the past few months is that we are getting excellent cooperation from the Department of the Interior, from the Office of Territories, from the Assistant Secretary for Public Land Management. This has been very important to us, the tremendous interest in the Trust Territory that the Washington people have taken.

RELATIONSHIP WITH CONGRESS OF MICRONESIA

Mrs. HANSEN. Please comment on your relationship with the Micronesian Legislature with regard to legislation, administration, and the allocation of funds.

Mr. JOHNSTON. This, of course, is subject to comment by the distinguished gentleman here at the table. I think we are getting along very well.

Mrs. HANSEN. Does the Micronesian Legislature feel the same?

Mr. SETIK. I would say yes.

Mr. JOHNSTON. We had some rough spots in the first regular session. There was some legislation that, partly because of inadequate help from members of my own staff and partly because we were new at working together, some measures were vetoed. We had a special session in January.

Mrs. HANSEN. Yours, I may say, is not the only parliamentary body that has those difficulties.

Mr. JOHNSTON. I realize that. We just went through what I considered a very successful and very productive special session in January and have developed a method of working together.

LENGTH OF YEARLY SESSIONS OF LEGISLATURE

Mrs. HANSEN. Do you have yearly sessions?

Mr. JOHNSTON. Yes, ma'am.

Mrs. HANSEN. How long do they last?

Mr. JOHNSTON. Forty-five days at the present time, with an organization session in the year that a new congress is elected, they meet in January following the November election for 15 days to get organized and then have a 45-day session each year.

However, the last special session has passed a resolution requesting that the secretarial order be amended so they can meet early in the year. Right now they convene on the 15th of July. To meet earlier in the year they will be more in tune with the Federal budget cycle. And the sessions would then be 50 days in length.

Mrs. HANSEN. Annually?

Mr. JOHNSTON. Yes, ma'am. Their organization session would be in January and then they would go home and come back again in July of the same year.

Mr. LOESCH. I might comment at this point, Madam Chairman, we are presently in consultation with the High Commissioner and the Congress of Micronesia or its representatives, engaged in amending the secretarial order in several respects.

There are a number of out-of-date provisions in it that need to be excised. There are some changes to be made of substantive nature and one of the things we are talking about, but I did not realize we had a resolution, was a change in the timing of the session. I have devoted myself somewhat to this. I think the timing of the session is not as important as I thought it was at first because of the organization of the joint budget committee that can act for the congress in the meantime.

JOINT BUDGET COMMITTEE

Mrs. HANSEN. I was just going to ask you to explain the joint budget committee.

Mr. LOESCH. I think Mr. Setik, chairman of the joint budget committee, can perhaps explain it better than I can, but last year the Congress did provide a joint budget committee to operate in behalf of the Congress in the budgetary process when Congress was not in session.

Mrs. HANSEN. Do the acts of the budget committee have to be ratified by the whole congress?

Mr. SETIK. The congress felt whatever the committee recommends would have to be reported to the congress. When the congress is in session, the committee will give us the 5-year program developed into whatever we think is the best for Micronesia.

Mrs. HANSEN. How is the selection of the budget committee made, by appointment or election?

Mr. SETIK. By appointment. But there must be one representative from each district.

Mrs. HANSEN. Is one representative from each district appointed by the speaker of the house?

Mr. SETIK. Yes, and the senate.

Mrs. HANSEN. You said you have six members of the budget committee?

Mr. SETIK. That is correct.

Mrs. HANSEN. Three of them are senators and three of them are house members?

Mr. SETIK. Yes.

Mr. LOESCH. We are trying very hard, of course, to get the machinery together so the Congress of Micronesia and below it the district legislatures can be fully involved in the budget process from the beginning. And this has been apparently a hangup in administration before.

Mrs. HANSEN. In every legislature there has been a lot of difficulty in modernizing budget procedures so that they are flexible enough to handle the tremendous fiscal needs.

Mr. LOESCH. I leave this to the Commissioner, but I think we have made tremendous strides this year in getting the involvement underway.

Mr. JOHNSTON. Very definitely.

Mrs. HANSEN. Do you belong to the National Association of Legislators?

Mr. JOHNSTON. I do not believe so.

STATUS OF RESTORATION OF BIKINI ATOLL

Mrs. HANSEN. What is the current status of the restoration of the Bikini Atoll?

Mr. JOHNSTON. We are proceeding on schedule with that. The exact status of it now is that we are reviewing with the people who will be returning to Bikini exactly where they want certain public buildings placed because there was some change in thinking on their part as to the location of certain facilities. We are proceeding on that.

The coconut trees have been planted and are coming along fine. We do have a district administrator's representative, a former Peace Corps volunteer, now on Bikini, supervising all of the elements of the project. In fact, I believe this week there will be a meeting of people from the district administration and the elected representatives of the people of Bikini to finalize some of the plans we have to go ahead with in fiscal 1970.

STATUS OF EBEYE FACILITIES

Mrs. HANSEN. What is the current situation on Ebeye with regard to the housing facilities and general social welfare?

Mr. JOHNSTON. Mr. Falcam and I spent 2 days on Ebeye less than 2 weeks ago and then the following morning made a visit of several hours to Carlson Island. The master plan we had drawn up by Hawaii Architect & Engineers in late 1968 and early 1969 includes development of the Carlson Islands, which is in Kwajalein Atoll, and in relation to Kwajalein Island and Ebeye makes almost an equal lateral triangle.

So it is a logical place to develop. And we have our agricultural specialist for the district, Mr. Nakanishi, and others are working on that at the present time to see if we cannot possibly accelerate the development of Carlson Island to take maybe 20 or 25 percent of the population from Ebeye.

Also, there was certain land on Ebeye that was set aside for the housing development and was not really needed for it. We have had proposals from the landowners to build additional housing, very attractive housing according to standards that we would set on that land. We are in the process now of turning some of that land back to the landowners so they can go ahead and put up some additional housing on Ebeye. The situation certainly is not as bad as it was a few years ago.

Mrs. HANSEN. The problem of ownership is enormous.

Mr. JOHNSTON. Yes; but we are making considerable progress in that area. We have the program actually in operation now instead of just talking about it.

Mrs. HANSEN. Good.

MIDCORRIDOR ISLANDS

Shortly after you took office there was a concerted effort by the inhabitants of the midcorridor islands to return to their original habitat. What progress has been made in this connection?

Mr. JOHNSTON. We have been in almost continuous negoiation for I would say the past 6 months. Is that not right?

Mr. SETIK. Yes.

Mr. JOHNSTON. Right now the Army's liaison officer to the Trust Territory is in Huntsville, Ala., supposedly working on the final draft of their latest proposal to the people of the midcorridor. There should be another meeting I would say within the next 2 weeks. But there have been continuous negotiations between the Huntsville, Ala., people, the headquarters of the Kwajalein Missile Range, and the representative of the midcorridor people.

I think we are within at least a few months of reaching a pleasant solution to the problem.

BIKINI ATOLL PROBLEMS

Mrs. HANSEN. Last year we discussed the problem of the coconut crabs. They were a continual pollutant. What solution has there been to that problem?

Mr. JOHNSTON. I cannot answer that. I know it has been a problem.

Mrs. HANSEN. The coconut crab is a continuing source of contamination. Preventive measures must be taken so that the people are not contaminated.

Mr. LOESCH. They eat the crabs.

Mr. JOHNSTON. Coconut crabs were contaminated where other things on the island were not.

Mr. OLTER. I think all living things there are composed largely of calcium. I think in the case of crabs in the lagoons the tissues contain calcium and strontium 90.

Mrs. HANSEN. Is it perpetual?

Mr. OLTER. Yes.

Mrs. HANSEN. What is being done to correct the situation?

Mr. JOHNSTON. I am not sure anything has. I will have to check into that and come up with an answer.

Mrs. HANSEN. The committee discussed this problem at length last year.

Mr. LOESCH. Madam Chairman, I do not know the first thing about this, but I am very curious. The island was declared safe; was it not?

Mrs. HANSEN. Oh, yes; the island was declared safe.

Mr. JOHNSTON. And has been turned back to the Trust Territory.

Mrs. HANSEN. It is not the land that was the source of the contamination. It is the strontium 90 that builds up in the calcium of the coconut crab. Isn't that correct?

Mr. OLTER. Yes.

Mrs. HANSEN. Mrs. Farrington, the director of the Territories, brought this problem up last year.

Mrs. FARRINGTON. I have heard nothing since I talked to you about a letter that came over to my desk from the commissioner of administration at that time, and I read the island had been declared safe and the only exception was the crabs.

Mrs. HANSEN. That is right.

Mrs. FARRINGTON. All they were doing about it at the time was telling the people you should not eat them and I did not think that was sufficient.

Mrs. HANSEN. You are quite right.

Mrs. FARRINGTON. That is all I have heard since. I have inquired several times casually, but nothing has come over my desk.

Mrs. HANSEN. I refer to page 748 in last year's hearings. I asked last year if they were surveying the island continually for coconut crabs.

Mr. Screen said:

> There is one possibility of radiation and unfortunately that is the coconut crab. We do not know when that is likely to ever stop; since they consume their own shells, there is a possibility that strontium 90 exists in the coconut crab and that cannot be eaten, but that is no deterrent as long as the people know that.

Then I asked Mr. Screen about safeguards. He said:

> Simply make it known to the returning residents very definitely they cannot eat the coconut crab.
> Mrs. HANSEN. But supposing somebody does?
> Mr. SCREEN. Then the possibility exists they could become ill from the contamination.

Mr. WYATT. Is the meat in the crab considered by your scientists to have an unacceptable radiation level?

Mr. SAMUEL. These meats of the coconut crab and lobster are two meats that have been said to be unsafe. But to the people, these two meats are very elegant.

Mr. WYATT. I wonder, Madam Chairman, what has really been done to determine the radioactivity and the real danger of the meats themselves for human consumption.

CLAMS AT BIKINI

I wonder if maybe that should not be pursued a little bit more. Do you have clams in the lagoon, too?

Mr. SAMUEL. Yes.

Mr. WYATT. And they are consumed by humans? They are a delicacy too, I would assume.

Mr. SAMUEL. Yes.

Mr. WYATT. I would think perhaps we ought to have more information.

Mrs. HANSEN. I think we had better have a further answer on this problem.

CONTAMINATION ON BIKINI

Mr. JOHNSTON. Madam Chairman, this has been one of our problems in the whole progress of the resettlement of Bikini—the lack of positive statements from the scientific gentlemen who make all of these tests and go out there with their millions of dollars worth of instruments and so on and they make statements like, "Well, the amount of contamination in the air is sort of like it would be in Las Vegas late at night" or something like this, and you say "Will you declare this absolutely safe?"

"Well, now, we hesitate to make positive statements like that."

We went round and round on this right on Bikini one evening with a three-star admiral and several others. It is hard to get specific answers.

It is the same way with the crab thing. There may be some danger in it. This is something we are working on. I do not know we have a positive answer yet.

Mrs. HANSEN. On page 749 of last year's hearings Mr. Milner said:

> The dwelling units on Bikini will be built on a pad of coral. This is not unusual. It is the way the Marshallese typically build their housing anyway. They bring in coral and build a platform on which to live.
>
> The population of the coconut crab will be severely reduced and the AEC believes this will minimize the danger.
>
> Earlier this morning we referred to the feeding program; bringing in the outside food in the initial stages will also cut down on the possible intake of radioactive residuals. But they are satisfied that no undue hazard will exist.

How many families have resettled on Bikini?

Mr. JOHNSTON. There are people working there. There are no families living there now.

Mrs. HANSEN. What happens if a family eats the coconut crab and illness develops? If this happens the fault may lie with our Government for not supplying enough information. If the people of Micronesia are not informed adequately a disaster might result.

This committee is going to demand that the AEC and the Defense Department furnish us all the material that we need so that we can evaluate the problem. I would not want to be part of any committee that said, go ahead and expose your youngsters to the hazards of radiation.

I think every Member of Congress would agree with me.

Mr. LOESCH. Perhaps we can help from the departmental level. I was not aware of the problem.

Mrs. HANSEN. It could be a far more major problem psychologically than any problem you are faced with.

If the land can be guaranteed safe from radiation we should be able to make a judgment on the safety of seafood.

Mr. LOESCH. Madam Chairman, suppose, and I am asking this for my own education—suppose that the Department of Defense should come in with a report that said, no, coconut crabs and lobsters are not safe to eat repeatedly?

Mrs. HANSEN. The safety precautions must be taken so that everybody is aware that proper precautionary steps are being taken.

Mr. Loesch, do you think this will fill the bill?

Mr. LOESCH. I think it may.

Mrs. HANSEN. I think the people of Micronesia are deeply concerned.

Mr. LOESCH. I will take it up with the Secretary.

Mrs. HANSEN. This is a very serious problem that holds in it the seeds of potential disaster.

Mr. LOESCH. I will prepare a letter for the Secretary's signature for Defense and AEC and seek a meeting to explain.

Mr. JOHNSTON. That will be very helpful.

Mrs. HANSEN. You can replant coconut trees, but you cannot replant children. As long as the problem exists, if our Government does not take action, we are negligent.

TRUST TERRITORY FUNDING BY OTHER FEDERAL AGENCIES

Please place in the record the funds available for the administration of the Trust Territory provided by other agencies of the Federal Government for fiscal year 1969 and 1970, and the budget estimate for

1971. This information should be broken down to show the amounts available under each type of program.

(The information follows:)

TRUST TERRITORY OF THE PACIFIC ISLANDS

FUNDING BY OTHER FEDERAL AGENCIES

[In thousands of dollars]

Public law	Item	1969	1970	1971
89-10	Elementary and secondary education	1,197	1,072	1,072
89-511	Library services and construction	79	49	49
89-750	Adult education	57	58	58
87-415	Manpower development and training	63	145	145
89-329	Education professional development	40	40	40
90-576	Vocational education		167	198
89-642	National school lunch program	4	11	11
89-749	Health programs	393	548	856
	Total	1,833	2,090	2,429

JUSTIFICATION MATERIAL—TRUST TERRITORIES

Mrs. HANSEN. Please insert pages 82 through 208 of the justifications in the record.

Mr. HITE. Yes, ma'am.

(The information follows:)

Trust Territory of the Pacific Islands

HIGHLIGHT STATEMENT

Fiscal Year 1971

Description

The Trust Territory of the Pacific Islands is composed of the Northern Mariana Islands, the Eastern and Western Caroline Islands, and the Marshall Islands, having 700 square miles of land divided among 2,141 islands, scattered over a three million square mile area in the Western Pacific. There are approximately 101,000 people inhabiting 97 islands. For administrative purposes, the Territory is divided into six districts of islands and atoll groups of islands. There are notable cultural and linguistic differences between the districts.

Authority

The responsibilities of the United States in Micronesia are set forth in the July 18, 1947 Trusteeship Agreement between the United States and the United Nations Security Council. The obligations assumed under that agreement require the United States to promote the economic, social, political, health and educational development of Micronesia toward self-government. Executive Order 11021 of May 7, 1962, vested executive, legislative and judicial authority for the administration of civil government in the Secretary of the Interior. Secretarial Order No. 2918 of December 27, 1968, delimits the extent and nature of the authority of the Government of the Trust Territory and prescribes the manner in which the relationships of that Government shall be established and maintained with the Congress of the United States, the Department of the Interior and other Federal agencies, and with foreign governments and international bodies.

Government of the Trust Territory of the Pacific Islands

The Government of the Trust Territory is a total government. It performs, in greater or lesser extent, all the functions of federal, state, and local governments in the United States -- save three: postal service, coinage and currency, and national defense.

Following the American separation-of-powers model, executive authority is vested in a High Commissioner appointed by the President. Legislative authority rests in a bi-cameral Congress of Micronesia. Judicial authority is vested in a High Court whose three Justices are appointed by the Secretary of the Interior.

Through departments of Education, Health Services, Resources and Development, Public Works, Public Affairs, Finance, Transportation and Communications, Program and Budget, and Personnel, the chief legal officer (the Attorney General), a special executive staff and six geographically defined districts, Government endeavors include budget and program formulation and control, rural community development, disaster (typhoon) preparedness, marine resources exploration, immigration service and passport issuance, conduct of elections, "embassies" (liaison offices) outside the Territory, maintenance of close relationships with Congress of Micronesia and six district legislatures, the Peace Corps, Community Action Agencies, business licensing, domestic taxes and import duties, accounts and audits of government operations, loans to private businesses, drafting and analysis of legislation, jails and fire stations, insular constabulary, seven airports (six with immigration services), seven harbors and numerous lightering ports, legal services for indigents, commercial fisheries development, water-sewerage-power systems construction and operation, advisory services to private businesses, historic sites and parks, management of public lands, survey and

registry of private lands, forestry development, agriculture research and extension, foreign investment promotion, complete medical and health services, public sanitation, inter-island shipping, air and surface transportation regulation, road construction and maintenance, public elementary, secondary and vocational schools, extra-territorial scholarships, education of teachers, economic development planning, manpower development and training, employment service, social security, consumer protection, mental health, public housing, civil service, and communications operation and regulation.

This listing is neither detailed nor exhaustive. It is illustrative. The individual justification statements which follow have been prepared to demonstrate the dimensions and variety of the activities conducted and public services made available by the Trust Territory Government. This FY 1971 Budget presentation is an attempt to portray in budget format the needs, operations obligations and objectives of this total government.

Policy and Program Orientation

In the Trust Territory of the Pacific Islands, the United States is attempting to foster the whole range of Federal, State and local, public and private services necessary for human dignity and to provide a base for self-supporting and self-determined progress. This aim is to be pursued to the fullest extent by the Micronesians themselves whose personal growth as individuals is now producing men and women to fill the complex social, economic, political and technical roles of a modern society.

The next two years will be the most critical in the history of the United States -- Trust Territory relationships. They will determine whether the people of the Territory continue a close relationship with the United States or seek another status. This budget contains programs through which the United States can demonstrate responsiveness to Micronesian aspirations consistent with national security requirements as well as the broader interests of the United States.

The budget plan was prepared in the light of: the geographic dispersion and isolation of the islands and their peoples; the historical pace of development since 1950; the domestic crisis in land tenure; inadequate infrastructure; the separation of subsistence and monetary sectors of the economy; the shortage of domestic capital; the level of education; Micronesian cultural heritage; lack of domestic skilled manpower; imbalance between the public and private sectors; inadequate public knowledge of political, economic and social matters; and the emerging demand by Micronesians for a stronger voice in the management and future of their society.

The program provides only those things Micronesians cannot provide for themselves, things that Americans have long since taken for granted -- schools for children, access to medicine and medical care, reasonably safe and efficient ways to move people and goods, a secure title to their property, clean water, treated sewage, electric power, and a growing economy.

The FY 1971 Program

The FY 1971 request for the Trust Territory is $60,000,000, an increase of $11,888,000 over FY 1970. The bulk of the increase, $7,178,000 is in operations, (including the Offices of the High Commissioner and the Chief Justice), where major program increases are in Education, Resources and Development, and Transportation and Communications. The Capital Improvement increase is $4,710,000. Major construction projects are: secondary schools in Ponape, Truk, and the

Marshalls; the first increment of the Micronesian Teacher Education Center in Ponape; water and sewer systems in Yap, Truk, and Ponape; extensions of power in all districts; the second phase of construction of the relocated airport at Majuro; roads throughout the Trust Territory; replacement of two ships; teletypewriter equipment for the communications system; and a dock at Ponape.

These funds will provide for 603 new Micronesian positions and 135 additional American positions, bringing our staffing level to a total of 696 U.S. and 5,316 Micronesians. Micronesian employment requirements increase by 124 in Health Services, 225 in Education, 18 in Public Affairs, 149 in Resources and Development, 39 in Protection to Persons and Property, 33 in Administration, 3 in Transportation and Communications, and 12 in Public Works and Utilities. American employment increases by 5 in Health Services, 75 in Education, 3 in Public Affairs, 24 in Resources and Development, 1 in Protection to Persons and Property, 5 in Administration, 15 in Transportation and Communications, and 7 in Public Works and Utilities.

Trust Territory of the Pacific Islands

Appropriation, 1969	$30,000,000	
Total appropriation, 1969		$30,000,000
Appropriation, 1970	40,612,000	
Supplemental appropriation, 1970	7,500,000	
Total appropriation, 1970		48,112,000

Summary of Increases and Decreases, 1971

	Base for 1971	Increase 1971	
High Commissioner's Office			
Increase in budget authority due to partial funding of FY 1970 program out of carryover balances from FY 1969 plus increase in operating costs...	$ 315,000	+110,000	+110,000
Judiciary			
To provide for increased operating costs	271,000	+19,000	+19,000
Grants			
Net increase of $11,759,000 includes $6,699,000 for operations, $4,910,000 for capital improvements, and $150,000 increase in budget authority due to decrease in anticipated reimbursements	47,526,000	+11,759,000	+11,759,000
Net increase, 1971			$11,888,000
Budget estimate, 1971			$60,000,000

Analysis of Activities

Activity	Fiscal Year 1969 Amount Available	Fiscal Year 1970 Total Appropriation	Fiscal Year 1970 Unobligated Balance	Fiscal Year 1970 Amount Available
1. High Commissioner's Office	$ 331,898	$ 315,000	$ 93,675	$ 408,675
2. Judiciary	195,661	271,000	5,506	276,506
3. Grants	36,079,082	47,526,000	3,248,475	50,774,475
Total	$36,606,641	$48,112,000	$3,347,656	$51,459,656

Analysis by Activities

Activity	FY 1969 Amount Available	FY 1970 Amount Available	FY 1971 Estimate	Increase (+) or Decrease (-) 1971 compared with 1970	Page Reference
1. High Commissioner's Office	$ 331,898	$ 408,675	$ 425,000	$ +16,325	93
2. Judiciary	195,661	276,506	290,000	+13,494	96
3. Grants	36,079,082	50,774,475	59,285,000	+8,510,525	102
Total	$36,606,641	$51,459,656	$60,000,000	$+8,540,344	

The estimate $60,000,000 for FY 1971 represents a net increase of $11,888,000 over the budget authority for 1970, exclusive of carryover funds of $3,347,656. The net increase for the budget year is distributed as follows:

High Commissioner's Office	$ +110,000
Judiciary	+19,000
Grants	+11,759,000
Net Increase, 1971	$+11,888,000

BUDGET AUTHORITY

Summary by Activities
Fiscal Year 1971

	FY 1969	FY 1970	Estimate FY 1971	Increase + Decrease -
I. DIRECT APPROPRIATIONS:				
A. HIGH COMMISSIONER'S OFFICE	$ 341,000	$ 315,000	$ 425,000	$ +110,000
B. JUDICIARY	200,000	271,000	290,000	+19,000
TOTAL - DIRECT APPROPRIATIONS	$ 541,000	$ 586,000	$ 715,000	$ +129,000
II. GRANTS, REIMBURSEMENTS AND OPERATING INCOME:				
A. PROGRAMS, ADMINISTRATION AND OPERATIONS:				
1. Health Services	$ 3,681,900	$ 4,997,000	$ 5,103,000	$ +106,000
2. Education	5,543,700	6,964,000	9,466,000	+2,502,000
3. Public Affairs	817,600	1,216,000	1,481,000	+265,000
4. Resources and Development	1,848,700	3,177,000	4,989,000	+1,812,000
5. Protection to Persons & Property	923,200	1,568,000	1,572,000	+4,000
6. Administration	2,483,200	3,256,000	3,806,000	+550,000
7. Transportation and Communications	622,800	1,822,000	2,427,000	+605,000
8. Public Works and Utilities	4,493,900	5,129,000	5,984,000	+855,000

	FY 1969	FY 1970	Estimate FY 1971	Increase + Decrease -
TOTAL - PROGRAMS, ADMINISTRATION AND OPERATIONS	$20,415,000	$28,129,000	$34,828,000	$ +6,699,000
B. CAPITAL IMPROVEMENTS	9,494,000	19,847,000	24,757,000	+4,910,000
TOTAL - GRANTS, REIMBURSEMENTS AND OPERATING INCOME	$29,909,000	$47,976,000	$59,585,000	$+11,609,000
LESS: ESTIMATED REIMBURSEMENTS AND OPERATING INCOME	-450,000	-450,000	-300,000	+150,000
NET GRANTS REQUIRED	$29,459,000	$47,526,000	$59,285,000	$+11,759,000
ADD: DIRECT APPROPRIATIONS	541,000	586,000	715,000	+129,000
GRAND TOTAL	$30,000,000	$48,112,000	$60,000,000	$+11,888,000

Personnel Staffing - Permanent Positions

FY 1969, 1970 and 1971

	FY 1969	FY 1970	FY 1971
DIRECT APPROPRIATION:			
Office of the High Commissioner:			
U.S. - Civil Service	14	13	13
Micronesians	0	6	6
Judiciary:			
U.S. - Civil Service	8	8	8
GRANTS - OPERATIONS:			
Health Services:			
Hospital & Out Islands:			
U.S. - Civil Service	1	1	1
U.S. - Contract	19	22	24
U.S. Total	20	23	25
Micronesians	729	749	858
All Other:			
U.S. - Civil Service	8	8	8
U.S. - Contract	11	11	14
U.S. Total	19	19	22
Micronesians	139	145	160
Education:			
Elementary:			
U.S. - Civil Service	3	3	3
U.S. - Contract	53	53	90
U.S. Total	56	56	93
Micronesians	1,066	1,147	1,270
Secondary:			
U.S. - Civil Service	10	10	10
U.S. - Contract	74	74	88
U.S. Total	84	84	98
Micronesians	191	192	231
All Other:			
U.S. - Civil Service	20	19	13
U.S. - Contract	32	44	74
U.S. Total	52	63	87
Micronesians	57	103	166

	FY 1969	FY 1970	FY 1971
Public Affairs (include Community Development):			
U.S. - Civil Service	10	14	16
U.S. - Contract	5	4	5
U.S. Total	15	18	21
Micronesians	111	152	170
Resources and Development:			
Agriculture:			
U.S. - Civil Service	14	15	20
Micronesians	233	234	285
Economic Development:			
U.S. - Civil Service	9	12	16
Micronesians	30	38	46
Marine Resources:			
U.S. - Civil Service	2	3	12
Micronesians	15	18	59
Lands and Surveys:			
U.S. - Civil Service	10	21	27
Micronesians	126	160	209
Protection to Persons and Property:			
Public Safety:			
U.S. - Civil Service	1	1	2
Micronesians	221	209	224
All Other:			
U.S. - Civil Service	16	17	17
Micronesians	47	76	100
Administration:			
U.S. - Civil Service	88	98	103
Micronesians	378	414	447
Transportation and Communications:			
U.S. - Civil Service	21	31	46
Micronesians	114	116	119
Public Works and Utilities:			
Engineering and Administration:			
U.S. - Civil Service	15	19	19
U.S. - Contract	9	6	12
U.S. Total	24	25	31
Micronesians	18	14	21

	FY 1969	FY 1970	FY 1971
Public Works and Utilities: (con't)			
Operations and Maintenance:			
U.S. - Civil Service	25	14	14
U.S. - Contract	18	30	31
U.S. Total	43	44	45
Micronesians	702	708	710
Utilities:			
U.S. - Civil Service	5	4	4
U.S. - Contract	2	6	6
U.S. Total	7	10	10
Micronesians	217	232	235
Total - Direct Appropriation and Grants - Operations:			
U.S. - Civil Service	280	311	352
U.S. - Contract	223	250	344
U.S. Total	503	561	696
Micronesians	4,394	4,713	5,316
Construction - Public Works: 1/			
U.S. - Contract (paid from capital improvement projects)	26	49	49

1/ Excludes when - actually employed Micronesians.

Office of the High Commissioner: FY 1970 $408,675, FY 1971 $425,000: Increase $16,325. The increase consists of:

	Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1)	$+16,325	--	$425,000	13 U.S. 6 Micro	To provide for increased pay costs.

Cost Factors Involved in Increases

(1) Full funding of 3 U.S. positions which were lapsed in FY 1970, personnel benefits, and within grade increments of ongoing U.S. and Micronesian positions, $30,100. The increases are partially offset by a reduction of $13,775 in travel, recruitment, repatriation and home leave.

Need for Increase:

(1) To provide for increased pay costs, $16,325: The increase requested here is necessary for the continuation of the Office of the High Commissioner.

I. DIRECT APPROPRIATION

A. Office of the High Commissioner:

FY 1970 $408,675, FY 1971 $425,000: Increase $16,325

The estimate for the support of this office in FY 1971 is as follows:

	FY 1970 Estimate	FY 1971 Estimate	Increase + Decrease -
Personnel Compensation and Benefits	$284,800	$314,900	$ +30,100
Travel and Other Transportation	78,875	65,100	-13,775
All Other Object Codes	45,000	45,000	- 0 -
Total	$408,675	$425,000	$ +16,325
Source of Funding for above:			
Appropriated Funds	$315,000	$425,000	$+110,000
Unobligated funds brought forward from prior years	93,675	- 0 -	-93,675
Total	$408,675	$425,000	$ +16,325

A total of $425,000 is required for the support of the Office of the High Commissioner in FY 1971, an increase of $16,325 over FY 1970.

The executive and administrative authority of the Government of the Trust Territory of the Pacific Islands and the responsibility for carrying out the international obligations undertaken by the United States under the terms of the Trusteeship Agreement with the United Nations with respect to the Territory are vested in the High Commissioner, who is appointed by the President of the United States, and is under the general supervision of the Secretary of the Interior.

The Congress of Micronesia, during its July 1969 session, recommended a reorganization of the Trust Territory Government to make it more responsive to the needs of the people. The High Commissioner acceded to the request of the Congress and reorganized the Government along the recommended lines.

Organizationally, the High Commissioner's staff now includes the Deputy, the Attorney General, the Executive Officer, the Special Consultant, the Directors of Health Services, Education, Public Affairs, Resources and Development, Transportation and Communications, Finance, and Public Works, and the Heads of the Offices of Program and Budget, Personnel, Internal Audit, and the Public Defender.

The budget for the Office of the High Commissioner includes the salaries and supporting costs of the High Commissioner, the Deputy, the Special Consultant, the Executive Officer, and the Directors of Finance, Transportation and Communications, Resources and Development, and Public Affairs. All other Directors and Heads of Offices are funded from grants in the appropriate program areas.

Staffing:	FY 1970	FY 1971
	13 U.S. Civil Service	13 U.S. Civil Service
	0 U.S. Contract	0 U.S. Contract
	13 U.S. Total	13 U.S. Total
	6 Micronesians	6 Micronesians

The increase of $16,325 includes $28,300 in U.S. compensation which covers positions partially lapsed in FY 1970, within grade increments, and personnel benefits. Micronesian compensation increases $1,800 for within grade increments and benefits. These increases are partially offset by reductions in travel of $3,275, and recruitment, repatriation and home leave, $10,500.

Judiciary: FY 1970 $276,506, FY 1971 $290,000: Increase $13,494. The increase consists of:

Increase (+) or Decrease (-)		Total	Total	
Amount	Positions	Program	Positions	Explanation
(1) $+13,494	--	$290,000	8 U.S. No Micro	To provide for increased operating costs.

Cost Factors Involved in Increases

(1) Cost of normal step increases and personnel benefits for the ongoing staff which consists of a Chief Justice, two Associate Justices, one Administrative Officer, three Court Reporter-Secretaries, and one Secretary to the Chief Justice, $2,700; home leave costs, $5,600; additional office equipment requirements, $4,194; and other services, $1,000.

Need for Increase:

(1) To continue judicial operations, $13,494: The increase requested here is only enough to continue normal operation of the judiciary at the same level as in FY 1970 with a small increase in equipment and other services.

I. DIRECT APPROPRIATION

B. Judiciary:

FY 1970 $276,506, FY 1971 $290,000: Increase $13,494

The estimate for the support of this office in FY 1971 is as follows:

	FY 1970 Estimate	FY 1971 Estimate	Increase + Decrease -
Personnel Compensation and Benefits	$156,500	$159,200	$ +2,700
Travel and Other Transportation	53,500	59,100	+5,600
All Other Object Codes	66,506	71,700	+5,194
Total	$276,506	$290,000	$+13,494
Source of Funding for above:			
Appropriated Funds	$271,000	$290,000	$+19,000
Unobligated funds brought forward from prior years	5,506	- 0 -	-5,506
Total	$276,506	$290,000	$+13,494

The amount of $290,000 is required in FY 1971 to support the Judiciary - High Court, an increase of $13,494.

There are three types of courts in the Trust Territory -- High Court, District Courts, and Community Courts. In this document "Judiciary" applies only to the High Court, with the District and Community Courts being funded as "Local Judiciary" in the Grants area.

The High Court has Trial and Appellate Divisions. The Trial Division has original jurisdiction to try all cases, civil and criminal, including probate, admiralty, and maritime matters, and the adjudication of title to land or any interest therein. The Appellate Division has jurisdiction to review, on appeal, the decisions of the Trial Division of the High Court in the following instances:

1. All cases tried originally in the High Court.

2. Certain cases decided by the High Court on appeal from a District Court.

3. All cases decided by the High Court on review of the record of a District or Community Court decision in which the High Court has reversed or modified the decision so as to affect the substantial rights of the appellant.

The staff of the High Court consists of a Chief Justice, two Associate Justices, one Administrative Officer, three Court Reporter-Secretaries, and one Secretary to the Chief Justice.

The Trial Division of the High Court holds sittings at least four times a year on a circuit-riding basis at the six district centers, and with a fair degree

41-447 O - 70 - pt. 1 -- 40

of regularity at three of the sub-centers, in addition to sittings at outlying islands when the need arises. The High Court Judges and the Judiciary Administrative Officer also supervise the work of, and endeavor to train, the District and Community Court Judges and the Clerks of Courts and their assistants, who have had either very little or no legal training prior to their appointments.

Statistical Charts 1, 2, and 3 list the number of court cases disposed of and pending before the various courts for the dates listed.

The disposal of a case normally involves a formal court hearing followed by the judge or judges of that court entering a judgment or imposing a sentence or fine. Cases may also be disposed of, however, by such actions as dismissal or transfer to another court.

The FY 1971 Judicial program will be essentially a continuation of the FY 1970 program. The goal of the Judicial program is to provide the citizens and residents of the Trust Territory with the highest quality of justice possible in the courts, while appointing Micronesians to more responsible judicial positions as soon as practical.

Staffing in FY 1971 remains the same as in FY 1970.

Staffing:	FY 1970	FY 1971
	8 U.S. Civil Service	8 U.S. Civil Service
	0 U.S. Contract	0 U.S. Contract
	8 U.S. Total	8 U.S. Total
	No Micronesian Personnel	No Micronesian Personnel

The increase of $13,494 includes $2,700 in U.S. compensation which provides within grade increments and personnel benefits. Recruitment, repatriation and home leave increases $5,600, other services, $1,000 and equipment, $4,194.

CHART NO. 1

TRUST TERRITORY COURTS

Cases Disposed of Per Year

	High Court Appellate Division		High Court Trial Division		District Courts		Community Courts	
	Criminal	Civil	Criminal	Civil	Criminal	Civil	Criminal	Civil
1965	6	5	46	125	1,463	1,035	710	1,739
1966	1	2	41	89	1,509	853	1,150	2,546
1967	0	1	44	175	1,736	1,406	934	2,456
1968	1	3	54	251	2,545	1,273	1,388	2,589
1969 (Est.)	3	11	69	195	2,998	1,426	1,232	2,416

NOTE: All statistics based on calendar year.

Trust Territory of the Pacific Islands

CHART NO. 2

TRUST TERRITORY COURTS

Cases Pending at End of Year

	High Court Appellate Division		High Court Trial Division		District Courts	
	Criminal	Civil	Criminal	Civil	Criminal	Civil
1965	1	6	23	269	66	215
1966	0	5	25	335	132	341
1967	1	6	15	327	142	206
1968	2	23	28	231	217	266
1969 (To Nov. 30)	4	28	5	316	217	423

NOTE: Community Courts report only cases disposed of; pending cases are not reported.

All statistics based on calendar year.

CHART NO. 3

TRUST TERRITORY COURTS

Cases Disposed of per Quarter

3rd Quarter of 1969 (July through September)

	High Court Appellate Division		High Court Trial Division		District Courts		Community Courts	
	Criminal	Civil	Criminal	Civil	Criminal	Civil	Criminal	Civil
Jul	0	1	3	17	214	104	78	220
Aug	0	0	7	11	266	126	95	184
Sep	2	1	8	17	339	179	114	138
Total	2	2	18	45	819	409	287	542

Previous Quarter in 1969 (April through June)

Apr	1	6	4	14	223	77	97	206
May	0	0	2	12	272	132	32	252
Jun	0	0	3	13	218	111	101	227
Total	1	6	9	39	713	320	230	685

Cases Pending at end of Previous Quarter (Ending June 30, 1969)

High Court Appellate Division		High Court Trial Division		District Courts	
Criminal	Civil	Criminal	Civil	Criminal	Civil
4	19	13	222	265	333

Cases Pending at end of Most recent Quarter (Ending September 30,1969)

3	27	12	279	358	424

NOTE: All statistics based on calendar year.

Health Services: FY 1970 $4,997,000, FY 1971 $5,103,000: Increase $106,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1) $+404,500	+ 5 U.S. +124 Micro	--	--	Upgrade and strengthen health services for the people of Micronesia.
(2) +201,500	--	--	--	Provide supporting supplies, materials, equipment, etc., for the expanded health program.
(3) -500,000	--	--	--	Non-recurring cost of establishing a revolving stock fund for drugs and medical supplies in FY 1970.
$+106,000	+ 5 U.S. +124 Micro	$5,103,000	47 U.S. 1,018 Micro	

Cost Factors Involved in Increases

(1) 5 U.S. Registered Nurses: one for hospital duty in Yap and one in the Marshalls, three to be instructors in the Trust Territory School of Nursing. 124 Micronesian positions: 15 in the Marianas, 7 in Palau, 4 in Yap, 58 in Truk, 19 in Ponape, and 21 in the Marshalls.

(2) Travel for supervisory staff and trainees, $30,400; supplies and materials and equipment, $146,800; and other minor increases, $24,300.

(3) Revolving stock fund to overcome long supply lines and delivery time established in FY 1970.

Need for Increase:

(1) Upgrading and strengthening health services for the people of Micronesia, $404,500: All health care received by the Micronesian people must come from the Trust Territory Government since there are no private facilities in the Territory. This Government is ever striving to improve the health care extended to the people. In FY 1971, a new hospital will be in operation in the Truk District, requiring 56 additional Micronesian employees. Staffs of all districts for hospital duty are being strengthened: the Marianas will have 11 new Micronesian employees, Palau 7, Yap 2, Ponape 15, and the Marshalls 18. A new Trust Territory School of Nursing will be in operation in FY 1971 which will permit an increase in enrollment from 60 to 100 or 120 and will require an increase in instructional staff of 3 U.S. Registered Nurses and 2 experienced Micronesians. In Environmental Health and Sanitation, 2 Micronesian trainees will be recruited and in the Dental Services program, 11 Micronesian positions are added. An additional 2 U.S. Registered Nurses are required--one each in Yap and the Marshalls.

(2) Provide supporting supplies, materials, equipment, etc., for the expanded health program, $201,500: An expanded health services require increased

mobility of supervisory staff as well as the movement of people for training, $30,400. Increased technical capability of medical staff must be accompanied by increased and updated supplies, materials and equipment, and the increased enrollment at the School of Nursing requires additional teaching materials and other services, $171,100.

(3) Non-recurring cost of establishing a revolving medical supply stock fund in FY 1970, $-500,000: The danger of running out of essential drugs and medical supplies due to the long lead times required in ordering makes it necessary to maintain a large inventory of critically needed hospital supplies in Saipan and in the districts. In FY 1970, $500,000 was provided to establish the required stock. Since this inventory is set up as a revolving stock fund, it will not be necessary to duplicate this item in the FY 1971 budget.

A. PROGRAMS, ADMINISTRATION AND OPERATIONS

Activity	FY 1970 Estimate	FY 1971 Estimate	Increase + Decrease -
1. Health Services:			
a. Medical Administration	$ 406,000	$ 431,000	$ +25,000
b. Medical Supply Revolving Fund	500,000	- 0 -	-500,000
c. Hospital & Out-Islands Services 1/	3,520,000	3,967,000	+447,000
d. Environmental Health and Sanitation	206,000	233,000	+27,000
e. Dental Services	223,000	254,000	+31,000
f. Trust Territory School of Nursing	142,000	218,000	+76,000
Total	$4,997,000	$5,103,000	$+106,000

1/ Medical Referrals are included in the Hospital and Out-Islands account.

The Health Services program is established to maintain and improve health and sanitary conditions, minimize and eventually control communicable disease, establish standards of medical and dental care, encourage scientific investigations in the field of health, supervise and administer all government-owned hospitals, clinics, dispensaries and other medical and dental facilities.

a. Medical Administration:

FY 1970 $406,000, FY 1971 $431,000: Increase $25,000

A total of $431,000 is required for Medical Administration in FY 1971, an increase of $25,000 over FY 1970.

The administration of the above programs are carried out by personnel specialists in the field of medicine, dentistry, pharmacy, hospital administration, nursing, environmental health, vital statistics and medical equipment repair who provide services and give leadership and direction for the implementation of the program.

Emphasis will be placed on comprehensive health planning through the Office of Health Planning/Evaluation and the Trust Territory Health Planning Council with increasing implementation of Preventive Health Programs.

Although immediate results will not be readily apparent, the emphasis on preventive health services will begin to reduce the prevalence of many illnesses which now make up a bulk of the medical care. No increase in personnel is anticipated.

Staffing:	FY 1970	FY 1971
	6 U.S. Civil Service	6 U.S. Civil Service
	7 U.S. Contract	7 U.S. Contract
	13 U.S. Total	13 U.S. Total
	21 Micronesians	21 Micronesians

The increase of $25,000 includes $14,800 for U.S. ongoing positions within grade increases, benefits and the pay raise of July 1969. Micronesian personnel costs show an increase of $4,600. This will provide for ongoing positions within grade increases, overtime and benefits. Other increases are travel and transportation, $2,000; and equipment, supplies and materials, $3,600.

b. Medical Supply Revolving Fund:

FY 1970 $500,000, FY 1971 $ -0-: Decrease $500,000

A decrease of $500,000 is expected as this fund will be replenished and maintained by charges against the requisitioning district health services.

c. Hospitals and Out-Island Health Services:

FY 1970 $3,520,000, FY 1971 $3,967,000: Increase $447,000

A total of $3,967,000 is required in FY 1971 for the Hospitals and Out-Island Health Services, an increase of $447,000 over FY 1970. Medical Referrals are included at $600,000 for FY 1971 as in FY 1970.

The Trust Territory Government provides all the medical care that is available for the citizens of Micronesia. There are no private hospitals or pharmacies. There are no medical officers in private practice. There is but one dental officer in private practice. Micronesian medical personnel consist of thirty-three general practitioners, most of whom were trained at the Fiji Medical School in Suva, Fiji. The outer island health services are substandard in terms of physical facilities and health aide manpower.

Medical care is provided through six district hospitals, three sub-district hospitals and 141 rural dispensaries. With two exceptions, physician specialists are not available, requiring Trust Territory patients to be sent as medical referrals to Guam and Honolulu hospitals. (In FY 1969, 435 inpatients and 270 outpatients were referred to U.S. Naval Hospital at Guam. Twenty additional were referred to Queen's Hospital in Honolulu. These were exclusive of the number referred under the Crippled Children's program. Total cost of referrals including transportation and subsistence for patients and escorts was $586,938.)

The areas of prevalence of filariasis have been delineated and a program of eradication is to be implemented. A high prevalence of leprosy in the Pingelap people is being combatted under the technical supervision of a consultant from the University of Hawaii.

Increasing activities in the areas of Maternal and Child Health, School Health, Case-finding for Crippled Children's Services and Family Planning are to be effected in FY 1971. A Mental Health Program will be instituted in an attempt to ameliorate adverse socio-cultural factors involved in acculturation. The reduction in amoebic dysentery and intestinal parasitosis is a concomitant of good water provision and sewage disposal systems planned for all district centers. Pilot projects for several islands are to be implemented to provide safe water supplies for the population. A screening program for cancer of the cervix for early diagnosis and treatment will be provided; this program is planned for early implementation in conjunction with the Regional Medical Program of Hawaii. A mass immunization program with the assistance of the National Communicable Disease Center of Atlanta, Georgia, will take place to provide protective levels of immunity against diphtheria, tetanus, whooping cough, smallpox, poliomyelitis, measles and other pertinent diseases for the entire population. The resulting immunity level is to be maintained by routine immunizations via the Maternal and Child Health Programs. Trust Territory share of these programs is about $20,000.

The proposed program in FY 1971 would upgrade and broaden the health services in the district hospitals and dispensaries to insure better quality care and more comprehensive health care. New facilities at Truk, Kusaie and Ebeye will be operational with attendant increases in personnel and supplies. Also 24 new and replaced dispensaries will be erected. Again an attendant increase in personnel and supplies. Major emphasis will be on training Micronesian health personnel, mainly health aides, at the district level. Through the establishment of a Medical Supply Revolving Fund in FY 1970, continuous inventory of three to six month supply of drugs and hospital sundries was established to insure adequate supplies and to relieve the chronic shortages at the district level. Preventive medicine will be strengthened in FY 1971. Typical of this is the association with the Communicable Disease Center in a five-year Continuous Disease Surveillance and Immunization Program. (See Table I.)

To implement the Hospitals and Outer-Island Health Services Program in FY 1971 and to staff the new 125-bed Truk Hospital and the new 20-bed Kusaie Hospital respectively, it will be necessary to add 109 new Micronesian positions (Marianas 11, Palau 7, Yap 2, Truk 56, Ponape 15 and Marshalls 18). Two expatriate Registered Nurses will be added, one each for Yap and the Marshalls.

It is anticipated that an increase of 1,500 admissions to the hospitals will occur and outpatients visits will increase approximately 8,000. (See Tables I and II.)

Staffing:	FY 1970	FY 1971
	1 U.S. Civil Service	1 U.S. Civil Service
	22 U.S. Contract	24 U.S. Contract
	23 U.S. Total	25 U.S. Total
	749 Micronesians	858 Micronesians

The increase of $447,000 includes $272,800 for Micronesian staff. This will provide 109 new positions, personnel benefits and within grade increases for ongoing positions. U.S. personnel costs show an increase of $34,800. This will provide 2 new Registered Nurse positions, U.S. pay raise of July 1969, benefits and within grade increases of ongoing positions. Other increases are drugs, medical supplies and patients' food, $124,600; travel and transportation of persons and contractual services, $19,300; and equipment, $1,900. These increases are partially offset by a reduction of $6,400 in recruitment.

d. Environmental Health and Sanitation:

FY 1970 $206,000, FY 1971 $233,000: Increase $27,000

The sum of $233,000 is required to provide Environmental Health and Sanitation Services in FY 1971, an increase of $27,000 over FY 1970.

Presently, 80 communities including the District Centers receive Sanitation services in the form of water testing, rodent control, food establishment checks, food handlers' physical examinations and clean water catchment facilities. (See Table I.)

The function of the Environmental Health and Sanitation section is to prevent the spread of disease and to control certain environmental factors affecting public health. A staff of trained Micronesian personnel is maintained in each district under the supervision and direction of a Chief of Environmental Health on the Headquarters staff. One expatriate serves as Vector Control Specialist.

In FY 1971, much of the sanitary activities will be directed to the 100 communities outside the District Centers for the replacement and construction of water and simple sewage systems. This program will emphasize construction of centralized water catchments utilizing roofs of schools and municipal buildings to replace individual water catchments. These will be done in a manner to fit the local situation and adequate enough to prevent the spread of water and fecal-borne diseases.

Extensive rodent and insect control similar to the abatement program on Bikini will be extended throughout the Trust Territory at an estimated cost of $26,000.

Two new Micronesian positions will be added in FY 1971, one each sanitary trainee for Marianas and Ponape.

Staffing:	FY 1970	FY 1971
	0 U.S. Civil Service	0 U.S. Civil Service
	1 U.S. Contract	1 U.S. Contract
	1 U.S. Total	1 U.S. Total
	61 Micronesians	63 Micronesians

The increase of $27,000 will provide for two new Micronesian sanitary trainee positions, within grade increases and benefits, $14,200; travel and transportation of persons, $12,900; equipment and contractual services, $3,900. This increase is partially offset by a decrease of $4,000 in recruitment, repatriation and home leave.

e. Dental Services:

FY 1970 $223,000, FY 1971 $254,000: Increase $31,000

The Dental Services will require $254,000, an increase of $31,000 over FY 1970.

Dental caries, especially among school children, is rampant in the Trust Territory. With one exception(a private dental practitioner in Ponape), all dental care is provided by Micronesian Dental Officers.

The aim of the dental division is to implement a comprehensive program for dental services and education with the objective of preventing and treating dental disease for Micronesian and non-Micronesian residents.

A Caries Prevention Program for school children is to be extended in all districts by topical application of sodium fluoride on teeth surfaces and issuing of fluoride tablets. The system is as follows: Fourth grade school children are examined and treated prior to their move to 5th and 6th grades. Follow-up and check are made on these children in the advance grades. Meanwhile, new 4th grades are being examined and treated. It is expected that by the time of advancement to the 7th grade, the children should be relatively free of dental caries.

The dental service program includes: (1) increasing dental manpower, (2) to institute a training program for dental nurses in connection with the Micronesian Occupational Center and (3) to continue general public health education and to promote continuing dental education for present personnel.

In FY 1971, eleven new Micronesian positions will be added; two dental laboratory technicians for Yap, two dental nurses for Truk, and seven dental aides (one for Marianas, three for Ponape and three for the Marshalls).

Staffing:	FY 1970 No U.S. Personnel	FY 1971 No U.S. Personnel
	56 Micronesians	67 Micronesians

The increase of $31,000 will provide for 11 new Micronesian positions, within grade increases and benefits, $23,200; equipment and supplies, $9,400; and travel and transportation, $1,100. This increase is partially offset by a reduction of $2,700 in recruitment, repatriation and home leave.

f. Trust Territory School of Nursing:

FY 1970 $142,000, FY 1971 $218,000: Increase $76,000

The Trust Territory School of Nursing will require $218,000, an increase of $76,000 over FY 1970.

Presently, the Nursing School at Saipan occupies temporary quarters which restricts total enrollment. In FY 1971, the new school building adjacent to Dr. Torres Hospital will be fully operational.

The Trust Territory School of Nursing is the major source of staff nurses for the district and sub-district hospitals. Enrollment is to be increased from the present maximum of 60 students to 100 to 120 students. Serious shortage of nursing personnel now exists. It is foreseen that with a total enrollment of 100 to 120 students, a minimum of 40 students can be graduated each year.

With the increased enrollment in FY 1971, it will be necessary to add three new expatriate RN Instructors and two new Micronesian Nurse Instructors to carry out the program.

Staffing:	FY 1970	FY 1971
	2 U.S. Civil Service	2 U.S. Civil Service
	3 U.S. Contract	6 U.S. Contract
	5 U.S. Total	8 U.S. Total
	7 Micronesians	9 Micronesians

The increase of $76,000 will provide for three additional U.S. RN Instructors, within grade increases, benefits and the July 1969 pay raise, $33,700; two additional Micronesian Nurse Instructors, within grade increases and benefits, $6,400; recruitment, repatriation and home leave, $7,400; travel and transportation of personnel, $1,800; contractual services mainly to purchase meals from the Dr. Torres Hospital for the increased enrollment, $21,000; equipment, supplies and materials, $5,700.

HEALTH SERVICES PROJECTION TABLE I

Trust Territory-Wide	Measure unit	FY 1968 Actual	FY 1969 Est.	FY 1970 Est.	FY 1971 Est.
1. Population	No.	94,500	99,830	103,112	
2. Household Units	No.	13,220	13,685	13,890	14,115
3. Persons Immunized	No.	23,160	25,000	61,900	65,560
4. Persons not immunized	No.	70,340	74,830	41,212	40,941
5. Patient days of hospitalization	(m)	134	120	137	141
6. Outpatients served (visits)	(m)	249	231	247	255
7. Population per medical doctor	No.	1,900	1,850	1,825	1,800
8. Population per nurse	No.	743	740	700	625
9. Population per dentist	No.	4,900	4,900	4,800	4,600
10. Population provided dental care	No.	52,193	53,908	55,680	57,515
11. Population not provided dental care	No.	44,461	45,922	47,432	48,995
12. Communities receiving sanitiation services	No.	50	66	80	100
13. Population bed rate, per m 1/	per m	5.5	5.6	5.7	5.8

1/ Dispensary construction will increase bed rate by approximately 0.4 each year beginning FY 1970

TABLE II

UTILIZATION OF HOSPITAL FACILITIES

Fiscal Year 1969

District Hospital	Beds Available	Average Daily Census	Percent of Occupancy	Total Census Days	Out-Patient Visits
Marianas	92	54	59	16,732	34,707
Marshalls	88	64	73	23,101	24,122
Palau	82	60	73	22,230	49,623
Ponape	68	40	59	13,479	28,093
Truk	80	67	83	24,478	41,340
Yap	42	23	54	7,354	10,723
Total	452	308	72	107,374	188,608
Sub-Hospitals:					
Rota	7	2	29	675	5,865
Ebeye	18	11	61	4,044	29,997
Kusaie	14	17	120	5,825	6,709
Total	39	30	77	10,544	42,571
Grand Total	491	338	71	117,918	231,179

Education: FY 1970 $6,964,000, FY 1971 $9,466,000: Increase $2,502,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1) $+1,459,000	+ 51 U.S. +175 Micro	$6,890,000	226 U.S. 1,569 Micro	Upgrade and strengthen basic education for the children of Micronesia.
(2) +290,000	+ 20 U.S. + 35 Micro	650,000	20 U.S. 35 Micro	Training of teachers.
(3) +753,000	+ 4 U.S. + 15 Micro	1,926,000	32 U.S. 63 Micro	Post High School training of Micronesians.
$+2,502,000	+ 75 U.S. +225 Micro	$9,466,000	278 U.S. 1,667 Micro	

Cost Factors Involved in Increases

(1) 51 U.S. and 175 Micronesians added to the staff of educational specialists and elementary and secondary teachers plus regular increases for the ongoing staff, $1,005,400; travel, including business and conference travel as well as recruitment, repatriation and home leave travel, $116,300; supplies and materials, textbooks and educational equipment, $274,100; and other minor increases, $63,200.

(2) 20 U.S. and 35 Micronesian teacher trainers, $250,000; increase in cost of contract with University of Hawaii, $40,000.

(3) 4 U.S. and 15 Micronesian and supporting supplies, equipment and services added in a variety of programs designed to provide occupational skills in a developing economy, $753,000.

Need for Increase:

(1) Upgrade and strengthen basic education, $1,459,000: One of the goals in the Trust Territory's education program is to provide an education from the first grade through high school for all those Micronesian children who want to take advantage of the opportunity. Another goal is to bring the level of education in the Trust Territory up to United States standards. Meeting these goals requires an increase in both the number and the quality of the teaching staff, with the concomitant increase in teaching materials and equipment. Of this increase, $486,000 is required to fund the TESL and Ebeye Homemaking project which was formerly funded by H.E.W.

(2) Training of teachers, $290,000: Two approaches are used in teacher training: the Micronesian Teacher Training Center at Ponape provides a two-year training course conducted by the University of Hawaii under a contract with the Trust Territory, and the Inservice Teacher Training program in which a one-year course is offered in each district in practical teacher education consisting of supervised teaching, observation-participation, etc. The present Micronesian staffing patterns consist of many who were never trained or poorly trained, unqualified and lacking in

professional competency. An increase of $290,000 is requested to forward this most valuable program in FY 1971. Any major change in the quality of education in Micronesia will come only as the skill and competence of the Micronesian teacher are increased.

(3) Post high school and vocational training, $753,000: A number of occupational and scholarship programs are in operation or planned for high school graduates as well as those who have not attended schools.

(a) Micronesian Occupational Center - the increase of $226,000 will provide for 8 U.S. and 3 Micronesian positions, permitting an increase in enrollment from 400 to 520. Twenty-two occupational courses and five related courses, such as English and mathematics will be offered.

(b) A Farm Institute - the increase of $49,200 will provide 1 U.S. and 3 Micronesian staff to teach 40 students agricultural techniques.

(c) An increase of $175,000 will subsidize employers who will provide on-the-job training to 200 Micronesians who will acquire job skills in a variety of occupational areas.

(d) 1 U.S. and 3 Micronesians will be recruited at $44,900 to teach seamanship to 40 students. There are at least 40 job openings each year on Trust Territory ships for able bodied seamen.

(e) The increase of $165,900 will be used to provide vocational education in the secondary schools. 16 Micronesians will be sent to the United States for one year to learn vocational teaching after which they will serve as faculty in vocational departments.

(f) The Adult Education program, increase of $85,000, utilizes regular classroom instruction, radio broadcasting, and audio-visual instruction to disseminate knowledge to in-school and out-of-school Micronesians. The additional funds will provide for the development of multi-media adult education materials as well as for two additional Micronesian employees.

(g) Two Scholarship programs show increase of only $7,000, partly due to the elimination of 6 U.S. positions as the Trust Territory dormitory in Guam is closed.

Activity	FY 1970 Estimate	FY 1971 Estimate	Increase + Decrease -
2. Education:			
a. Administration	$ 732,000	$ 866,000	$ +134,000
b. Elementary	3,085,000	3,960,000	+875,000
c. Secondary	1,614,000	2,064,000	+450,000
d. Scholarship & Special Training	394,000	400,000	+6,000
e. Micronesian Occupational Center	535,000	761,000	+226,000
f. Micronesian Teacher Education Center	260,000	300,000	+40,000
g. Medical Education	169,000	170,000	+1,000
h. Occupational Training	- 0 -	435,000	+435,000
i. Adult Education	75,000	160,000	+ 85,000
j. Inservice Teacher Training	100,000	350,000	+250,000
Total	$6,964,000	$9,466,000	$+2,502,000

a. Administration:

FY 1970 $732,000, FY 1971 $866,000: Increase $134,000

A total of $866,000 is required in FY 1971 for Education Administration, an increase of $134,000 over FY 1970.

The Education Administration staff consists of the Headquarters Department of Education under the direction of the Director of Education, and the offices of the six district Departments of Education.

The Headquarters Department of Education serves both as a State or Territorial Department of Education and as the Local Educational Agency for the TT-wide school system. The Director of Education formulates and recommends education policy for the approval of the High Commissioner, and the staff of the Headquarters Department of Education establishes educational procedures based upon approved policy and insures their practical application.

At the district level, the District Directors of Education are responsible for the operation of all public schools in their respective districts (one or two high schools and from nine to forty-eight elementary schools in each district scattered over many thousands of square miles of ocean). This involves implementation of policy; employment of indigenous teachers; assignment and direction of staff; requisitioning; storage and distribution of all supplies and equipment; all forms of logistic support for staff and schools; supervision and improvement of instruction; management of dormitories; development of budget requests; development of curriculum materials; in-service training of indigenous teachers; recommendations for building needs including expansion of facilities and development of new schools; participation in the development of long range policy and plans for education; and all other matters relating to the immediate operation of schools.

In FY 1970, the staff consists of 35 U.S. and 55 Micronesian positions. In FY 1971, U.S. staff remains at 35 and the Micronesian staff will be increased to 68. The increase of 13 positions (5 professional and 8 non-professional) will be needed to augment the present staff in meeting the anticipated increase in performance. The new positions will be located as follows: Headquarters 2, Marianas 2, Palau 7, Yap 1, and Ponape 1.

Staffing:	FY 1970	FY 1971
	12 U.S. Civil Service	11 U.S. Civil Service
	23 U.S. Contract	24 U.S. Contract
	35 U.S. Total	35 U.S. Total
	55 Micronesians	68 Micronesians

The increase of $134,000 includes $64,300 for personnel services for the 13 new Micronesian positions and for annual salary increments on the 35 continuing U.S. and 55 continuing Micronesian positions. Travel costs increase by $44,800, primarily for funding travel costs for curriculum workshops which were previously funded under P.L. 89-10. Other increases are supplies and materials, $5,300; equipment, $13,100; printing, $2,000; other contractual services, $1,800; and recruitment, repatriation and home leave costs, $2,700.

b. Elementary:

FY 1970 $3,085,000, FY 1971 $3,960,000: Increase $875,000

A total of $3,960,000 is required in FY 1971 for Elementary Education, an increase of $875,000 over FY 1970.

The elementary school program provides eight years of schooling for the children of Micronesia in a system having 188 elementary schools and 24,700 pupils. Education is compulsory for children of ages 6 through 14, or until completion of the elementary program. Enrollment is expected to be approximately 25,200 in FY 1971, an estimated increase of 500 over FY 1970. Class sizes vary between 20 and 30 pupils per teacher, with greater variations resulting in small schools located on isolated islands.

The curricular design concentrates on language arts, mathematics, social studies, science and health, local crafts and homemaking. Major emphasis is placed on the development of English capability.

The fact that our teachers are often inadequately prepared, many being less than high school graduates, results in an institutional design requiring training and supervision at every juncture. Progress has been slow, however, because we often do not have the support personnel to adequately train our Micronesian staff.

A major effort for improvement is being made by restricting new teacher employment to high school graduates, conducting in-service and upgrading programs within each district, harnessing talent to capably support teacher training programs in each district, developing standardized approaches for curricular design for Micronesia, shifting and re-designing organizational structures, seeking to strengthen the supervisory and administrative support through more effective recruitment and supporting special training programs at the East-West Center in Hawaii for Micronesian administrators and supervisors.

The supply of textbooks, instructional and other supplies, equipment, etc., has been sparse and sporadic, and many classroom facilities are inadequate for proper storage and maintenance of these instructional materials and equipment. Also, little advance has been made in the past in the development and adoption of curriculum materials that are culturally and geographically oriented to Micronesia. Effort for improvement in these areas continues.

The FY 1971 Elementary Education staff will consist of 93 U.S., an increase of 37 over FY 1970, and 1,270 Micronesians, an increase of 123 over FY 1970. Included in this increase are 30 U.S. and 21 Micronesian positions currently funded by P.L. 89-10 grants for the TESL Program (Teaching English as a Second Language) and the Ebeye Homemaking Project. Additionally, 7 U.S. and 102 Micronesian new teacher positions will be added to bring the elementary teaching staff more in line with the anticipated increase in enrollment.

Staffing:	FY 1970	FY 1971
	3 U.S. Civil Service	3 U.S. Civil Service
	53 U.S. Contract	90 U.S. Contract
	56 U.S. Total	93 U.S. Total
	1,147 Micronesians	1,270 Micronesians

The increase of $875,000 includes $363,500 needed to cover cost of 37 new U.S. positions, annual salary increments for the ongoing positions, and personnel benefits. For the Micronesian staff, an additional $315,100 is required to cover cost of 123 new teacher positions, annual salary increments for ongoing staff, and cost of planned promotions. An increase of $63,200 is required for staff travel to carry out the curricular activities of the Elementary School System, conduct conferences and sponsor workshop projects. Other increases are $42,500 for recruitment, repatriation and home leave, $12,100 for freight cost for shipment of supplies to District Centers and outlying islands, $66,300 for school supplies, $42,800 for equipment, $16,500 for contractual services, and $13,000 for the other cost codes. The sizeable increase is largely due to our absorbing the cost of the TESL Program in FY 1971. A total of $486,000 alone is needed for this program.

c. Secondary:

FY 1970 $1,614,000, FY 1971 $2,064,000: Increase $450,000

A total of $2,064,000 is required in FY 1971 for Secondary Education, an increase of $450,000 over FY 1970.

The secondary school program provides four years of schooling in grades nine through twelve, and both the Outer-Islands High School, Ulithi, Yap, and the secondary schools on Saipan offer educational opportunities in grades seven through twelve. Enrollment is not compulsory; however, interest in attending is strong. In four of the eight public high schools, the shortage of dormitory and/or instructional facilities or both make it necessary to limit enrollment on a selective basis. During FY 1971, limitations on enrollment will continue in spite of accelerated facility construction. Because of the wide variation in achievement in the 188 elementary schools resulting from having had limited trained teachers and differing instructional experiences, several of the schools have established a pre-ninth year for portions of their new enrollees.

All of the public secondary schools except one provide dormitory accommodations, and the percentage of dormitory students ranges from approximately 15% to 78% for those schools located in district centers and better than 98% at Kusaie High School in Ponape District. The one secondary school that does not have dormitory facilities is on Saipan where students from other islands in the Marianas live in private homes under a student support program.

The instructional program in the Secondary school is largely one of general education. This includes communication skills, arithmetic and basic mathematics, social studies, physical and biological science at the introductory levels. In these general high schools, agriculture, industrial education, carpentry, electricity, drafting, boat and auto mechanics, homemaking, business (general business, typing, bookkeeping, business arithmetic, office practice), and physical education are important programs offered to a greater or lesser extent dependent upon the availability of instructional staff and plant facilities at any one school. The achievement level of students is not equivalent to that found in the average secondary school in the United States, and currently ranges from three to five years below average achievement levels based on U.S. standardized tests.

It is estimated that the secondary enrollment in grades 9 through 12 for FY 1971 will total approximately 4,400 students, an increase of 500 students over FY 1970.

To carry out the Secondary Education program in FY 1971, it will be necessary to add 39 Micronesian personnel (Marianas 5, Palau 6, Yap 5, Truk 13, and Ponape 10). Also, 14 new U.S. positions (9 for Truk and 5 for the Marshalls) are required to staff new schools and train Micronesian counterparts.

Staffing:	FY 1970	FY 1971
	10 U.S. Civil Service	10 U.S. Civil Service
	74 U.S. Contract	88 U.S. Contract
	84 U.S. Total	98 U.S. Total
	192 Micronesians	231 Micronesians

The increase of $450,000 in FY 1971 includes $154,600 needed to cover the cost of the 14 new U.S. staff, the U.S. pay raise of July 1969, and annual salary increments for the 84 ongoing U.S. positions; and $107,900 in Micronesian personnel services to cover the cost of the 39 new positions, annual salary increments, and planned promotions. Supplies and materials increase $158,300, partly to supply the two new secondary, two new post-elementary and three enlarged high schools and partly to upgrade student instructional materials and supplies. Other increases are $30,300 in equipment, $5,100 in travel, $17,800 in contractual services, and $18,000 in other object codes. These increases are partially offset by a decrease of $42,000 in recruitment, repatriation and home leave costs.

d. Scholarship and Special Training:

FY 1970 $394,000, FY 1971 $400,000: Increase $6,000

A total of $400,000 is required in FY 1971 for Scholarship and Special Training, an increase of $6,000 over FY 1970.

The Scholarship Program is comprised of two major sections: (1) the administration of the Scholarship Program, including awarding of scholarships, and the administration of all details relative to the scholarships awarded; and (2) student services for Micronesian scholarship students attending the University of Guam.

Under the direction of a Scholarship Officer located in the Headquarters Education Department, this office administers a program that provides full scholarships at the University of Guam, the University of Hawaii, mainland colleges and universities, various trade and technical schools in the United States, and

schools in Fiji, New Guinea, and the Philippines. In addition to full scholarships, other lesser scholarships are awarded which provide such things as tuition only, transportation, or such partial help as a student may need. In addition, the office coordinates such programs as are sponsored by the American Field Service, United Nations Fellowships, East-West Center scholarships and training programs, and other programs that become available. The office also has supervision over the staff members who are assigned to the student services program for Micronesian students in Guam.

The Guam student services program arranges for private sponsors with whom Micronesian college, trade school, and high school students may live, provides a counselling service for Micronesian college students attending the University of Guam, and otherwise assists Micronesian students on Guam or who are transiting Guam.

The FY 1971 staff of the Scholarship and Special Training Program will consist of 2 U.S., a decrease of 6 positions from FY 1970, and 6 Micronesians, an increase of 1 position over FY 1970. The decrease in U.S. personnel results from the closing of the Trust Territory Dormitory in Guam. Trust Territory scholarship recipients now residing at the Trust Territory Dormitory will be transferred to the new University of Guam Dormitory slated to be opened in the near future. A new Director of Student Services Micronesian position will be added to the Headquarters staff to direct and supervise the Trust Territory Scholarship Program.

Staffing:	FY 1970	FY 1971
	6 U.S. Civil Service	1 U.S. Civil Service
	2 U.S. Contract	1 U.S. Contract
	8 U.S. Total	2 U.S. Total
	5 Micronesians	6 Micronesians

The increase of $6,000 is a net result of an increase of $8,500 for Micronesian compensation and $99,200 for grants and subsidies for the scholarship program. These increases are offset by a decrease of $45,600 in U.S. personnel services, $2,900 in personnel benefits, $19,400 in rents and utilities, $1,700 in nonrecurring home leave, $28,200 in supplies and $3,900 in contractual services and equipment.

e. Micronesian Occupational Center:

FY 1970 $535,000, FY 1971 $761,000: Increase $226,000

A total of $761,000 is required in FY 1971 for the Micronesian Occupational Center, an increase of $226,000 over FY 1970.

In FY 1969, construction of facilities began for the area residential vocational school known as Micronesian Occupational Center. This facility, which is located in Koror, Palau, opened in the fall of 1969.

About 400 students from all of the districts will have been enrolled in the Center by the close of FY 1970 to begin a two-year course. Courses in 22 different occupational areas will be offered. MOC is a boarding institution and feeding program will be related to instruction in institutional and commercial food preparation and serving. Five related courses such as English and mathematics will also be offered.

In FY 1971, the enrollment will be increased to the full capacity of 520 students as a result of the completion of Phase II construction during the 1970 fiscal year. The increase in costs is to provide for the increase in enrollment.

In FY 1970, the staff of the Micronesian Occupational Center consists of 19 U.S. and 37 Micronesian positions. In FY 1971, 8 U.S. and 3 Micronesian additional positions will be added to meet the expected full capacity enrollment of 520 students.

Staffing:	FY 1970	FY 1971
	0 U.S. Civil Service	0 U.S. Civil Service
	19 U.S. Contract	27 U.S. Contract
	19 U.S. Total	27 U.S. Total
	37 Micronesians	40 Micronesians

The FY 1971 increase of $226,000 includes $131,700 for personnel services to cover cost of 8 additional U.S. positions, full funding of U.S. positions partially lapsed in FY 1970, and the 3 new Micronesian positions. Other increases are $36,100 for staff travel and student travel costs to and from MOC; $40,400 for recruitment, repatriation and home leave; and $31,200 for needed supplies for the expanded enrollment. These increases are partially offset by a decrease of $8,300 in equipment and $5,100 in other object classifications.

f. Micronesian Teacher Education Center:

FY 1970 $260,000, FY 1971 $300,000: Increase $40,000

A total of $300,000 is required in FY 1971 for the Micronesian Teacher Education Center, an increase of $40,000 over FY 1970.

The Micronesian Teacher Education Center located in Ponape will provide in 1971 a two-year teacher education program for 90 Micronesian elementary teachers from all six districts of the Trust Territory. The Center is operated by the University of Hawaii under a contract with the Trust Territory of the Pacific Islands with portions of the contractual funding reserved and disbursed by the Department of Education, Trust Territory of the Pacific Islands.

The two-year program includes studies in both professional and general education, special subject-matter offerings and practical teacher education experiences (student teacher observation and participation). During the second year program, selected teachers will receive special training which aims at providing cooperating teachers (teacher trainers) for each district's teacher training program.

Staffing: No Manning Levels

The budget of $300,000 will provide for regular fixed increased costs of operation without an increase in enrollment.

g. Medical Education and Training:

FY 1970 $169,000, FY 1971 $170,000: Increase $1,000

A total of $170,000 is required in FY 1971 for Medical Education and Training, an increase of $1,000 over FY 1970.

The Medical Education and Training Program is carried on in conjunction with such agencies as the World Health Organization, the South Pacific Commission and the East-West Center at Honolulu. Students are sent to various schools of medicine, dentistry, pharmacy, and sanitation in the United States, the Philippines and Fiji. Intensive training for Micronesian medical staff in various specialties such as anesthesiology and pharmacy is also obtained in the Guam Naval Hospital and the Guam Memorial Hospital.

Staffing: No Manning Levels

The entire amount of $170,000 is expended for student grants and no administrative costs are included.

h. Occupational Training:

FY 1970 $ -0-, FY 1971 $435,000: Increase $435,000

A total of $435,000 is required in FY 1971 for Occupational Training, a new program.

The Occupational Training Program planned for FY 1971 will be geared to developing potential Micronesian high school graduates in various specialized fields. Instruction will be centered upon training young men and women to develop practical and technical skills to provide the needed manpower in the Territory to take on the increasing number of semi-skilled, technical and administrative job vacancies. The growing need for non-professional and technical manpower in the Territory is best evidenced by the large foreign labor importation (of which there were 950 at a recent count). A great number of these occupations could be held by Micronesians with proper training. The following programs will be initiated in FY 1971.

Farm Institute of Agriculture Training Center - 40 Students, $49,200

Post secondary agricultural training at the former Trust Territory Farm Institute will be reinstituted. Instruction will be centered upon training young men capable of handling the instruction as agricultural agents and/or distribution specialists. Emphasis on land use, effective "local" construction, productive crop development (both plants and animals) and marketing. A total of $49,200 is required to cover cost of 1 U.S. and 3 Micronesian staff and stipend for 40 students, food, transportation and instructional materials.

Multi-Occupational Training - 200 Trainees, $175,000

The Multi-Occupational Program will provide training opportunities in the construction trades, service trades, office occupations, etc. The purpose is to provide entry-level skills for persons having little or no marketable skills. It is planned to contract qualified and capable institutions and/or employers to conduct on-the-job training and basic related instruction as required. Examples of these include:

1. Employment of trainees with construction companies for training purposes
2. Hotel and restaurant training of waiters, waitresses, desk clerks, etc.
3. Commercial fisheries training
4. Training tour guides

5. Secretarial training

6. Specialized agricultural training.

The priorities of occupational areas for which contracts would be let would be established by the Trust Territory Manpower Advisory Council on a quarterly review basis. A total of $175,000 is required to cover cost of 3 Micronesian staff, travel cost, and equipment with $160,000 provided to cover cost of securing training contracts for 200 trainees.

Seamanship Training - 40 Students, $44,900

It is planned to develop and open a seamanship training center to provide training opportunities to Micronesians desiring to go to sea on commercial vessels.

At the present time, MILI has indicated a shortage of 40 seamen of different types on their chartered vessels. There is always a relative high turnover rate in this occupation (for Micronesia estimated at 20% per year). Over 200 jobs are presently filled on field-trip and inter-district vessels. With current vacancies and turnover alone, there will be positions for 80 seamen available next year. Couple to this the need for all seamen to be licensed to work internationally and we have an additional need to train over 100 seamen who are at this time unable to meet license requirements.

It is planned to construct (with locally contracted labor) one building which will contain a classroom, a 40 x 40 shop/loft area, a kitchen area, an instructor's office and a dormitory for 24 students. This facility would be located at "water's edge" to provide for lifeboat and cargo handling training. Elements of seamanship, navigation, marine "engineering", and maintenance would be taught supported by English, Math, and Science as required for the job. Twenty students would initially sail on a ship for three months for orientation followed by three months at the school. During the second three-month period, another group of twenty would start on the ships.

At the end of six months, everyone should qualify as an AB. Those with interest and excellent performance as well as demonstrated capability would go to sea for three more months and return for a cadet program of six months at shore school - six months at sea for a period of about three calendar years culminating in a license as an officer.

The budgeted amount would be used as follows:

Personnel Costs	$26,900	(1 U.S. and 3 Micronesian instructors)
Stipend	4,000	
Food	4,500	
Transportation	4,000	
Instructional Materials	5,500	
	$44,900	

It is anticipated that 60 seamen could be placed the first year with 20 cadets left in training. An additional 50 seamen could be placed the second year with cadet training continuing.

Pre-Vocational/Vocational - $165,900

This money is to be used to support the new development of providing Vocational opportunities in the secondary schools. With the pressure to get enrollment

levels up within real budget constraints, the Department of Education has been unable to provide for this program. The need to balance the secondary program to provide marketable skills enabling high school graduates to take and hold a job has become a necessity. In addition, the transition from a gathering culture to a money economy dictates that students receive an appreciation and understanding of the "concreteness" of the world within which they are going to live.

It is planned to make available to the eight high schools presently in existence financial encouragement of about $40/student enrolled to cover increased costs of guidance and counselling, instruction, instructional materials and equipment, and program coordination.

Initially, it is proposed to send 16 skilled Micronesians to the U.S. for a one-year teacher training program at which time they could return to the high schools for employment. Materials and equipment for this program expansion could be obtained to be on hand when these teachers return. A product of their training would be adapted courses of study in the various pre-vocational and/or vocational areas in which each one was to teach.

Total Staffing for Occupational Training:	FY 1970	FY 1971
	No U.S. Personnel	0 U.S. Civil Service
		2 U.S. Contract
		2 U.S. Total
	No Micronesian Personnel	9 Micronesians

i. Adult Education:

FY 1970 $75,000, FY 1971 $160,000: Increase $85,000

A total of $160,000 is required in FY 1971 for Adult Education, an increase of $85,000 over FY 1970.

The objectives of the Adult Education program are to provide opportunities both for students in school and for those out-of-school in the adult world to develop skills and knowledges required to participate in a developing economy. In FY 1971, intensive Adult Education programs are to be conducted in all districts utilizing regular class instruction, radio broadcasts and audio-visual presentations.

Staffing:	FY 1970	FY 1971
	1 U.S. Civil Service	1 U.S. Civil Service
	0 U.S. Contract	0 U.S. Contract
	1 U.S. Total	1 U.S. Total
	6 Micronesians	8 Micronesians

The increase of $85,000 includes $6,700 for the employment of two additional Micronesian employees; $8,300 for the U.S. pay raise of July 1969 along with salary increments for the ongoing U.S. and Micronesian staff; and $70,000 for the development and production of multi-media adult education materials and techniques through contractual arrangements with individuals, firms or institutions.

j. Inservice Teacher Training:

FY 1970 (Funded by P.L. 89-10 and $100,000 Supplemental),
FY 1971 $350,000: Increase $250,000

A total of $350,000 is required in FY 1971 for Inservice Teacher Training, an increase of $250,000 over FY 1970.

Inservice one-year programs of teacher education are offered in all districts for experienced teachers who need additional instruction in general and special subject matter and additional training in practical teacher education activities (student teaching, observation-participation, etc.). The major emphasis in these programs center on practical teacher education activities.

This program has in the past been funded from grants under Titles I and III of P.L. 89-10. The FY 1970 Supplemental added $100,000 to accelerate this most important program. In FY 1971, approximately 100 trainees are expected to participate. Even at the FY 1971 funding level requested, we may require this program to be partially supported with other federal funding.

Staffing:	FY 1970	FY 1971
	No U.S. Personnel	0 U.S. Civil Service
		20 U.S. Contract
		20 U.S. Total
	No Micronesian Personnel	35 Micronesians

The increase of $250,000 is for the personnel services of 6 U.S. District Coordinator/Teachers, 14 U.S. Teacher Education Instructors, 15 Micronesian Cooperating Teachers, 11 Micronesian Teacher Education Instructors and 9 Micronesian clerical staff.

Public Affairs: FY 1970 $1,216,000, FY 1971 $1,481,000: Increase $265,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1) $ +99,500	+ 2 U.S. +11 Micro	$ 774,000	11 U.S. 117 Micro	To fully accelerate the Political Education Program in Micronesia.
(2) +160,000	+ 1 U.S. + 7 Micro	575,000	9 U.S. 53 Micro	To meet increased costs of self-help programs in Micronesia.
(3) +5,500	--	132,000	--	To provide funds for the Congress of Micronesia's general election in November 1970.
$+265,000	+ 3 U.S. +18 Micro	$1,481,000	21 U.S. 1/ 170 Micro	

1/ Includes 1 industrially funded U.S. Government print shop manager.

Cost Factors Involved in Increases

(1) The cost of U.S. pay raise of July 1969, $7,800; 2 additional U.S. positions (both for Broadcasting Division), $18,600; 11 new Micronesian positions (primarily in Political Affairs Division) to serve in the program of Political Education, $25,000; and supporting supplies, equipment, and services, $48,100.

(2) 1 U.S. engineer to help with grant-in-aid construction projects, $12,400; 7 new Micronesian positions (primarily in Community Development) to promote civic betterment projects, $13,900; $110,100 for grants; and supporting supplies and materials, and equipment requirements, $23,600.

(3) In FY 1970, only special elections were held for the Congress of Micronesia. FY 1971 will be a general election year (November 1970), also special elections will be held when required, $5,500.

Need for Increase:

(1) To fully accelerate the program of political education in Micronesia, $99,500: For years, Micronesia and Micronesians have suffered for lack of an organized, meaningful, strong political education program. In the FY 1970 Supplemental, the Congress of the United States responded to the request for the funding to mount such a program and appropriated $200,000 for that purpose. This newly stepped-up program will come into full swing in FY 1971 and requires additional staff to make full and accelerated use of the existing media of film, radio, and the press. An increase of $99,500 is requested to keep this program healthy.

(2) To meet increased costs of self-help programs due to popular demand, $160,000: The people in the outlying islands of Micronesia have for many

years been neglected. They have received few of the benefits of the Government's Capital Improvement Program and the modest Community Development Program has been funded too low to make a real impact. These people have been living in primitive-type communities where most, if not all, of them rely mainly on environmental sufficiency for survival. The resumption of the Grant-in-Aid Program in 1967 has created great interest among the out-islanders and community participation in this program has been healthy. As knowledge has spread, more and more small communities have requested Grant-in-Aid help. An increase of $160,000 is needed and requested for Community Development, most of it to step-up the popular self-help Grant-in-Aid program.

(3) To provide funds for Congress of Micronesia's general election in November 1970, as well as any special elections required in FY 1971, $5,500.

Activity	FY 1970 Estimate	FY 1971 Estimate	Increase + Decrease -
3. Public Affairs:			
a. Political Affairs	$ 184,000	$ 243,000	$ +59,000
b. Public Information	165,500	181,000	+15,500
c. Broadcasting	325,000	350,000	+25,000
d. Community Development	215,000	250,000	+35,000
e. Grant-in-Aid	200,000	325,000	+125,000
f. Congress of Micronesia - Elections	10,000	15,500	+5,500
g. Congress of Micronesia - Members Salaries	116,500	116,500	- 0 -
Total	$1,216,000	$1,481,000	$+265,000

Under the general supervision of the Director of Public Affairs, the Public Affairs Department includes the Divisions of Political Affairs, Public Information, Radio Broadcasting, and Community Development, and the Government Print Shop, which is industrially funded.

The Public Affairs Department is dedicated to the development and improvement of Micronesian society. In FY 1971, major emphasis will be on the newly-stepped-up political education program which is anticipated to come into full-swing in FY 1970. The Community Development program, which appears under this heading for the first time, seeks to provide services through which Micronesians, themselves, can identify, plan, and execute the solutions for their own community and individual problems. In addition, the Community Development Division administers the Grant-in-Aid program.

a. Political Affairs:

FY 1970 $184,000, FY 1971 $243,000: Increase $59,000

A total of $243,000 is required for Political Affairs in FY 1971, an increase of $59,000 over FY 1970.

The United States' political objective in the Trust Territory is the promotion of self-government. This objective concerns not only general political status but also the conduct of local, district, and Territory-wide government.

The Division of Political Affairs is responsible for designing and conducting projects in political education (organization and operation of local governments, nature and consequences of political status alternatives which may become available to the people of Micronesia), instructing municipal councils in municipal organizations, local revenue and finance, conducting of both "national" and local elections, and maintaining liaison between the administration and legislative bodies (the Congress of Micronesia and the six district legislatures).

Much emphasis to date has been placed on the development of and liaison with viable legislative bodies, largely at the district and Territory level. The imminence of major political decisions requires the pursuance of an enlarged political education program throughout the Territory and in this the Division of Political Affairs provides the professional guidance and monitoring for programs carried out through the Divisions of Broadcasting and Public

Information, as well as by such other Departments of Government as Education. Because of the concentration on district and Territory legislative affairs, municipal councils and analogous local government bodies have not been receiving the guidance and technical assistance required to develop strong local governments. Increases in the FY 1971 Budget will furnish funds and personnel to move into this area that should no longer be ignored.

New Micronesian positions in FY 1971 include seven Management Interns, one for headquarters and one for each district, and three clerks.

Staffing:	FY 1970	FY 1971
	1 U.S. Civil Service	1 U.S. Civil Service
	0 U.S. Contract	0 U.S. Contract
	1 U.S. Total	1 U.S. Total
	34 Micronesians	44 Micronesians

The increase of $59,000 includes $1,800 in U.S. compensation which covers the July 1969 pay raise, a within grade increment and personnel benefits. Micronesian compensation increase of $52,200 covers the ten new positions, planned promotions, within grade increments, and benefits. Other increases, in travel, $4,500; printing and reproduction, $1,500; other services, $2,400; and supplies and materials, $1,300 are partially offset by reductions in recruitment, repatriation, and home leave $4,600, and equipment, $100.

b. Public Information:

FY 1970 $165,500, FY 1971 $181,000: Increase $15,500

A total of $181,000 is required for the Public Information Division in FY 1971, an increase of $15,500 over FY 1970.

A principal function of the Public Information Division is to develop a network of communications, knowledge, and understanding throughout the Trust Territory. This involves daily dispatches to and from the District's radio stations and newspapers, together with a twice-monthly printed review of information for distribution to government employees, students, and community leaders. The goal: to provide residents with complete, pertinent, credible information on events and thoughts within their own communities and throughout the Territory, as well as to provide political information material as a foundation for an enlightened citizenry.

As a second function, the Public Information Division must prepare and disseminate information about the Territory to people in the United States and the world community. This is a growing need, not only because of increasing tourism and general interest, but to inform Americans and others of the Pacific Island Territory having existing associations with the United States.

A third function is the preparation and publication of numerous handbooks, brochures and reports, including those to the United Nations and the Secretary of the Interior. Public and press relations are part of another increasing departmental activity as there occurs a greater international awareness of Micronesia.

The following major activities will be carried on in FY 1971:

Highlights - a twice monthly newsletter from the High Commissioner with widespread circulation in all Districts, among Micronesians outside the Trust Territory, and members of the U.S. Congress, covering matters of concern to all residents and others interested in the Trust Territory.

Micronesian Reporter - a quarterly journal of Micronesia, addressing itself to an audience of interested readers within and outside the Territory, reporting developments in politics, society and business, commenting on travel and culture and providing a forum for expressing a variety of viewpoints concerning the Administration, the Micronesian legislative bodies, and other forces influencing the direction of the Territory.

Micronesian News Service - a daily, comprehensive, credible reporting of newsworthy events in Micronesia. This material is gathered and distributed via teletype to District radio stations and newspapers as well as to news media on Guam, and by daily airmail to national press wire services and selected newspapers. This Micronesian News Service has established itself as a responsible source of news/information. It provides a comprehensive report that reaches all regions of the Territory in English and in the vernacular. Micronesian News Service provides on-the-spot training for a news representative from each of the districts during the sessions of Congress and participates in a four-week seminar-workshop presented by the East-West Center for the press in Micronesia and other Pacific Island areas.

Staffing in FY 1971 remains the same as in FY 1970.

Staffing:	FY 1970	FY 1971
	4 U.S. Civil Service	4 U.S. Civil Service
	0 U.S. Contract	0 U.S. Contract
	4 U.S. Total	4 U.S. Total
	11 Micronesians	11 Micronesians

The increase of $15,500 includes $13,400 in U.S. compensation to cover the July 1969 pay raise, within grade increases and personnel benefits. Micronesian compensation increases $4,300 to cover within grade increases and benefits. Other increases: $2,300 for printing and reproduction, $300 for other services, and $1,800 for supplies and materials are offset by reductions of $2,000 for travel, $4,100 for recruitment, repatriation and home leave, and $500 for equipment.

c. Broadcasting:

FY 1970 $325,000, FY 1971 $350,000: Increase $25,000

The amount of $350,000 is required for Broadcasting in FY 1971, an increase of $25,000 over FY 1970.

The FY 1970 budget provided for the installation of a 10KW broadcasting station at Majuro, in the Marshall Islands. The FY 1971 budget request includes a 10KW station in Ponape, and in FY 1972, a 5KW station is planned for Truk. With the installation of these new increased power stations, approximately 98% of the population of the Trust Territory will be within range of Trust Territory radio stations, compared with perhaps as much as 73% being reached at present.

To fully realize the potential of this new system, we must provide worthwhile programs, imparting knowledge and information, and doing it in such a manner

that will be understood by the majority. At present, the radio stations are manned 100% by Micronesians who have only rudimentary training in the skills necessary to write, produce, program and announce. Additional training is necessary at the district level so that all stations will be responsive to the needs of the districts they serve. The day to day functions of an informational radio station are not being met in many areas because of this lack of training. Additional pressure to produce quality radio programs derives from the fact that the increased range of the new high power transmitters will, with some frequency, throw useable signals into the Gilbert and Ellice Islands, Hawaii, Tonga, Nauru, and Fiji.

In FY 1971, two U.S. Broadcast Specialists will be recruited as trainers to district radio station staffs. These two specialists will be trainers in all phases of radio broadcasting, each spending six months in each district. Thus, in eighteen months, each district broadcasting station staff will have had six months in intensive radio education.

The people of Micronesia are rapidly approaching the moment when they will make definitive decisions about their political future. The present status of United Nations Trusteeship is not regarded as a permanent arrangement. Not merely to counteract unfounded rumors and fanciful consequences which circulate "on the street", but because the citizenry deserve to understand fully the options which can be made available to them and the political, economic, and social consequences of each option, it is imperative that a strong program in political education be maintained. This program requires the personnel and equipment capable of converting ideas, policies, options, and so on into attention getting and holding radio programs in both English and the vernacular.

In FY 1971, emphasis will be on a continuation of the Political Education program which was funded in the FY 1970 supplemental appropriation and instituted early in calendar 1970. In the political education program, Micronesian writer-translators, in conjunction with the staffs of the Political Affairs and Public Information Divisions, working in the newly established Headquarters Broadcast Production Studio, will write, translate, and produce radio programs designed to provide the Micronesian public a basis for deciding its political future.

At present, radio is the media in Micronesia which can reach almost all the people.

Staffing in 1971 will increase by the two U.S. positions mentioned above and one Micronesian Management Intern in the Headquarters office.

Staffing:	FY 1970	FY 1971
	4 U.S. Civil Service	6 U.S. Civil Service
	0 U.S. Contract	0 U.S. Contract
	4 U.S. Total	6 U.S. Total
	61 Micronesians	62 Micronesians

The increase of $25,000 includes an increase in U.S. compensation of $36,800 covering the July 1969 pay raise, within grade increments, new positions and personnel benefits. Micronesian compensation increases $34,300 for within grade increases, one new position, and personnel benefits. Other services show an increase of $4,800. These increases are partially offset by reductions of travel, $800; recruitment, repatriation and home leave, $6,800; and equipment, $43,300.

d. Community Development:

FY 1970 $215,000, FY 1971 $250,000: Increase $35,000

A total of $250,000 is required for Community Development for FY 1971, an increase of $35,000 over FY 1970.

Community Development programs seek to improve Micronesian living by influencing individuals, groups, and communities. Individual improvement is attained through staff training, radio programming, and youth guidance and training. As coordinator for the Trust Territory and other Federal Agency programs, 131 out-of-school Micronesian youths are provided with job experience, remedial education, and counselling services through the Department of Labor's Neighborhood Youth Corps, and 50 young men and 5 women are receiving valuable vocational job skills in intensive residential training programs at Honolulu and Los Angeles. Group improvement is obtained through the organization and leadership provided to Boy Scout Troops, Girl Scout Troops, recreation and athletic programs, community centers, women's clubs, and cooperatives.

This Division is responsible for coordinating and planning for the rehabilitation of displaced communities, disaster relief, and the repatriation of hardship cases. It coordinates Trust Territory programs with other Federal Agency programs, such as the Office of Economic Opportunity and the Peace Corps. It acquires and maintains libraries of technical books and films at headquarters and the districts to aid in the dissemination of useful information. Over two hundred titles are now available to local people.

Staffing in FY 1971 will consist of 7 U.S. and 43 Micronesians, an increase of six Micronesians: a Recreation Supervisor and a Youth Coordinator for the Marianas, and Community Group Advisors for Truk, Yap, Ponape, and the Marshalls.

Staffing:	FY 1970	FY 1971
	4 U.S. Civil Service	4 U.S. Civil Service
	3 U.S. Contract	3 U.S. Contract
	7 U.S. Total	7 U.S. Total
	37 Micronesians	43 Micronesians

The increase of $35,000 includes $7,600 for U.S. compensation to cover within grade increases, the July 1969 pay raise, and personnel benefits. Micronesian compensation increases $11,500 for new positions, within grade increases, planned promotions, and personnel benefits. Other increases of $500 for travel, $100 for printing and reproduction, $6,000 for other services, $14,800 for supplies and materials, and $2,800 for equipment and freight, are partially offset by decreases in recruitment, repatriation and home leave, $7,400, and rent, communications, and utilities, $900.

e. Grant-in-Aid:

FY 1970 $200,000, FY 1971 $325,000: Increase $125,000

An amount of $325,000 is required in FY 1971 for the Grant-in-Aid Program, an increase of $125,000 over FY 1970.

The Grant-in-Aid Program, directed by local Community Development officers, assists Micronesian communities, usually remote or outer-island villages, in developing self-help projects. These projects, initiated by the Micronesian

communities which contribute labor, cash, local materials and land, have produced tangible and satisfying results. Projects include schools, dispensaries, copra boats, sailing canoes, roads, bridges, sea-walls, water supply systems, copra warehouses, small generators for electrification of small industries, community centers, ice machines, municipal offices and visitors' dormitories.

Requests for grants in this self-help program have increased considerably in both number and size since the program was established in 1967. In FY 1969, all available funds were utilized in making 49 grants, in which the Government share was $244,000, the villages share in cash was $75,000, and the villages share "in-kind" was valued at $93,000. In FY 1970, as of December 31, 1969, thirty-five requests have been received at headquarters with a total project value (both Government and community shares) of $362,400. Twenty have been approved and funded at a Government share of $98,800. The remaining fifteen represent a total request of $113,000. In FY 1971, it is anticipated that the growing awareness of this program will stimulate requests at a level higher than has been experienced in the past.

Staffing in FY 1971 increases by one U.S. contract employee, an engineer who can help with construction projects, and a Micronesian grant-in-aid coordinator for Yap District.

Staffing:	FY 1970	FY 1971
	0 U.S. Civil Service	0 U.S. Civil Service
	1 U.S. Contract	2 U.S. Contract
	1 U.S. Total	2 U.S. Total
	9 Micronesians	10 Micronesians

The increase of $125,000 includes $12,400 for U.S. compensation to cover one new position and personnel benefits. Micronesian compensation increases $2,400 to cover one new position, within grade increases, and benefits. Other increases are $100 for printing and reproduction and $110,100 for grants, subsidies, and contributions.

f. Congress of Micronesia - Elections:

FY 1970 $10,000, FY 1971 $15,500: Increase $5,500

The amount of $15,500 is required in FY 1971 for elections to the Congress of Micronesia.

The Secretarial Order which created the Congress of Micronesia stated that elections would be held biennially in each even-numbered year on the first Tuesday following the first Monday in November. The funds requested here represent the projected costs of the November 1970 general elections including the charter of one or more field trip vessels.

g. Congress of Micronesia - Members Salaries:

FY 1970 $116,500, FY 1971 $116,500: Increase $ -0-

A total of $116,500 is required for the salaries of the members of the Congress of Micronesia in FY 1971, the same amount as FY 1970.

The Secretary of Interior's Order No. 2918 provides that the thirty-three Members of the Congress of Micronesia shall receive an annual salary of $3,500 each, with the President of the Senate and the Speaker of the House of Representatives receiving an additional $500 each, and that funds for such salaries shall be sought by the Executive Branch from the United States Congress.

Resources and Development: FY 1970 $3,177,000, FY 1971 $4,989,000: Increase $1,812,000. The increase consists of

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1) $ +542,000	+ 5 U.S. + 51 Micro	$1,500,000	20 U.S. 285 Micro	To increase the productivity of existing subsistence and commercial agricultural programs in the Territory.
(2) +208,000	+ 4 U.S. + 8 Micro	562,000	16 U.S. 46 Micro	Accelerate business development in Micronesia to speed-up economic growth in the Territory.
(3) +365,000	+ 9 U.S. + 41 Micro	477,000	12 U.S. 59 Micro	Upgrade and strengthen offshore fishing program and the eradication of starfish program.
(4) -150,000	--	--	--	Increment to EDLF in FY 1971 is not needed due to the restructuring of loan criteria and administrative procedures.
(5) +750,000	--	750,000	--	New program to provide low-cost homes to Micronesians and to help build the economy of the Territory.
(6) +97,000	+ 6 U.S. + 49 Micro	1,700,000	27 U.S. 209 Micro	Ongoing Lands and Surveys program.
$+1,812,000	+ 24 U.S. +149 Micro	$4,989,000	75 U.S. 599 Micro	

Cost Factors Involved in Increases

(1) 5 U.S. and 51 Micronesian positions, $275,700: U.S. positions: 1 staff forester, 1 plant pathologist, 1 agricultural economist/marketing specialist, 1 conservation officer, and 1 vegetable crop specialist; Micronesian positions: 14 in coconut rehabilitation and development, 4 in a livestock expansion program, 10 in vegetable crop production, 5 in rice and black pepper project, 9 in the forestry program and 9 in pest control. Other costs involved: business travel and recruitment, $46,300; contractual services for technical assistance, $12,400; grants, subsidies and contributions, $6,200; and supporting equipment, supplies, printing services, fertilizer, pesticides, tools, etc., $201,400.

(2) 4 U.S. and 8 Micronesian positions, $113,000: U.S. positions: 1 cooperative officer, 1 recreation and historic resources specialist, 1 business advisor, and 1 survey statistician; Micronesians are all management trainees. Other supporting costs are business travel, contractual services for technical assistance, equipment, and printing reproduction, $98,500;

and a small decrease in non-recurring recruitment, repatriation and home leave, $3,500.

(3) 9 U.S. and 41 Micronesian positions, $236,500: U.S. positions: 1 marine research laboratory director, 1 shipyard manager, 1 fishing boat captain, 1 baitman, 1 starfish control specialist, 1 fisheries education specialist, 1 field assistant director, 1 marine engineer, and 1 program assistant; Micronesian positions: 14 conservation officers, 27 fishermen trainees and clerks. Other costs involved are printing and reproduction, $28,000; contractual services, $34,900; equipment, supplies and materials, $22,800; business travel and recruitment, repatriation and home leave, $35,800; and rent, communications and utilities, $7,000.

(4) Decrease of $150,000. Increment to EDLF is not needed in FY 1971 due to restructuring of loan criteria and administration procedures. As of December 1, 1969, $768,851 was available for direct and guaranteed loans in the EDLF. Only $20,000 had been loaned out during the first four months of FY 1970.

(5) New program to provide low-cost homes to Micronesians. It is estimated that approximately 1,500 households in district centers and others outside the district centers have access to dollar incomes and could benefit immediately from a Housing Loan Fund. Initial request, $750,000.

(6) 6 U.S. and 49 Micronesian positions, $250,200: U.S. positions: 1 cadastral surveyor for Headquarters, 2 land commissioners (1 each for Ponape and the Marshalls), and 3 record specialists (1 each for Yap, Ponape, and the Marshalls); Micronesian positions: Headquarters 5, Marianas 1, Palau 5, Yap 7, Truk 4, Ponape 16, and Marshalls 11. Other costs involved are business travel, $2,800; printing and reproduction plus supplies and materials, $50,300; and a decrease of non-recurring costs in equipment, recruitment, repatriation and home leave and contractual services, $206,300.

Need for Increase

(1) To increase the productivity of subsistence and commercial agriculture, $542,000: The agricultural potential for Micronesia has been estimated to be in the neighborhood of $26,000,000 per annum, more than twice the current level. To achieve this potential, Government assistance is required in capital, management, and technology. Markets are known to exist in Guam, Japan and the United States for far more than Micronesia can produce under present conditions. Enough rice can be grown to supply the domestic demand. The increase of $542,000 requested will allow both subsistence and commercial agriculture to be advanced by the employment of 5 U.S. and 51 Micronesians to provide supervision and technical assistance to agriculture producers.

(2) Accelerated business development in Micronesia, $208,000: Present support of the economy in Micronesia comes almost entirely from expenditures of U.S. grant funds by the Trust Territory Government. In FY 1969, total local tax revenues from all sources amounted to about $2.6 million. The economy depends heavily on imports and there is a widening gap between exports and imports. In the 5 years between 1965-1969, the trade deficit was $11 million. Development opportunities for major tourist expansions and agricultural and fisheries production exist in the private sector of

the economy. These could assist in the development of economic self-sufficiency if adequately stimulated. Recruitment of the four U.S. professionals and eight Micronesian trainees will provide for technical assistance and advisory services to private businesses. They will help potential small businessmen who cannot find financing through commercial sources in their applications for loans from the EDLF. An increase of $208,000 is requested for additional employees and to provide contractual services for technical assistance.

(3) Upgrade and strengthen offshore fishing and eradicate starfish, $365,000: It is probable that the greatest potential for economic development in Micronesia lies in the ocean surrounding it. This potential has been almost completed neglected by the Government. One Marine Biologist, with practically no staff or support, on the staff of the Economic Development Division has had the responsibility for developing a program for exploiting this vast area.

In FY 1970, a reorganization upgraded this activity's status to that of Division of Marine Resources but with only a minor staff increase. We must move promptly to take advantage of the known resources of the ocean, to establish a fishing industry, to conserve and protect marine life, to develop a boatbuilding industry. In addition, at present, the reefs around Pacific Islands are being destroyed by a starfish which feeds on live coral. A project is underway to eliminate this threat but additional funds are needed to accelerate the fight. The increase of $365,000 requested will provide 9 U.S. and 41 Micronesians to develop and direct the program for exploitation of marine resources.

(4) No increase is needed due to the restructuring of loan criteria and administrative procedures.

(5) Low-cost homes for Micronesians to help build the economy of the Territory, $750,000: A critical shortage of housing exists in the Trust Territory caused by a rapid population increase and lack of capital to build adequate housing. The impact is particularly felt in the urban centers as migration continues from outer islands and rural areas. Present living conditions in the Trust Territory contribute to ill health, low productivity, inertia, delinquency and unrest. Visually, housing is an eyesore, hurts the United States' image and severely hinders efforts to develop tourism. The increase of $750,000 requested here will be used for making loans to Micronesians for owner-occupied dwellings and to local housing authorities. Such loans will stimulate the local construction industry, provide an additional source of income for Micronesians, as well as promote better building standards.

(6) Ongoing lands and surveys program, $97,000: With funding supplied in the FY 1970 First Supplemental Appropriation, a Micronesian Land Cadastre program was initiated. An increase of $97,000 is requested to permit this critically needed program to be continued at the same level.

Activity	FY 1970 Estimate	FY 1971 Estimate	Increase + Decrease -
4. Resources and Development:			
a. Agriculture	$ 958,000	$1,500,000	$ +542,000
b. Economic Development	354,000	562,000	+208,000
c. Marine Resources	112,000	477,000	+365,000
d. Economic Development Loan Fund	150,000	- 0 -	-150,000
e. Housing Loan Fund	- 0 -	750,000	+750,000
f. Lands and Surveys	1,603,000	1,700,000	+97,000
Total	$3,177,000	$4,989,000	$+1,812,000

Under the general supervision of the Director of Resources and Development, this organizational element of the Trust Territory Government is responsible for the development, conservation, and management of the Trust Territory's natural resources, and is composed of the departments of Agriculture, Economic Development, Marine Resources, and Lands and Surveys. Its goals and programs by major areas are as follows:

a. Agriculture:

FY $958,000, FY 1971 $1,500,000: Increase $542,000

A total of $1,500,000 is required in FY 1971 for the Agriculture program, an increase of $542,000 over FY 1970.

The major source of food for the Micronesians comes from subsistence farming; that is, the growing and harvesting of taro, bananas, coconuts, breadfruit, other root crops, vegetables and fruits. Commercial agriculture is just beginning and will be accelerated to take advantage of those crops suitable and adaptable to the various islands. For example, the Trust Territory has sufficient and suitable land area to produce its entire domestic rice needs. It now imports nearly 1.2 million dollars worth of rice each year. In addition to supplying domestic food needs, commercial agriculture will exploit the production of those crops for which there appears to be a genuine economic potential for export to Guam (meat and vegetables), Japan (copra and cacao), and to the United States (black pepper).

Funds required in FY 1971 include $133,000 for Program Management, $889,000 for Technical Services, and $478,000 for Special Projects. Program Management includes the customary functions of administration and policy direction, planning and analysis, program and budget, technical direction, and the execution of special agricultural training projects.

Technical Services include:

Extension Service ($300,000, increase $114,000) provides 105 semi-trained Micronesian extension agents for on-the-farm advice.

Agriculture stations ($312,000, increase $122,000), one in each district and 3 in sub-districts for technical tests, demonstration, seed production, and distribution of livestock and poultry breeding stock to farmers.

Forestry ($116,000, increase $55,000). This activity conducts surveys of forestry potential existing on one-third of all the land in Micronesia,

drafts legislation for forest reserves and park areas,and conducts two training centers for project personnel and local people who are interested in forest production. This program has been without professional direction for two years.

Other technical services ($161,000, increase $52,000) include veterinary service such as cattle, hog and poultry health instruction as well as meat inspection; entomology and conservation, which administers the agricultural quarantine service and conservation policies, and pursues economic entomology work; and plant pathology where, in a laboratory in Ponape, studies are made of the causes of plant diseases which threaten major food plants.

Special Projects include:

Coconut development in Truk, Yap, Ponape, and the Marshalls, and coconut development combined with beetle control in Palau ($240,000, increase $90,000). The production of coconuts is an agricultural activity which requires as much farmer education and training as the production of any other crop. Coconut production requires the cleaning out of the underbrush, thinning the groves to an optimum of about seventy trees to the acre, replanting senile groves, and planting new areas. In Palau, the coconut rhinoceros beetle is a serious threat to the copra industry and its control requires the removal of logs which when decayed are breeding sites for the beetle.

Rice development in Ponape ($113,000, increase $70,000). This program will encourage the eventual growth of sufficient rice to satisfy domestic needs. In FY 1971, fifty acres of rice will be put into cultivation, bringing the total rice acreage to approximately two hundred.

Animal industry in the Marianas ($94,000, increase $14,000). This activity operates and maintains 250 acres of grazing land, feed grass improvement areas, and hog and poultry breeding pens. It sells chicks, piglets, bulls, and heifers to local farmers for breeding up their stocks.

Black pepper development in Ponape ($31,000, increase $5,000). One acre of demonstration experimental garden is maintained at the agriculture station. One hundred acres have been established by local farmers and 10 acres will be added in FY 1971.

In FY 1970, the Agriculture Division staff consists of 15 U.S. and 234 Micronesian positions. In FY 1971, 5 U.S. and 51 Micronesian positions will be added. The new U.S. positions include a staff Forestry Officer, a Plant Pathologist, an Agricultural Economist/Marketing Specialist, a Conservation Officer, and a Vegetable Crop Specialist. The last named is significant in that he will organize the commercial Truck Garden Project in the Marianas where irrigation projects are programmed. The new Micronesian positions include 14 in coconut rehabilitation and development, 4 in a livestock expansion program, 10 in vegetable crop production, 5 in rice and black pepper projects, 9 in the forestry program, and 9 in pest control, district agricultural stations and administration.

Staffing:	FY 1970	FY 1971
	15 U.S. Civil Service	20 U.S. Civil Service
	0 U.S. Contract	0 U.S. Contract
	15 U.S. Total	20 U.S. Total
	234 Micronesians	285 Micronesians

The increase of $542,000 includes $107,100 for U.S. compensation to cover the additional positions, the July 1969 pay raise, within grade increases, and personnel benefits. Micronesian compensation increases $168,600 to cover new positions, planned promotions, within grade increases, and benefits. Other increases are in travel, $23,600; recruitment, repatriation and home leave, $22,700; printing and reproduction, $1,200; other services, $ 12,400; supplies and materials, $60,800 (fertilizer, pesticides, tools, etc.); $139,400 for equipment and freight (hand tractors, rice mills, rototillers, etc., for farmer assistance); and $6,200 for grants, subsidies and contributions.

b. Economic Development:

FY 1970 $354,000, FY 1971 $562,000: Increase $208,000

A total of $562,000 is required for Economic Development in FY 1971, an increase of $208,000 over FY 1970.

Micronesia is characterized by a dual economy, with aspects of the traditional subsistence economy existing side-by-side with an economy which enjoys ever-rising standards of consumption and services patterned after and approaching the levels of the United States. More than one-half of the 98,000 population live at or near the six district centers, and about half of the available labor force in these centers are employed for wages, either in government programs or in private sector trade and services activities.

Present support for the economy in Micronesia comes almost entirely from expenditures of U.S. grant funds by the Trust Territory Government. In FY 1969, total local tax revenues from all sources amounted to about $2.6 million.

The economy depends heavily on imports and there is a widening gap between exports and imports. In the 5 years between 1965-1969, the average value of imports exceeded exports 3 times. In FY 1969, the trade deficit was $11 million.

The primary objective of the economic development division is to accelerate economic growth compatible with orderly social-cultural political change; economic growth from subsistence and barter to an economy that furnishes individual human satisfaction for an ever-increasing population. Its program is aimed at reducing the relative dominance of the U.S. Government's contributions by developing natural resources, including emphasis upon marine resources and tourism, by stimulating the formation of local capital, by encouraging desirable investment by outside capital, by fostering the production, processing, and marketing structure, and by encouraging the development of Micronesian managerial competency and an efficiently trained and capable labor force.

The current program has a two-pronged approach to the development of the private sector of the Micronesian economy:

1. Create a staff of professional business advisors, specialists (marketing and finance, marine resources), and technicians to provide technical assistance to Micronesian businessmen.

2. Provide "seed" and expansion capital where not otherwise available through Government loan funds or loan guarantees.

At the present time, technical assistance of a business management nature is largely limited to chartered cooperative associations and credit unions. There are in the Territory an estimated 350 enterprises and 38 credit unions with a potential for growth and expansion. These businesses need competent management and accounting assistance. Managers need to have a better understanding of modern management techniques. They need to gain a better grasp of when and when not to extend credit, what over-extension means, proper inventory control, supply and demand. Good marketing and accounting practices need to be introduced at the district level by competent economic development personnel assigned to the districts.

In FY 1971, four new U.S. staff will be added: a cooperative officer, recreation and historic resources specialist, business advisor for the Marianas, and survey statistician. Eight Micronesians will also be added as management trainees. Adequate competent professional staffing will make possible economic planning and vigorous direct business development programs which have been assigned the highest priority by the U.S. Government. The Territory will continue to jointly sponsor with the SBA and CUNA International (international credit union organization) workshops and business seminars to develop business skills and competencies. A reimbursable agreement will be made with the Small Business Administration (SBA) under which the SBA would provide technical assistance to Micronesian entrepreneurs in developing good management practices, preparing loan applications, etc. These services can assist the efficient administration of the $5 million EDLF ($4 million additional is now under consideration in the U.S. Congress). In addition, the Bureau of Federal Credit Unions will provide for supervisory examinations of credit unions in the Territory. Credit unions with sufficient assets will pay for this service; smaller credit unions will be subsidized. Cooperative services will also be provided by experts in the field. Total estimated cost of these programs is $85,000.

Efforts will continue to encourage significant development in Micronesia's private sector by attracting capital and management to participate in development activities. Assistance will be given to selected U.S. investors who are interested in the economic development of Micronesia.

Tourism is the Territory's major growth industry. By 1974, it is estimated that the flow of tourists into the Territory will reach 97,000 annually bringing a potential of direct tourism expenditures of over $7 million a year. In 1969, 18,000 tourists entered the Territory. In FY 1971, Economic Development will continue to interest and assist entrepreneurs into entering into hotel/motel businesses and concomitant tourism enterprises such as charter fishing, specialty shops, and handicraft production and marketing. Staff effort, with the assistance of a tourism consultant, will be directed to developing and disseminating informative and descriptive material in Micronesia. The Territory will work with private transportation services and through the Pacific Area Travel Association (PATA) to promote travel in Micronesia.

Staffing:	FY 1970	FY 1971
	12 U.S. Civil Service	16 U.S. Civil Service
	0 U.S. Contract	0 U.S. Contract
	12 U.S. Total	16 U.S. Total
	38 Micronesians	46 Micronesians

The increase of $208,000 includes $78,000 for four new U.S. positions, the July 1969 pay raise, within grade increases and benefits; $35,000 for eight new Micronesian positions, within grade increases and benefits; $8,700 for printing and reproduction and travel of personnel; $85,000 for contractual services for technical assistance; $4,800 for equipment. These increases are partially offset by a decrease of $3,500 in recruitment, repatriation and home leave.

c. Marine Resources:

FY 1970 $112,000, FY 1971 $477,000: Increase $365,000

A total of $477,000 is requested for the Marine Resources in FY 1971, an increase of $365,000 over FY 1970.

Recently upgraded from its former status as an activity within the Division of Economic Development, the Division of Marine Resources is responsible for developing and operating a Trust Territory-wide program in marine resource conservation (protection of species, suppression of illegal activities), commercial fisheries promotion and technical development (embracing both inshore and offshore fisheries), boatbuilding and drydocking (including commercial and sports craft), marine research and Crown-of-Thorns Starfish control.

The lagoons, reefs, and open seas of the Trust Territory are literally teeming with both commercially and scientifically exploitable resources. They are exploitable for food, research, and tourist attraction. They constitute a major source of future economic development.

Offshore fisheries (skipjack, tuna, mackerel, shark, sardines, etc.) are fished by foreign vessels, but their incursions in search of bait, provisions and water have caused major damage. Explosives and poisons (e.g., sodium-hypochlorite) have destroyed many reef fisheries. Therefore, a major step-up of conservation and policing is necessary.

Lagoon fish "farms", oyster cultivation, trepang, turtles, pearl culture, marine algae, clams, crabs and lobsters offer startling economic opportunities. Some of these were part of a major pre-World War II fishery which is now dormant. Therefore, a major effort is needed in promotion, technical assistance and general development.

Small boat-building operations conducted marginally for some years, should be expanded not only to provide vessels for this promising area, but to include shore-side service and repair operations; include drydocking.

The population explosion of and destruction of live reefs by the Acanthaster Planci (Crown-of-Thorns Starfish) has been documented and given much publicity. This threat to the Trust Territory fisheries must be eliminated.

Such commercially important animals as tridacna clams, turtles, dugong, salt water crocodiles, etc., have or are disappearing from many previously abundant locations in and around the islands. Development of the offshore fisheries

depends upon the ready availability of bait species. But the restoration of commercially exploitable populations of decimated species, the location and size of bait fish schools, and the derivation of control levels appropriate to establishing maximum sustained yields requires the study and documentation of biological characteristics and migration patterns.Therefore, a strong move forward must be made in applied marine research.

The action program requires the recruitment of professional personnel to conduct the expanded programs, the selection of Micronesians for participation and training in the program, the education of the public about the programs, and the provision of the funds for the necessary supporting services, supplies, equipment, and so on. Thus, in FY 1971, nine new U.S. personnel will be added: marine research laboratory director, shipyard manager, fishing boat captain (for the experimental-demonstration boat, Emeraech), baitman, starfish control specialist, fisheries education specialist, field assistant director (to develop an embryonic but important program in the Truk District), marine engineer, and a program assistant (the Marine Resources program is conducted from Palau, and an assistant at Government Headquarters is required). The augmented conservation program will be carried out by increasing the Micronesian staff of four Conservation Officers to eight.

Staffing:	FY 1970	FY 1971
	3 U.S. Civil Service	12 U.S. Civil Service
	0 U.S. Contract	0 U.S. Contract
	3 U.S. Total	12 U.S. Total
	18 Micronesians	59 Micronesians

The increase of $365,000 includes $146,900 for the nine new U.S. employees, the July 1969 pay raise, within grade increases and benefits; $89,600 for 41 new Micronesians, within grade increases and benefits; $28,000 for printing and reproduction; $34,900 for contractual services; $22,800 for equipment, supplies and materials; $21,400 for travel and transportation of persons; $14,400 for recruitment, repatriation and home leave; and $7,000 for rent, communications and utilities.

d. Economic Development Loan Fund:

FY 1970 $150,000, FY 1971 $ -0-: Decrease $150,000

The decrease of $150,000 from FY 1970 reflects a decision to not add to the corpus of the fund in FY 1971. Loan criteria and administrative procedures are being restructured. Because there is legislation pending in the U.S. Congress to create a $5,000,000 loan fund, a fundamental reorientation in loan purpose and procedure may be forthcoming. A small increment to present lending capacity is not appropriate at this time.

e. Housing Loan Fund:

FY 1970 $ -0-, FY 1971 $750,000: Increase $750,000

A total of $750,000 is required in FY 1971 for Housing Loan Fund, an increase of $750,000 over FY 1970. This is a new program starting in FY 1971.

A critical shortage of housing exists in the Trust Territory caused by a rapid population increase and lack of capital to build adequate housing. The impact is particularly felt in the urban centers as migration continues from outer

islands and rural areas. While the outer islands increased in population by less than 4% between 1961 and 1967, urban areas centers increased by almost 35% indicating a dramatic demographic shift to district centers and the money economy. In 7 years, Ebeye (Marshalls) with 84 acres has seen its population increase 166% from 1,440 to 3,800.

Present living conditions in the Trust Territory contribute to ill health, low productivity, inertia, delinquency and unrest. Visually, housing is an eyesore, hurts the United States' image and severely hinders efforts to develop tourism.

A detailed public health census taken in the spring of 1967 enumerated some 13,000 housing units throughout the Territory. Sixty-five percent of the homes have wood floors, with dirt (12%), concrete (10%), and bamboo (4%) also used. Sheet metal (largely salvaged) (56%) is most often used on roofs with thatch (36%), and concrete (2%) also used. Walls are generally made of wood (51%), but sheet metal (21%), thatch (17%) and concrete (7%) also used. The type of material used varies considerably from district to district.

While housing conditions on Saipan, Mariana Islands, are by far the best in the Trust Territory, many a visitor is appalled by the dilapidated condition of the housing. The average dollar amount invested in a Saipan home is roughly $700 with a median figure of $200. It is estimated that no more than 10% of the Saipan households have inside flush toilets.

It is estimated that approximately 1,500 households in district centers and others outside the district centers have access to dollar incomes and could benefit immediately from a Housing Loan Fund. The proposed Housing Loan Fund will provide a source of financing for Micronesian housing at equitable interest rates and on reasonable repayment terms.

The Housing Loan Fund will be administered through the apparatus of the EDLF as a special account restricted for loans to Micronesians for owner occupied dwelling, and for loans to local housing authorities. Administration of the fund in this way may (1) lower administrative costs; (2) stimulate a local construction industry; (3) provide an additional source of income for Micronesians; (4) promote high building standards.

Staffing: No Manning Levels

f. Lands and Surveys:

FY 1970 $1,603,000, FY 1971 $1,700,000: Increase $97,000

A total of $1,700,000 is required for Lands and Surveys in FY 1971, an increase of $97,000 over FY 1970.

The 447,000 acres of land comprising the Trust Territory are fragmented into 400,000 vari-size parcels (public lands excluded) on 2,000 islands scattered over 3,000,000 square miles of Western Pacific Ocean. About 60% of these lands are "public lands" but their boundaries are uncertain, plagued with contests and their characteristics have not been catalogued for development, disposal, or planning purposes. Of the thousands of private holdings, not one certificate of title has ever been issued and registered as of December 31, 1969. Land rights, land ownership, use, easements, special interests, reversionary rights, ownership and tenure history, and title records are filed in fractured pieces in memory, tradition, and in Spanish, German, Japanese and American records in Micronesia, Europe, and Japan. It is true that some 1,250 surveys of record exist and some 2,000 titles have been researched, but an indeterminate number

of these is disputed. Controversy is rife and ubiquitous.

The Division of Lands and Surveys performs a variety of public land management services for the Trust Territory Government and the people of Micronesia, and, in the second half of FY 1970, took a full scale assault on the title-tenure-boundary problem. For the latter, the new Micronesian National Land Cadastre will: survey and monument all private lands, establish a central and six district land registries, issue certificates of title, identify, survey and classify all public domain lands, make public land more readily available for development purposes pursuant to established policy, and coordinate and support the quasi-judicial Land Commissions established to resolve clouds and controversies and make definitive determinations of titles, boundaries, and registrations.

The Division provides such administrative services as: investigation of property damage claims, review of non-citizen leasing of public domain and private lands, acquisition of private land for public or military use (especially in relation to the Trust Territory Capital Improvement Program), negotiates with private owners for interests in land and right of entry for survey or exploratory purposes, property and engineering surveys to certain programs and to economic development projects (e.g., Continental Airlines Hotel sites, Trust Territory-wide Communications system), property surveys for the U.S. military and other U.S. federal agencies, appraisal of public and private lands, and administration of the Board of Land Surveying Examiners.

The Land Cadastre is vital to resolving the legal land problems of Micronesia, for laying the groundwork for a viable market in real estate, and for the establishment of potential tax base. It must be continued at a funding no less than the initial $1,000,000 set by the FY 1970 Supplemental and, indeed, expanded as capacity to handle problems is gained. Accelerated economic growth, influx of foreign investors, enlargement of the government's capital improvement program and the pursuit of our trusteeship over public lands calls for maintenance of the public land management program at the level imposed by these factors.

To effectively carry out the programs of this department, it will be necessary to add 49 new Micronesian positions (Headquarters 5, Marianas 1, Palau 5, Yap 7, Truk 4, Ponape 16, and Marshalls 11). Also six new U.S. positions will be added: one Cadastral Surveyor for Headquarters, two Land Commissioners (one each for Ponape and the Marshalls), and three Record Specialists (one each for Yap, Ponape and the Marshalls).

Staffing:	FY 1970	FY 1971
	21 U.S. Civil Service	27 U.S. Civil Service
	0 U.S. Contract	0 U.S. Contract
	21 U.S. Total	27 U.S. Total
	160 Micronesians	209 Micronesians

The increase of $97,000 includes $136,100 for 49 new Micronesian positions, within grade increases, and benefits; $114,100 for six new U.S. positions, the July 1969 U.S. pay raise, within grade increases, and benefits; $2,800 for travel and transportation of persons; $50,300 for printing and reproduction and materials and supplies. These increases are partially offset by a decrease of $206,300 of non-recurring costs in equipment, recruitment, repatriation and home leave, and contractual services.

Protection to Persons and Property: FY 1970 $1,568,000, FY 1971 $1,572,000: Increase $4,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1) $+269,000	+ 1 U.S. +39 Micro	--	--	Ongoing program of Protection to Persons and Property.
(2) -265,000	--	--	--	Non-recurring purchase of equipment in FY 1970.
$ +4,000	+ 1 U.S. +39 Micro	$1,572,000	19 U.S. 324 Micro	

Cost Factors Involved in Increases

(1) U.S. pay raise of July 1969, $22,800; one new U.S. position, $13,600; 39 additional Micronesian employees and normal within grade increases and benefits for all employees, $130,800; travel both business and recruitment, $42,000; printing and reproduction, $1,500; other services, $20,800; supplies and materials, $18,300; and equipment, $19,200.

(2) Equipment for the Division of Public Safety, $-265,000.

Need for Increase:

(1) Ongoing program of Protection to Persons and Property, $269,000: With the exception of the one U.S. position required to train local firemen in the operation and maintenance of new fire fighting and rescue equipment, U.S. salary increases are due to the U.S. pay raise and within grade increases. Additional Micronesian positions are needed in several areas: 15 policemen will serve as substitutes for men taken off active duty for training, 4 Immigration Officers and 5 clerks will be needed to handle the increase in tourism, 3 Assistant Public Defender's Representatives will learn court procedures and serve as legal aids, in the Local Judiciary program 6 trainee court reporters, 3 clerk typists, 2 Probation Officers, and 1 Associate Judge will help to relieve the backlog of court cases. The increase in travel is largely in the Public Safety program and will be used to pay travel and per diem in a training program. Recruitment, repatriation and home leave increases because more people are due for home leave. An increase in other services is due to a contract for training policemen and firemen. An increase of $18,300 in supplies and materials is again for the benefit of the Public Safety program and will be used partly for feeding prisoners. Equipment increase of $19,200 will be used to furnish Immigration Offices in all districts.

(2) Non-recurring purchase of equipment in FY 1970, $-265,000: The supplemental appropriation of FY 1970 included $410,000 for the purchase of 5 fire trucks, 7 crash and rescue trucks, and a number of jeeps and other vehicles for the Micronesia Police. Since these vehicles will not have to be replaced for several years, the request for equipment for the Division of Public Safety is reduced $265,000.

Activity	FY 1970 Estimate	FY 1971 Estimate	Increase + Decrease -
5. Protection to Persons and Property:			
a. Office of the Attorney General	$ 241,000	$ 276,000	$ +35,000
b. Immigration	59,000	103,000	+44,000
c. Public Safety	1,021,000	894,000	-127,000
d. Public Defender	117,000	135,000	+18,000
e. Local Judiciary	130,000	164,000	+34,000
Total	$1,568,000	$1,572,000	$ +4,000

a. Office of the Attorney General:

FY 1970 $241,000, FY 1971 $276,000: Increase $35,000

A total of $276,000 is required for the Office of the Attorney General in FY 1971, an increase of $35,000 over FY 1970.

Under the direction of the Attorney General, the Office of the Attorney General is composed of the following sub-activities: the District Attorney's Office, Immigration Office, Claims and Public Safety. The Attorney General's Office provides legal services and renders legal opinions where requested by the High Commissioner or members of his staff, and represents the Government in all litigation in which the Government is a party or has any interest, including the prosecution of all criminal cases, and is generally responsible for carrying out the legal and law enforcement programs in the Trust Territory. The office drafts or reviews and recommends executive action on all acts passed by the Congress of Micronesia.

It is anticipated that the major project of assisting the selected publisher of the new Code of the Trust Territory will come to fruition in the presentation of the final manuscript of the code to the Congress of Micronesia. The Immigration Office will be reorganized and upgraded, and new procedures and regulations promulgated. These measures are required as a result of the tremendous increase in tourism and investment in the Trust Territory.

In FY 1971, the staff of the Office of the Attorney General will remain at the FY 1970 level of 11 U.S. and 18 Micronesians.

Staffing:	FY 1970	FY 1971
	11 U.S. Civil Service	11 U.S. Civil Service
	0 U.S. Contract	0 U.S. Contract
	11 U.S. Total	11 U.S. Total
	18 Micronesians	18 Micronesians

The increase of $35,000 includes $18,600 for U.S. salaries to cover the pay raise of July 1969, within grade increments and personnel benefits. Micronesian compensation will increase $3,100 as a result of within grade increments and planned promotions of the staff. Other increases are in the areas of travel, $8,000 and $5,300 for equipment, printing, supplies and other services.

b. Immigration:

FY 1970 $59,000, FY 1971 $103,000: Increase $44,000

A total of $103,000 is required for the Immigration in FY 1971, an increase of $44,000 over FY 1970.

Under the direction of the Attorney General, the Immigration Office administers and controls the entrance and departure of persons into and out of and exercises surveillance over foreigners in the Trust Territory. Rules and regulations are established and promulgated for instructions and execution thereof by personnel at Headquarters and throughout the six District Immigration Offices. Applications for entry are processed and permits issued for persons, aircraft and vessels in accordance with regulations.

This office anticipates a substantial increase in the number of persons making application to enter for purposes of tourism, business, employment, etc. Entry volume passed 18,000 in 1969 and 25,000 or more have been predicted for 1970. Promotional efforts for tourism are being directed toward increased travel service and hotel accommodations for the entire Territory. Indeed, a commercial travel service now has offices in each district of the Trust Territory. The number of persons entering has more than doubled in the last two years. Additional Immigration personnel and increased training are necessary. Additional automotive equipment is required for personnel to perform duties in meeting airline and ship schedules, sometimes on a seven-day schedule which often requires overtime work. The Immigration Office now requires full time, well trained employees in all the districts.

The proposed program in FY 1971 will upgrade and enlarge the immigration services throughout the entire Territory. Increases in personnel, equipment, and supplies will be necessary to enable the staff to meet the increasing workload. Considerable emphasis will be placed upon personnel training programs both in on-the-job training and seminar type sessions.

The FY 1971 U.S. staff will remain at the FY 1970 level of two positions. Micronesian staff in FY 1971 will have an increase of 9 positions (four Assistant Immigration Officers and five clerks) to be located as follows: Headquarters - 1 clerk, Marianas - 1 Assistant Immigration Officer, Yap - 1 Assistant Immigration Officer and 1 clerk, Truk - 1 Assistant Immigration Officer and 1 clerk, Ponape - 1 Assistant Immigration Officer and 1 clerk, Marshalls - 1 clerk.

Staffing:	FY 1970	FY 1971
	2 U.S. Civil Service	2 U.S. Civil Service
	0 U.S. Contract	0 U.S. Contract
	2 U.S. Total	2 U.S. Total
	15 Micronesians	24 Micronesians

The increase of $44,000 includes $6,800 for U.S. salaries to cover the pay raise of July 1969, within grade increments, and personnel benefits. Micronesian compensation will increase $17,600 for the additional positions as well as within grade increments, planned promotions and personnel benefits. Other increases include $21,100 for equipment and a total of $1,500 for printing, household goods storage, supplies and other services. These increases are partially offset by a decrease of $3,000 in recruitment, repatriation, and home leave.

c. Public Safety:

FY 1970 $1,021,000, FY 1971 $894,000: Decrease $127,000

The amount of $894,000 is required for Public Safety in FY 1971, a decrease of $127,000 from FY 1970.

Under the general direction of the Attorney General, the Office of Public Safety is responsible for the administration of the Micronesia Police, for the maintenance of law and order in the Trust Territory, for crime prevention and investigation, for service of legal process, for serving as court bailiffs, for fire protection, for crash and rescue work on the airfields, for control and rehabilitation of juvenile delinquents, and for the administration of penal institutions.

In FY 1971, emphasis will be on training of the Micronesia Police. Two training programs are being planned in conjunction with the Department of Education. One is training in English, to be conducted in all districts, with the incentive being that examinations for promotions will be in written English. Another program is an instructor training program in which members of the police force will be brought to Saipan for training and for teaching their local police forces upon returning to their home districts.

Arrangements are being made with the police department of Kauai, Hawaii, for providing on-the-job training for Micronesian policemen. Selected policemen will be sent to Kauai, where they will work under experienced supervision in a modern police department and will bring back the knowledge and training to benefit Trust Territory police.

In FY 1970, funds were provided for the purchase of 5 fire trucks and 7 crash and rescue trucks for the airfields. One U.S. position is added in FY 1971 to provide training and leadership in the maintenance and operation of this new equipment. Fifteen patrolmen will be added to the Micronesia Police.

Staffing:	FY 1970	FY 1971
	1 U.S. Civil Service	2 U.S. Civil Service
	0 U.S. Contract	0 U.S. Contract
	1 U.S. Total	2 U.S. Total
	209 Micronesians	224 Micronesians

Although the net decrease is $127,000, U.S. personal services will increase $16,600 to cover the new position, a within grade increase, the July 1969 pay raise and personnel benefits. Micronesian personal services increase $40,500 to cover new positions, within grade increases and benefits. Travel will increase $34,000, largely to cover travel concerned with the training program. Printing and reproduction increases $1,000; supplies and materials, $20,300; recruitment, repatriation, and home leave, $6,000; and other services, $19,600. These increases are more than offset by a decrease in the purchase of equipment in the amount of $265,000.

d. Public Defender:

FY 1970 $117,000, FY 1971 $135,000: Increase $18,000

A total of $135,000 is required in FY 1971 for the Office of the Public Defender, an increase of $18,000 over FY 1970.

The Public Defender administers and supervises the operation of the Public Defender system; provides legal counsel to any person who requires defense in civil or criminal court proceedings; represents persons involved in civil actions where the Government is an adverse party; conducts training programs for Public Defender's Representatives; develops and submits to the Office of the High Commissioner basic operating programs and procedures; and advises and assists Trial Assistants. In each of the six districts, there are one or more Public Defender's Representatives who are responsible for operating the district office of the Public Defender; investigating and recording facts surrounding each case under their cognizance occurring in their district; advising clients regarding their rights in law; preparing briefs of evidence presented in lower courts; and acting as interpreter or translator. This office is also responsible for preparing the petition for pardon or parole as required by law.

In FY 1969 this office handled 1,745 criminal cases, 91 civil cases, and 114 juvenile cases in the various courts of the six districts. These numbers do not include the various other legal aids afforded the community through this office. To meet the increasing demands on this office, three new Micronesian Assistant Public Defender Representatives will be added to the staff. One will serve in Saipan, one in Truk, and one in Ponape.

Present staff in the Office of the Public Defender consists of four U.S. positions and thirteen Micronesian positions. The three new positions will bring the Micronesian staff to a total of sixteen.

Staffing:	FY 1970	FY 1971
	4 U.S. Civil Service	4 U.S. Civil Service
	0 U.S. Contract	0 U.S. Contract
	4 U.S. Total	4 U.S. Total
	13 Micronesians	16 Micronesians

The increase of $18,000 includes $17,800 for U.S. salaries. This covers the U.S. pay raise of July 1969, planned promotions, within grade increments, and personnel benefits. Micronesian compensation increases $10,800 for new positions, within grade increments, and benefits. These increases are partially offset by decreases in recruitment, repatriation and home leave of $3,000, supplies and materials, $300, and equipment, $7,300.

e. Local Judiciary:

FY 1970 $130,000, FY 1971 $164,000: Increase $34,000

A total of $164,000 is required for Local Judiciary in FY 1971, an increase of $34,000 over FY 1970.

The Local Judiciary, composed of six District Courts and one hundred eleven Community Courts, is administered overall by the High Court Justices and directly by the Micronesian Presiding Judge in each district. All of these courts are staffed entirely by Micronesians, exclusive of the judges of the Kwajalein Community Court, who serve without extra compensation for their judicial duties at the U.S. Army's Kwajalein Test Site.

When all anticipated positions are filled during FY 1971, the Local Judiciary staff will consist of eleven full-time District Court Judges, twelve part-time District Court Judges, six Clerks of Courts, twelve Assistant Clerks of Courts, six Court Reporter Trainees, four Probation Officers and three Clerk-Typists.

41-447 O - 70 - pt. 1 -- 43

In addition, one hundred eleven Community Court Judges are paid only for the days they perform judicial duties. The number of Community Court Judges and Summer Trainees will vary slightly throughout the year.

Each District Court has original jurisdiction in all civil cases where the amount claimed or value of the property involved does not exceed $1,000, except admiralty and maritime matters and the adjudication of title to land or any interest therein (other than the right to immediate possession), and in all criminal cases where the maximum punishment which may be imposed does not exceed a fine of $2,000 or imprisonment for 5 years, or both.

Each Community Court has original jurisdiction in all civil cases where the amount claimed or value of the property involved does not exceed $100, except admiralty and maritime matters and the adjudication of title to land or any interest therein (other than the right to immediate possession), and in all criminal cases where the maximum punishment which may be imposed does not exceed a fine of $100 or imprisonment for 6 months, or both.

The workload imposed on the local judiciary is portrayed as follows:

	Cases Disposed of Per Year		
		Year	
Type of Case	1967	1968	1969
District Courts:			
Criminal	1,736	2,545	2,998
Civil	1,406	1,273	1,426
Community Courts:			
Criminal	934	1,388	1,232
Civil	2,456	2,589	2,416

The FY 1971 Local Judiciary program proposes mainly to continue the established District Court and Community Court operations. It is anticipated that justice and efficiency will be improved by the addition of new Micronesian positions in these courts and by the training provided by the High Court.

The District and Community Courts are staffed entirely by Micronesians. The overall goal of these courts will continue to be the just and prompt hearing of cases within their jurisdiction. In addition, these courts will continue to serve as a valuable training ground for Micronesians to move to increasingly responsible positions in the judicial and legal fields.

The Judiciary has maintained Micronesians in responsible positions and operated with a minimal U.S. staff for the past several years. The lower courts and court clerks' offices have served to provide training and experience for Micronesians to advance to increasingly responsible positions.

It is intended to accelerate the practices of the past by providing additional training positions. The new Micronesian positions are 6 Court Reporter Trainees, 3 Clerk-Typists, 2 Probation Officers, and 1 Associate Judge. If Micronesians are to replace American personnel and assume an even greater role in operating the courts, these additional positions are considered highly justified.

Staffing:	FY 1970 No U.S. Personnel	FY 1971 No U.S. Personnel
(full-time)	30 Micronesians	42 Micronesians

The net increase of $34,000 consists of an increase of $35,400 in Micronesian compensation for the new positions, within grade increases and benefits, partially offset by a decrease of $1,400 in supplies and materials.

Administration: FY 1970 $3,256,000, FY 1971 $3,806,000: Increase $550,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1) $+306,200	--	$ --	--	To meet increased pay costs.
(2) +183,800	+ 5 U.S. +33 Micro	--	--	To strengthen middle management and support services staffing to meet demand for increased administrative type services, with minor increases in other object codes.
(3) +50,000	--	--	--	To accelerate the training of Micronesian employees in all occupational areas.
(4) +10,000	--	255,000	--	To meet increased personnel benefits costs.
$+550,000	+ 5 U.S. +33 Micro	$3,806,000	103 U.S. 447 Micro	

Cost Factors Involved in Increases

(1) The cost of the July 1969 U.S. pay raise was absorbed in FY 1970, $106,900; 11 U.S. positions (primarily in accounting) were partially lapsed in FY 1970, $70,100; and normal salary increments for the ongoing staff of 98 U.S. and 414 Micronesians, $129,200.

(2) 1 U.S. District Administrator's representative for Ulithi in Yap District, 1 U.S. systems analyst and 2 U.S. programmers for the Automatic Data Processing Division, 1 procurement officer for the Procurement and Supply Division, and 33 Micronesian positions: 1 assistant airport manager for the Saipan Airport, 1 District Administrator's representative for Faichuk in Truk District, 5 accountant trainees for the Division of Finance and Accounting, 2 programmer trainees for the Automatic Data Processing Division, 1 assistant supply officer for the Marianas District, 2 personnel management specialists for the Marianas and Ponape, 2 management trainees for Personnel Division at Headquarters, 1 personnel assistant for Yap, 2 auditor trainees for Internal Audit, 6 budget analyst trainees for the six districts, 1 program analyst trainee and 1 statistician trainee for Program and Budget at Headquarters, and 8 clerks, $153,800; and minor increase in necessary supporting supplies, equipment, travel and services, $30,000.

(3) Contractual services and travel for short term training of Government employees both within and outside of the Territory, $50,000.

(4) More U.S. employees and, consequently, more children eligible for educational allowances, $5,000; higher gross total of personnel compensation for U.S. and Micronesians resulting in higher Workmen's Compensation, $3,000; and larger number of Micronesians eligible for Social Security Benefits and Death Benefits, $2,000.

Need for Increase:

(1) To meet increased pay costs, $306,200: It will not be possible to absorb the U.S. pay raise of July 1969 in FY 1971. Normal within grade promotions must be awarded except in cases of unsatisfactory performance and selected promotions must be made. Those few positions partially lapsed in FY 1970 will require full funding in FY 1971. An increase of $306,200 is requested to meet these increased pay costs.

(2) To strengthen middle management and support services staffing, $183,800: Middle management and support services staffing must be strengthened to maintain a forward and progressive administration in the Territory. The capital improvement program is steadily mounting and newly vitalized operational programs in Marine Resources, Lands and Surveys, Economic Development, Transportation, and Public Affairs, as well as newly expanded operational programs in Health Services and Education must be served. An increase of $183,800 is requested to help staff to meet this challenge.

(3) To accelerate training of Micronesian employees in all occupational areas, $50,000: Training of Micronesian employees of the Trust Territory Government has been more talked about than accomplished in most program areas over the years. The phasing out of U.S. employees and their replacement by Micronesians cannot be speeded up without first mounting a substantial training program. An increase of $50,000 is requested for short term training of Micronesian employees in all occupational areas.

(4) To meet increased personnel benefits costs, $10,000: While education standards in elementary and secondary schools are improving in the Trust Territory, they are still well below acceptable U.S. standards. Consequently, following State Department practices, eligible dependents of U.S. employees are entitled to educational allowances. Other personnel benefits are Workmen's Compensation Insurance, death benefits for Micronesian employees, and retirement payments to Micronesians who retired under Social Security with more than five years service (the Trust Territory Government is committed to pay retirement costs for service prior to the establishment of the Trust Territory Social Security program). An increase of $10,000 is requested for anticipated minor increases in all these benefits in FY 1971.

Activity	FY 1970 Estimate	FY 1971 Estimate	Increase + Decrease -
6. Administration:			
a. Office of the District Administrators	$ 651,000	$ 757,000	$+106,000
b. Administrative Services	266,000	288,000	+22,000
c. Finance and Accounting	638,000	749,000	+111,000
d. Automatic Data Processing	236,000	211,000	-25,000
e. Procurement and Supply	721,000	895,000	+174,000
f. Personnel Office	292,000	378,000	+86,000
g. Internal Audit	62,000	71,000	+9,000
h. Program and Budget	145,000	202,000	+57,000
i. Personnel Benefits	245,000	255,000	+10,000
Total	$3,256,000	$3,806,000	$+550,000

Administration consists of a grouping of general support services and management activities. The Offices of the District Administrators, Personnel, Internal Audit, and Program and Budget report directly to the High Commissioner. Management Services and the Liaison Offices are under the general supervision of the Executive Officer. Finance and Accounting, Automatic Data Processing and Procurement and Supply are under the supervision of the Director of Finance.

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a. Office of the District Administrators:

FY 1970 $651,000, FY 1971 $757,000: Increase $106,000

A total of $757,000 is required for Office of the District Administrators in FY 1971, an increase of $106,000 over FY 1970.

The Trust Territory is divided, for administrative purposes, into six districts: the Marianas, Palau, Yap, Truk, Ponape, and the Marshalls, and three sub-districts: Ebeye (Marshalls), Kusaie (Ponape) and Rota (Marianas). In FY 1971, two more sub-districts will be added: Faichuk (Truk), and Ulithi (Yap). Each of these districts is headed by a District Administrator who is appointed by the High Commissioner, while the sub-districts are headed by a District Administrator's Representative, who is appointed by the District Administrator. As the principal representative of the High Commissioner, each District Administrator exercises general administrative supervision over all operations, programs, and functions of the Trust Territory Government in his assigned district. He exercises administrative authority in accordance with all applicable laws, regulations, policies and procedures, and is responsible for full and proper compliance with all such directives. Each District Administrator's Representative exercises administrative supervision over governmental operations and programs in his assigned area.

A typical staff of a district administration consists of the District Administrator, one or two Assistant District Administrators, a District Administrator's Representative, and secretarial and clerical support personnel.

The following table shows the FY 1970 manning level by districts and sub-districts:

District	Employees - 1970 U.S. Civil Service	Micronesians	Sub-District Offices
Marianas	2	20	1 Micronesian
Marshalls	4	13	1 U.S.
Palau	3	12	
Ponape	3	18	1 Micronesian
Truk	4	11	
Yap	3	10	

In FY 1971, one U.S. position, a District Administrator's Representative for Ulithi, in the Yap District, will be added. Four Micronesian positions will be added: two in the Marianas - an Assistant Airport Manager for the Saipan Airport and a clerk typist in the District Administrator's Representative's office in Rota, and two in the Truk District - a District Administrator's Representative and a clerk typist for the island of Faichuk.

Staffing:	FY 1970	FY 1971
	19 U.S. Civil Service	20 U.S. Civil Service
	0 U.S. Contract	0 U.S. Contract
	19 U.S. Total	20 U.S. Total
	84 Micronesians	88 Micronesians

The increase of $106,000 includes $45,700 for U.S. salaries. This covers the new position, within grade increments, the July 1969 pay raise, and the related personnel benefits. Micronesian salary increases $28,200 to provide for the new positions, within grade increments, planned promotions, and personnel benefits. Other increases are $1,400 for travel, $11,500 for recruitment, repatriation and home leave, $6,000 for other services, $6,000 for supplies and materials, and $7,200 for equipment.

b. Administrative Services:

FY 1970 $266,000, FY 1971 $288,000: Increase $22,000

A total of $288,000 is required in FY 1971 for Administrative Services, an increase of $22,000 over FY 1970.

Administrative Services includes the Management Services Office, the Liaison Offices at Guam and Kwajalein, and the Executive Office Operations, all under the general supervision of the Executive Officer who is paid from the direct appropriated fund.

The Management Services Office has the staff responsibility for organizational and procedural improvements in the effective and efficient administration of Government. This includes the following types of management surveys, either singly or in combination: (1) policy promulgation; (2) organization and functions surveys; (3) procedures surveys; (4) manpower requirements surveys; (5) space and equipment surveys; and (6) reports, forms and records surveys. This office is also responsible for records management, reports and forms control, the employee suggestion program, mail and messenger services, certain

transportation services for Headquarters personnel and visitors, the development and maintenance of what is now at best an embryonic Trust Territory filing system, and for the development and maintenance of the Trust Territory Manual of Administration and for the monitoring of other manuals (such as the Personnel, Accounting, Property and Supply Manuals, etc.) in conjunction with appropriate directors and department heads.

The Liaison Office at Kwajalein performs coordinative and logistical support services in the Kwajalein atoll for the High Commissioner and represents him in matters dealing with other Government and military activities as well as U.S. citizens and employees of the Government. The Liaison Office at Guam provides similar and more comprehensive services on the behalf of the High Commissioner in the areas of transportation, communications, procurement and supply, finance and education, and to provide liaison services with other Government and non-Government agencies on the island of Guam. All Guam medical referrals are coordinated through this office.

The Executive Office Operations provide for the costs of supporting the High Commissioner's Office, Government House, and other operations relating to visiting dignitaries.

In FY 1971, the staff will remain at the FY 1970 level of 12 U.S. and 10 Micronesian employees.

Staffing:	FY 1970	FY 1971
	12 U.S. Civil Service	12 U.S. Civil Service
	0 U.S. Contract	0 U.S. Contract
	12 U.S. Total	12 U.S. Total
	10 Micronesians	10 Micronesians

The increase of $22,000 is nominal and includes $15,200 for U.S. salaries to cover for the pay raise of July 1969, within grade increments and personnel benefits; $1,200 for Micronesian salary increments, planned promotions and personnel benefits. Other increases include contractual services, $2,700; travel, $1,900; supplies and materials, $5,800, equipment, $3,000; and printing and freight, $1,000. These increases are partially offset by $7,000 decrease in recruitment, repatriation and home leave, and $1,800 decrease in rent and communications.

c. Finance and Accounting:

FY 1970 $638,000, FY 1971 $749,000: Increase $111,000

A total of $749,000 is required for the Finance and Accounting Division in FY 1971, an increase of $111,000 over FY 1970.

Under the general supervision of the Director of Finance, the Division is responsible for the receipt and disbursement of all Government funds and the related accounting and reporting for such funds, both at Headquarters and in each of the six districts.

The workload of the Division is generally related to the dollar amounts of approved programs and these have been increasing rapidly during the past several years from $17,500,000 in 1965 to $48,112,000 in FY 1970. However, because of continuing training and upgrading of Micronesian staff, no new U.S. positions are required for FY 1971.

In addition to its primary function of disbursing and accounting for more than $48 million (in FY 1970) of regular budgeted program funds including payrolling of over 6,000 employees scattered throughout the Territory, this Division has many collateral responsibilities. These include disbursement of appropriated funds for Peace Corps Micronesia and Government of Guam; collection, disbursement, and accounting for more than $2 million of local taxes and other revenues; disbursement and accounting for substantial amounts of federal HEW grants; and handling several million dollars of trust and related funds.

In FY 1970, the staff consists of 23 U.S. and 112 Micronesian positions. In FY 1971, the U.S. staff remains at 23 but an increase of six Micronesian positions is required. Four Accountant Trainees are needed for the increased workload in Headquarters and one Accountant Trainee and one Clerk are needed in Truk.

Staffing:	FY 1970	FY 1971
	23 U.S. Civil Service	23 U.S. Civil Service
	0 U.S. Contract	0 U.S. Contract
	23 U.S. Total	23 U.S. Total
	112 Micronesians	118 Micronesians

The increase of $111,000 includes $120,200 for six additional Micronesian positions, U.S. pay raise of July 1969, within grade increases, planned promotions, and personnel benefits. Other increases are: $1,700 for printing and reproduction; $5,000 for travel, other services, and materials and supplies; $16,600 for equipment. These increases are partially offset by a decrease of $32,500 in recruitment, repatriation and home leave.

d. Automatic Data Processing:

FY 1970 $236,000, FY 1971 $211,000: Decrease $25,000

A total of $211,000 is required for the Automatic Data Processing Division for FY 1971, a decrease of $25,000 over FY 1970.

Under the general supervision of the Director of Finance Department, the Automatic Data Processing Division is responsible for the system analysis, programming, and operations of all applications relating and applied to automatic data processing in the Trust Territory.

Present applications include U.S. payroll, Micronesian Social Security, Utility Billings and Accounting, Public Health Records Statistics, School Enrollment and Classroom Assignments, and Micronesian Personnel Information Rosters used for budgetary requirements.

In the FY 1970 budget justifications, it was expected that our present IBM 360/20 model computer using a punched card operation would be upgraded to a 360/25 or 360/30 model using a magnetic tape operation at a considerable increase in rentals and in supplies and materials. Our present plans anticipate continuing with our present configuration through FY 1971. A reduction in our FY 1971 request at a level below that for FY 1970 is therefore possible even though staff is increased.

An increase in the number of programmers in FY 1971 will enable us to extend the computer service to other program areas such as Micronesian payroll and property and supply records and inventories. A comprehensive management reporting system will be developed and its implementation will add to the workload.

In FY 1970, the staff consists of three U.S. and ten Micronesian positions. In FY 1971, the U.S. positions are increased to six and the Micronesian positions are increased to twelve. This increase will permit the recruitment of an additional U.S. systems analyst and two U.S. programmers to speed up planned applications and allow for training of two additional Micronesians in programming positions.

Staffing:	FY 1970	FY 1971
	3 U.S. Civil Service	6 U.S. Civil Service
	0 U.S. Contract	0 U.S. Contract
	3 U.S. Total	6 U.S. Total
	10 Micronesians	12 Micronesians

While the FY 1971 budget shows a decrease of $25,000 below that for FY 1970, personal services will increase by $56,000 of which $43,900 will provide for the July 1969 pay raise, planned promotions, within grade increases, increased staffing and benefits for U.S. employees. Micronesian compensation will increase $12,100 for the additional positions as well as within grade increments, planned promotions and benefits. Travel increases $1,200; printing and reproduction, $1,000; and storage of household goods, $1,000. These increases are totally offset and a saving realized by a decrease of recruitment, repatriation and home leave of $4,000; rent, communications and utilities, $24,300; supplies and materials, $45,200; and equipment, $10,700.

e. Procurement and Supply:

FY 1970 $721,000, FY 1971 $895,000: Increase $174,000

A total of $895,000 is required in FY 1971 for Procurement and Supply, an increase of $174,000 over FY 1970.

Under the general supervision of the Director of Finance, the Procurement and Supply Division includes the office of the Division Chief at headquarters and the offices of the District Supply Officers in each of the districts. Although the District Supply Officers are under the direct supervision of the District Administrators, they receive technical guidance and assistance from the Chief of Procurement and Supply Division.

This Division has the responsibility for the planning, directing and development of the procurement and supply program of the Trust Territory Government; the interpretation and promulgation of policies and procedures as established by the High Commissioner's Office; development and analysis of systems, procedures, methods, performance, production standards and reports; administration of the Stock Fund; the procurement, requisitioning, receiving, issuing, warehousing, inventory control, supply management, packing and crating, and shipment of supplies, material and equipment; administering and controlling the government quarters furnishings program; establishment and maintenance of all accountable record files including consumables, minor and major capital equipment, and real property (excluding land); determination of supply requirements, selection of most economical supply sources; computation of supply levels; effecting redistribution; classification as to property condition; administration of the property disposal and sale program; and administering the U.S.D.A. donated food program; establish and maintain adequate and proper procurement, stock control, supply management (including repair parts), storage, and warehousing systems and procedures; maintain liaison and coordination with all activities of the government utilizing this supply and service support; administer and control the

property accountability program for the Trust Territory; and to coordinate supply reports at Headquarters and within the Districts; and coordinate with General Services Administration (GSA) and other support agencies, to resolve supply problems and increase supply effectiveness.

In FY 1971, it is anticipated that much of the clerical work of the Division will be converted to automatic data processing. Requisition processing, follow up and status reporting will be automated to the extent feasible. Stock record balance cards will be converted to punched cards for automated processing of supply transactions, issues, receipts, and adjustments. The increase in government budget levels from $30,000,000 in 1969 and to $48,112,000 in 1970 to $60,000,000 proposed for 1971, and their consequently increased supply requirements precipitate a moderate increase in the funding of the Procurement and Supply Activity.

In FY 1971, one new U.S. and five Micronesian positions will be added to bring the total staffing to 25 U.S. and 165 Micronesians. The new positions consist of one Procurement Officer at headquarters, one Micronesian Assistant Supply Officer for the Marianas District, and four Micronesian clerks for Palau.

Staffing:	FY 1970	FY 1971
	24 U.S. Civil Service	25 U.S. Civil Service
	0 U.S. Contract	0 U.S. Contract
	24 U.S. Total	25 U.S. Total
	160 Micronesians	165 Micronesians

The increase of $174,000 includes $62,500 in U.S. compensation for one new position, the July 1969 pay raise, within grade increments and personnel benefits. Micronesian compensation increases $21,900 to cover the five new positions, annual increments, planned promotions and benefits. Other increases include $11,400 for recruitment, repatriation and home leave, $14,700 for supplies and materials, $63,400 for equipment, and $100 for minor changes in other object classes.

f. Personnel:

FY 1970 $292,000, FY 1971 $378,000: Increase $86,000

A total of $378,000 is required for the Department of Personnel in FY 1971, an increase of $86,000 over FY 1970.

The Personnel Department provides personnel management and manpower development services for an employee population of 260 U.S. Civil Service, 450 U.S. Contract, and approximately 5,300 Micronesian positions. The Department provides personnel management counsel to the High Commissioner; recruits, examines, classifies, certifies and processes records of employees and applicants; administers employee benefits (Workmen's Compensation, life insurance, leave, shipment of household effects, etc.); develops local manpower resources through organized and on-the-job training programs; administers the employee housing program; and promotes indigenous public participation in government.

Orderly government administration is thwarted by a number of current major problems in personnel management. These are:

1. There is no classification, job evaluation, and pay grade system covering the whole range of U.S. Contract positions.

2. Position control is lacking in both U.S. and Micronesian systems.

3. The Micronesian Merit System does not have an operational class and grade specification-classification system.

4. There are at least fourteen separate schedules of pay rate covering pay for Americans and various occupational categories of Micronesian employees.

5. Recruitment relies on broad qualification definitions rather than on existing job specifications.

6. There are no registers of applicants, even for common classes of positions.

7. Employee development, existence of career-ladders, and programmed employee training is sparse and disjointed.

8. Excessive time is entailed in processing official actions.

The former Personnel Office has recently been reorganized into the Department of Personnel, raised to cabinet level status, and reoriented to assault major problems of the type listed above. The immediate goals for FY 1971 are:

1. Establish an improved classification, qualification and examination system to define job requirements, establish levels of difficulty, prescribe qualifications, provide criteria for determining pay, and facilitate recruitment.

2. Accelerate the training of Micronesian employees in all occupational areas, with a principal objective of providing for the development of Micronesian employees to assume as many technical and managerial positions as possible.

The budgetary requirements for the achievement of these goals consist of providing trained professional staff with adequate Micronesian support. The requirements are shown below.

In order for this office to carry out the program described above effectively, five Micronesian positions will be added in FY 1971: two Management Trainees at Headquarters, two Personnel Management Specialists (one each for Marianas and Ponape), and one Personnel Assistant for Yap. U.S. positions will remain at the same level as in FY 1970.

Staffing:	FY 1970	FY 1971
	9 U.S. Civil Service	9 U.S. Civil Service
	0 U.S. Contract	0 U.S. Contract
	9 U.S. Total	9 U.S. Total
	32 Micronesians	37 Micronesians

The increase of $86,000 includes $32,300 for five additional Micronesian positions, within grade increases and benefits; $17,500 for the July 1969 pay raise, within grade increases and benefits for nine ongoing U.S. positions; and $50,000 for contractual services necessary for the Micronesian Training program. These increases are partially offset by a decrease of $13,800 in travel and transportation of persons, recruitment, repatriation and home leave, and supplies and materials.

g. Internal Audit:

FY 1970 $62,000, FY 1971 $71,000: Increase $9,000

A total of $71,000 is required for the Internal Audit in FY 1971, an increase of $9,000 over FY 1970.

Under the overall supervision of the Office of the High Commissioner, the Audit staff performs comprehensive audits on all governmental accounts, special and trust funds, including funds in connection with rehabilitation projects and capital improvements. At the request of the Office of the High Commissioner, it conducts audits on private commercial companies in the Trust Territory when the Government has an interest through subsidy agreements or economic development loans. Audits are also performed on the Congress of Micronesia accounts, the District Legislatures and larger municipalities.

The Internal Audit staff in FY 1971 will consist of an Auditor, an Assistant Auditor, both U.S. positions, and two additional Micronesian Auditors making a total of four Micronesian Auditors.

Staffing:	FY 1970	FY 1971
	2 U.S. Civil Service	2 U.S. Civil Service
	0 U.S. Contract	0 U.S. Contract
	2 U.S. Total	2 U.S. Total
	2 Micronesians	4 Micronesians

The increase of $9,000 includes $4,400 for the two additional Micronesian Auditors, within grade increases and benefits; $4,300 for the July 1969 pay raise, within grade increases and benefits for the two U.S. positions; $3,000 for travel of the auditors. These increases are partially offset by a decrease of $2,700 in recruitment, repatriation and home leave, materials and supplies, and equipment.

h. Program and Budget:

FY 1970 $145,000, FY 1971 $202,000: Increase $57,000

A total of $202,000 is required for the Program and Budget Office in FY 1971, an increase of $57,000 over FY 1970.

Under the general supervision of the High Commissioner, the Program and Budget Office is responsible for both the long range planning (PPB) and the budget functions of the Trust Territory Government. Trust Territory requests have doubled in the last three years with practically no increase in employment in the Program and Budget Office. The workload in this office has now reached a volume which makes it necessary to seek some increase in staffing.

The planning-programming-budgeting function entails the coordination and preparation of multi-year operating and capital improvement programs covering all the departments of the Trust Territory Government. It identifies and articulates program policies and major strategies; develops the above programs in intimate coordination and consultation with the Congress of Micronesia Joint Committee on Programs; designs, coordinates and monitors, and occasionally prepares special analytical studies, program issue papers, program support statements and other materials explaining, supporting or analyzing Trust Territory programs; and fits the annual program presentation into the Department of the Interior PPB system.

The budget function involves the preparation and execution of the budget, preparation of the apportionment request, allocation of funds, analysis of obligations and expenditures, and preparation of budgetary reports to the Department of the Interior, the Bureau of the Budget, and the U.S. Congress. The introduction of new and more effective budget control and surveillance is required and planned for FY 1971.

In FY 1970, the staff consists of six U.S. and four Micronesian positions. In FY 1971, U.S. staff remains at six but an increase in Micronesian staff to thirteen is required. This increase will permit the placement of a Micronesian Budget Analyst in each district and a Program Analyst Trainee, a Statistician Trainee, and a Clerk Typist in the headquarters office.

Staffing:	FY 1970	FY 1971
	6 U.S. Civil Service	6 U.S. Civil Service
	0 U.S. Contract	0 U.S. Contract
	6 U.S. Total	6 U.S. Total
	4 Micronesians	13 Micronesians

The increase of $57,000 includes $19,100 for U.S. salaries to cover the pay raise of July 1969, within grade increments, and personnel benefits. Micronesian compensation will increase $31,500 for the additional positions as well as within grade increments, planned promotions and benefits. Travel increases $2,100 and printing and reproduction, $2,300. Other increases, for other services,$700; supplies and materials, $1,800; and equipment, $3,000 are partially offset by a reduction in recruitment, repatriation and home leave of $3,500.

i. Personnel Benefits:

FY 1970 $245,000, FY 1971 $255,000: Increase $10,000

A total of $255,000 is required for Personnel Benefits in FY 1971, an increase of $10,000 over FY 1970.

The funds required will cover the cost of educational allowances for eligible dependents of U.S. employees, workmen's compensation insurance, death benefits for Micronesian employees, and retirement payments to Micronesians who retired under Social Security with more than five years service. The Trust Territory Government is committed to pay retirement costs for service prior to the establishment of the Trust Territory Social Security program.

The following table relates FY 1969 experience to the FY 1970 budget which our projection for FY 1971 requirement is based on:

Item	FY 1969	FY 1970	FY 1971
Education Allowances	$185,416	$193,000	$198,000
Workmen's Compensation	25,283	27,000	30,000
Death Benefits (Micronesian)	15,559	16,500	17,000
Social Security Benefits	...	8,500	10,000
	$226,258	$245,000	$255,000

The increase of $10,000 in FY 1971 is to provide coverage for the additional employment budgeted in FY 1971.

Transportation and Communications: FY 1970 $1,822,000, FY 1971 $2,427,000: Increase $605,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1) $+282,000	+12 U.S. + 2 Micro	$ 366,000	16 U.S. 6 Micro	To significantly upgrade the technical, training, and management capabilities of the Transportation Division.
(2) +180,000	--	1,080,000	--	To permit safe and scheduled operations of our 9 inter-island ships.
(3) +143,000	+ 3 U.S. + 1 Micro	981,000	30 U.S. 113 Micro	To maintain Communications operational level of last half FY 1970 and increase technical staff slightly.
$+605,000	+15 U.S. + 3 Micro	$2,427,000	46 U.S. 119 Micro	

Cost Factors Involved in Increases

(1) 1 port and airfield engineer, 1 marine surveyor, 1 personnel licensing and certification specialist, 1 tariff examiner, 1 air operations specialist, 1 marine electrical technician, 1 cargo and terminal specialist, 2 marine safety surveyors, 2 ship operations specialists, and 1 secretary (U.S.), along with 2 Micronesian clerks, $220,400; business travel and recruitment costs, $37,200; and supporting supplies, equipment, and services, $24,400.

(2) Government costs of subsidizing operation of 6 ships to local cooperatives and companies, of operating 3 ships, of drydocking and overhauling these 9 vessels are on the increase, $33,000; a modest store of spare parts must be maintained to allow safe operations and to avoid costly schedule delays, $67,000; and the annual revenue derived by lease of the government-owned vessel M/V Gunners Knot will be lost when it is disposed of in late FY 1970, $80,000.

(3) Services of 3 U.S. district communications chiefs and 2 central station electronic technicians were required for only last half of FY 1970, $35,800; 1 U.S. supervisory radio operator for the central control station and 2 U.S. district electronic technicians, $43,000; the cost of the July 1969 U.S. pay raise was absorbed in FY 1970, $36,300; 1 Micronesian Chief Radio Operator for Yap, $3,600; and normal salary increments for U.S. and Micronesian ongoing staff, $28,800; and a small decrease in support requirements, $-4,500.

Need for Increase:

(1) Significantly upgrading the technical, training, and management capabilities of the Transportation Division, $282,000: The Transportation Division has for years tried to cope with just about the full range of sea and certain

air transportation activities with but a skeleton staff. As late as FY 1969, the maximum staff had been two Americans and two Micronesians. FY 1970 staffing provides only four U.S. professionals, two Micronesian professionals, and two Micronesian clerks. In FY 1970, the responsibility of formulating road construction programs was added to that of air and sea transportation activities and facilities. The Division is responsible for the air and sea terminal facilities and their operations, navigational aides and markers, marine inspection and licensing procedures, development of tariff schedules, routes, and rates. It compiles and maintains statistical data on transportation activities. It is administratively responsible for the operations of three Government-owned field trip vessels as well as providing general supervision over the operations of six Government-owned field trip vessels operated by private shipping firms. It is far beyond the capacity of the FY 1970 authorized staff to contain this multitude of technically demanding responsibilities. Terminal operations are inefficient. Ships are not properly maintained and kept seaworthy and safe. Annual drydocking and repair is more costly than it needs to be. Harbor operations are inefficient. Vessel crews, stevedores, and allied personnel are inadequately trained, examined and licensed. Proper revenues are not collected because of the absence of up-to-date tariff schedules or the failure to interpret existing ones accurately. An increase of $282,000 is requested to significantly strengthen the Transportation function by adding 11 U.S. professionals, 1 U.S. secretary and 2 Micronesians to the staff.

(2) To permit safe and scheduled operations of our 9 inter-island ships, $180,000: The Territorial Government owns a fleet of nine field trip vessels. Four of these vessels were built in 1944 and are increasingly difficult and costly to retain in class for safe and efficient operations. The amount of cargo and number of passengers to be transported are steadily on the increase. With the existing fleet, it will not be possible in FY 1971 to step up shipping schedules, much less to meet the current demands for frequency of vessel call. An increase of $180,000 is requested to maintain the FY 1970 rate of drydocking and general overhaul and to meet the immediate needs for a safe and scheduled operation in FY 1971, namely to simply keep the old fleet going.

(3) Maintaining Communications operational level of the last half FY 1970 and increasing technical staff slightly, $143,000: The Trust Territory's modernization of its communications system will be virtually complete in FY 1970 (except for needed new teletypewriter equipment). Specialists (5 U.S.) brought on in mid-FY 1970 must be retained and more specialists (3 U.S., 1 Micro) must be brought on in FY 1971. An increase of $143,000 is requested to fund the staff required to operate the system in FY 1971. The new highly sophisticated equipment requires a large initial complement of Americans to operate and maintain it and to train Micronesians in a programmed U.S. phase-out scheduled to start in 1972.

Activity	FY 1970 Estimate	FY 1971 Estimate	Increase + Decrease -
7. Transportation and Communications:			
a. Transportation Office	$ 84,000	$ 366,000	$+282,000
b. Sea Transportation	900,000	1,080,000	+180,000
c. Communications	838,000	981,000	+143,000
Total	$1,822,000	$2,427,000	$+605,000

The geographical distribution and the isolation of these islands make transportation and communications a vital support service to accomplishing any of the political, social, educational, and economic objectives of the Trust Territory.

The Congress of Micronesia has stated the importance of this program. Also the people of Micronesia through their District Legislatures and Municipal Councils have expressed their desire to have this program accelerated. The following quote from the Report of the Committee on Government Organization, July 1969, summarizes the feeling of some of the Micronesians toward this:

> "In the first place, transportation and communications are the activities on which we must rely to link the widely dispersed islands and the people that make up the Trust Territory. Unless these two activities are performed adequately, the citizens cannot make their wishes known to their government, cannot receive services from that government, and cannot even consult together on public questions. It is necessary to speak of transportation and communications together; either one by itself would be only a partial connecting link."

Transportation and Communications activities were merged from two existing departments and are now under the general supervision of a Director of Transportation and Communications who is responsible for the coordination of air, land and sea transportation and the communications system activities and related facilities.

a. Transportation Office:

FY 1970 $84,000, FY 1971 $366,000: Increase $282,000

A total of $366,000 is required to support the Transportation Office in FY 1971, an increase of $282,000 over FY 1970.

Under the general supervision of the Director of Transportation and Communications, the Chief of Transportation Division is responsible for the formulation of programs relating to air, land, and sea transportation activities. This office is also responsible for the air and sea terminal facilities and their operations, navigational aides and markers, marine inspection and licensing procedures, development of tariff schedules, routes, and rates. It also compiles and maintains statistical data on transportation activities. In addition, this office is administratively responsible for the operations of three field trip vessels as well as providing general supervision over the operations of six Government-owned field trip vessels operated by private shipping firms. This is far beyond the capacity of the presently authorized transportation staff of four expatriate and four Micronesian employees. Terminal operations are inefficient, ships are not properly maintained, seaworthy and safe (see also Sea Transportation below). Annual drydocking and repair is more costly than it should be. Harbor operations are inefficient. Vessels crews, stevedores, and allied personnel are inadequately trained, examined

and licensed. Proper revenues are not collected because of the absence of up to date tariff schedules or the failure to interpret existing ones accurately. Major strengthening in the Transportation function is mandatory.

The proposed program for FY 1971 will be to upgrade the transportation services of all existing major harbor and airfield terminals. Tariff schedules will be reviewed and updated to insure proper collection of revenues. To meet these objectives, it is proposed in FY 1971 to add a port and airfield engineer, marine surveyor, personnel licensing and certification specialist, tariff examiner, air operations specialist, marine electrical technician, cargo and terminal specialist, secretary (local hire), two marine safety surveyors, and two ship operations specialists. These will be field workers and not central office administrators. The initial year's cost for this expansion, together with funds for two Micronesian clerical positions and related support costs is $282,000.

Staffing:	FY 1970	FY 1971
	4 U.S. Civil Service	16 U.S. Civil Service
	0 U.S. Contract	0 U.S. Contract
	4 U.S. Total	16 U.S. Total
	4 Micronesians	6 Micronesians

The increase of $282,000 includes $214,800 for 12 additional U.S. positions, within grade increases, benefits and the July 1969 pay raise; $5,600 for two additional Micronesian clerical positions and benefits; $15,200 for travel and transportation of persons; $22,000 for recruitment, repatriation and home leave; and $24,400 for supporting equipment, supplies and materials and printing costs.

b. Sea Transportation:

FY 1970 $900,000, FY 1971 $1,080,000: Increase $180,000

A total of $1,080,000 is required to support the Sea Transportation in FY 1971, an increase of $180,000 over FY 1970.

Sea Transportation is essential to maintaining the ongoing function and future development of the Trust Territory. Other transportation methods (roads and aircraft) complement the use of ships, but they cannot fulfill the function of moving the vast amount of produce, material, and passengers among the approximately 100 inhabited islands. The number of sea passengers more than doubled between 1968 and 1970 (9,800 to 25,000) and cargo transported increased from 160,000 tons to 230,000 tons. Between 1970 and 1975, passengers are expected to triple (25,000 to 80,000) and cargo will increase from 230,000 tons to 360,000 tons.

Sea Transportation in the Trust Territory with improved logistic shipping became effective September 1, 1968, with Marine Chartering Service of San Francisco. The contract calls for linkage with United States West Coast ports and direct linkage with Japan and other Far Eastern ports. Inter-island shipping is accomplished through a fleet of nine ships owned by the Territorial Government, six operated by Micronesian shipping companies.

Inter-island Fleet: The fleet has two types of functions: commercial and administrative. The commercial function includes transporting the produce of the islands to distribution points (seven major ports) for export and bringing consumer products to the people. The administrative function includes transportation of administrative people, doctors, educators, agriculturists, as well as the

transportation of mail and supplies and materials, such as construction materials, that are needed to carry out the programs of the Trust Territory Government. The response to emergencies -- medical evacuations or surface search and rescue missions -- is also a part of the administrative function of the fleet.

The quality of daily life and the rate of economic development in district centers and outer islands are closely related to the frequency and the reliability of ship service. Copra production is a major example; presently the people do not cut and dry copra unless and until they know that a ship is due to arrive and is actually on the way. Why? If they prepare the copra too soon it will mold before it is picked up by a ship. Adherence to ship schedules is erratic because any routing may be (and is) altered to meet medical evacuation or other urgent administrative needs. Reliable ship service would greatly increase copra production. Scheduled frequency of ship visits now ranges from approximately every six weeks for the Ponape District to every fourteen weeks for the Marshalls District. The effectiveness of the sea transportation system depends upon the total amount of cargo and passengers transported and upon the frequency and reliability of ship calls. These factors are dependent upon: (1) cargo capacity of the ships; (2) ability of commercial ships to keep on schedule without being diverted for administrative services, e.g., emergency medical evacuation; (3) reduction "down-time" for repair and maintenance of ships; and (4) condition of harbors and docks in relation to efficiencies of loading and unloading.

The existing inter-island fleet consists of seven ships which are used primarily for hauling passengers and commercial cargo (consumer goods and produce, e.g., copra) and two ships which are primarily used for administrative purposes. Four of these ships were built in 1944 and are of an age where down-time is frequent and costly in terms of drydock and maintenance outlays and in terms of unreliable schedules of calls. All but one of the ships are single hatch design, requiring that loading wait until the ship has completed any unloading. Single hatch ships cause delay at each call, resulting in a longer interval between calls. Under the present operating conditions, ships on commercial schedules must be diverted often to carry out administrative chores, such as medical emergency evacuation, again causing unreliable scheduling.

A typical example of the problem imposed by too few vessels serving approximately 14,000 people at 50 separate and distinct points is outlined as follows for the Marshall Islands. The distances are in revenue mileage and they represent the distance between the islands. For instance, the Southern field trip's 545 total mileage represents: from Majuro to Jaluit, 130 miles; Jaluit to Kili, 35 miles; Kili to Namorik, 90 miles; Namorik to Ebon, 70 miles; Ebon to Majuro, 220 miles, etc. (See Table I.)

Currently there is only one vessel (the M/V MILITOBI) making the field trips in the Marshalls. She will try to maintain the following transit times. (This does not include in-port time to discharge copra and load trade goods and administrative cargo. This varies from three days to a week depending on dock space and weather.)

Southern Field Trip	14 days
Central Field Trip	14 days
Western Field Trip	20 days
Northern Field Trip	15 days
Eastern Field Trip	15 days
	78 days

It will take the MILITOBI more than three months before she can resume her servicing schedule. This is too long a time for the people on the outer islands

to wait for the field trip vessels. This information shows how badly an additional vessel is needed to assist the MILITOBI in the field trip operation. Without the MIECO QUEEN, and with the RALIK RATAK being chartered by the Micronesian Interocean Line, Inc., the Trust Territory is really hurting for field trip vessels.

In order to restore the inter-island fleet to an acceptable standard of vessel safety and reliability, the higher rate of drydocking and general overhaul begun in FY 1970 must be continued at least through FY 1971. In prior years, the annual drydocking of all vessels, which is requisite for all vessels, and especially for the older ships operated in Trust Territory waters, was not accomplished because of lack of funds. The consequence is that a more general overhaul of engine room, navigational and deck equipment is required. It is desired not to repeat FY 1969 experience when three vessels were tied up for one to five months.

Five intra-district vessels(M/V MILITOBI,M/V KASELEHLIA, M/V YAP ISLANDER, M/V TRUK ISLANDER and the M/V RAN ANNIM) and one lagoon boat, the M/V FEIOCH, are operated by local Micronesian shipping cooperatives and companies and are subsidized by the Trust Territory Government in order to provide essential movement of mail, people, copra and material among the islands of given district. Subsidy costs are estimated at $400,000 to cover operational losses by the operator/contractors. Yearly drydocking and overhaul costs for all vessels is estimated at $300,000.

At present, two administrative-service vessels (M/V JAMES M. COOK and M/V HAFA ADAI) and the M/V PALAU ISLANDER are operated by the Government at total annual operating costs of $360,000 and $20,000 for routine maintenance.

Four of the vessels were built in 1944 and are increasingly difficult and costly to retain in class for safe and efficient operations. More frequent break-down and subsequent down-time will impair the continuous operation so vital in meeting the social, educational and economic needs of the out-islands population. The increase of $180,000 in FY 1971 will permit an operational level to meet the immediate needs for a safe and scheduled operation without any significant increase in service.

Staffing: No Manning Levels

c. Communications:

FY 1970 $838,000, FY 1971 $981,000: Increase $143,000

A total of $981,000 is required in FY 1971 for Communications, an increase of $143,000 over FY 1970.

A modern communications system is vital in the Trust Territory to inter-connect the approximately 100 inhabited islands with District Centers and Headquarters. The modernization program, begun in FY 1969, will be virtually complete in FY 1970. The new system is designed to meet the needs of the Trust Territory administration, the private and business sector, and the requirements of the National Communications System of the Department of Defense.

The Communications Division is responsible for the operation and maintenance of the communications system which consists of six major communications stations and 239 small radio stations. The six major facilities are located in the six district centers: Majuro, Marshall Islands; Ponape, Eastern Caroline Islands; Truk, Eastern Caroline Islands; Saipan, Mariana Islands; Yap, Western Caroline Islands; and Koror, Palau, Western Caroline Islands.

The major stations form a closely integrated network communicating with each other through common radiotelephone and radioteletype networks. Each station is equipped with facilities for communicating with aircraft, shipping, out-island, and internal point-to-point. All maintain a 24-hour guard on a number of frequencies including international distress frequencies. Radio beacons are a part of each station furnishing navigational assistance to all ships and aircraft transiting the area.

The Saipan station acts as a central relay and control station for the relay of traffic to and from outside points, to the district stations and between districts. The Saipan station transmit and receive capabilities are divided into three trunks serving the district centers, plus one trunk, a multiple channel troposcatter system, terminating in the Federal Aviation Administration station at Guam and the military joint overseas switch at NCS Guam. The trunks are: Saipan to Koror and Yap; Saipan to Ponape and Truk; Saipan to Majuro; and Saipan to Guam. A landline teletype connects the control station to Headquarters and to other activities on Saipan.

Single sideband voice and teletype links all the districts to the Saipan control station. A Saipan interconnect provides voice switching, district to district, district to Guam, and district into the Saipan telephone system. The Saipan to Guam link provides multiple channel teletype and telephone into FAA, Fleet Weather Central, RCA, Navy Communications Station and our Liaison Office.

The 239 small radio stations serve a population estimated at 44,500 on remote outer islands and communities throughout the Territory. Of these 239, eighty are 100-watt single sideband transmitter/receiver combinations.

During the years immediately following the installation of the new Trust Territory communications system, a comparatively large complement of American specialists will be required to operate and maintain the new highly sophisticated equipment and to train Micronesians in a programmed U.S. phase-out which is scheduled to begin in 1972. To operate the system in FY 1971 and to meet increased service requirements brought about by the addition of fifteen stations to the outer-islands single sideband network, it will be necessary to add two supervisory electronic technicians (Palau and Truk stations) and one supervisory operator (Saipan control). Also added will be one Micronesian Chief Radio Operator in the Yap station. These added positions will bring the total staff to 30 U.S. and 113 Micronesian personnel.

Staffing:	FY 1970	FY 1971
	27 U.S. Civil Service	30 U.S. Civil Service
	0 U.S. Contract	0 U.S. Contract
	27 U.S. Total	30 U.S. Total
	112 Micronesians	113 Micronesians

The increase of $143,000 includes $126,400 for U.S. salaries. This provides for the new positions, within grade increments, full funding for positions partially lapsed in FY 1970, the pay raise of July 1969, and the personnel benefits applicable. Micronesian compensation shows an increase of $21,100 to cover the new position, scheduled promotions, within grade increases, and benefits. Other increases including $21,900 for supplies and materials, $12,800 for equipment, and $1,000 for freight are more than offset by a reduction of $36,300 for other services and $3,900 for recruitment, repatriation and home leave.

Office of the District Administrator
Marshalls District

TABLE I

DISTANCES IN MILEAGE BETWEEN ISLANDS IN THE MARSHALLS

ATOLL	NUMBER OF STOPS	MILEAGE	FIELD TRIP DURATION
SOUTHERN FIELD TRIP			
Jaluit	3	130	
Kili	1	35	
Namorik	1	90	
Ebon	2	70	
Majuro	1	220	
Total		545	Approx. 14 days
CENTRAL FIELD TRIP			
Ailinglaplap	5	150	
Jabat	1	45	
Namu	3	68	
Lib	1	35	
Ebeye, Kwajalein	2	50	
Majuro	1	235	
Total		583	Approx. 14 days
WESTERN FIELD TRIP			
Ebeye	1	235	
Ebadon and Arbwe	2	68	
Ujae	1	150	
Lae	1	30	
Wotho	1	80	
Rongelap	1	80	
Ujelang	1	360	
Majuro	1	635	
Total		1,638	Approx. 20 days
NORTHERN FIELD TRIP			
Ebeye	1	235	
Likiep	1	120	
Ailuk	1	45	
Utrik	1	60	
Mejit	1	85	
Wotje	2	65	
Majuro	1	160	
Total		770	Approx. 15 days

EASTERN FIELD TRIP

ATOLL	NUMBER OF STOPS	MILEAGE	FIELD TRIP DURATION
Aur	2	80	
Maloelap	4	40	
Arno	6	135	
Mili	4	65	
Majuro	1	85	
Total		405	Approx. 15 days

Public Works and Utilities: FY 1970 $5,129,000, FY 1971 $5,984,000: Increase $855,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1) $ +67,000	+ 6 U.S. + 7 Micro	$ 624,000	31 U.S. 21 Micro	To increase the reliability of plans and estimates.
(2) +465,000	+ 1 U.S. + 2 Micro	3,690,000	45 U.S. 710 Micro	To upgrade the standards of operation and maintenance of Government facilities.
(3) +323,000	+ 3 Micro	1,670,000	10 U.S. 235 Micro	To upgrade utility systems, including power, water, sewer, and telephone.
$+855,000	+ 7 U.S. +12 Micro	$5,984,000	86 U.S. 966 Micro	

Cost Factors Involved in Increases

(1) 1 Chief of Planning, 1 secretary, 3 planning officers to work in the districts, 1 planning draftsman, 4 Micronesian management interns, 3 Micronesian clerk typists, $87,100; U.S. pay raise and within grade increases, $23,900; other increases of $14,700 are offset by reductions in recruitment, $39,500; equipment, $16,700; and other services, $2,500.

(2) 1 U.S. and 2 Micronesian positions added plus U.S. pay raise and within grade increases for ongoing staff, $118,800; supplies and materials, $231,000; equipment, $128,400; and other object classes, $-13,200.

(3) 3 new Micronesian positions, the U.S. pay raise and within grade increases for ongoing staff, $33,600; equipment, $97,200; supplies and materials, $194,700; and other object classes, $-2,500.

Need for Increase:

(1) To increase the reliability of plans and estimates, $67,000: The Planning Division is shown here as an increase only because in FY 1970, this activity was budgeted in the Capital Improvement Program. This activity is needed to site new facilities, to assure that all factors affecting the construction are considered in the estimates, to act as professional staff to District Administrators and District Planning Commissions, and to work with District Legislatures in implementing master plans and in designing building codes.

(2) To upgrade standards of operation and maintenance of Government Facilities, $465,000: Trust Territory budgets have never provided the funds necessary to properly maintain buildings and equipment. In this humid climate, salt spray from the ocean and coral dust from the roads cause rapid deterioration. The increase requested will provide supplies, materials, and equipment to alleviate some of the problems and will provide funds for training Micronesian employees in proper operation and maintenance.

(3) To upgrade utility systems, $323,000: The utility systems throughout the Trust Territory are in poor condition. Some of our present water and sewer systems were originally built by the Japanese, others were built by the U.S. Navy shortly after the war. All have deteriorated due to neglect. The growing urban population and the need for sanitation make it necessary to correct this situation immediately. The funds requested will provide needed supplies, materials, and equipment to start upgrading those water and sewer systems that cannot be replaced in the near future. Those telephone lines that have not been replaced are in the same deteriorated condition. On Saipan, overseas phone calls come in "loud and clear" to the RCA station in Chalan Kanoa, but cannot be relayed past that point because of the poor condition of local lines. Proper maintenance is required to restore these telephone lines to a useable condition.

Activity	FY 1970 Estimate	FY 1971 Estimate	Increase + Decrease -
8. Public Works and Utilities:			
a. Public Works - Engineering and Administration	$ 557,000	$ 624,000	$ +67,000
b. Public Works - Operations and Maintenance	3,225,000	3,690,000	+465,000
c. Public Works - Utilities	1,347,000	1,670,000	+323,000
Total	$5,129,000	$5,984,000	$+855,000

The Department of Public Works and Utilities, headed by the Director of Public Works, is responsible for the planning, implementation and administration of the Capital Improvement Program of the Trust Territory Government and the operations and maintenance of all government-owned facilities in the six districts.

The administration of the above programs is carried out by personnel specialized in all engineering disciplines, i.e., architectural, structural, mechanical, civil, electrical and sanitary, with required draftsmen, surveyors, technicians, estimators and specification writers, etc.

a. Public Works - Engineering and Administration:

FY 1970 $557,000, FY 1971 $624,000: Increase $67,000

A total of $624,000 is required for Public Works - Engineering and Administration in FY 1971, an increase of $67,000 over FY 1970.

The Public Works Engineering and Administration Activity is responsible for the administration and supervision of the operations and maintenance of the government-owned physical plants, the public utilities and other public works facilities. The administration of contracts falls within the jurisdiction of this activity (jointly with the Department of Finance).

Emphasis in FY 1971 will be placed on intensive planning for the construction of infra-structure throughout the Territory with increasing implementation of the Capital Improvement Program. The costs of the newly established Division of Planning, which was formerly budgeted within the Capital Improvement Program, are now incorporated within the budget of this activity.

In FY 1971, 6 U.S. and 7 Micronesian positions will be added, bringing the total staffing to 31 U.S. and 21 Micronesians. The increase in U.S. positions is due to the newly established Division of Planning within the Public Works Engineering and Administration Activity. The new positions consist of a Chief, four planners and a secretary. Micronesian new positions are 4 management interns and 3 clerks for Planning.

This Division will regularize the heretofore haphazardly or not-at-all performed pre-engineering and determination of project appurtenances (utilities, access, site treatment, land acquisition, etc.). Firm and reliable cost estimates will replace hasty guesstimates and project proposals will be assured to contain estimates of all factors. Previous project guesstimates have frequently been embarrassingly wide of the mark because little or no pre-authorization investigation was performed and/or major cost elements in a completed package were either undiscovered or ignored.

Staffing:	FY 1970	FY 1971
	19 U.S. Civil Service	19 U.S. Civil Service
	6 U.S. Contract	12 U.S. Contract
	25 U.S. Total	31 U.S. Total
	14 Micronesians	21 Micronesians

The increase of $67,000 includes $111,000 in personnel services and benefits for the costs of 6 U.S. and 7 Micronesian additional positions along with normal step increases for the continuing staff of 25 U.S. and 14 Micronesians. Other increases are travel and transportation, $13,200; printing and reproduction, $800; and supplies and materials, $700. These specific increases are partially offset by decreases of $39,500 in recruitment, repatriation and home leave; $16,700 in equipment; and $2,500 in other contractual services.

b. Public Works - Operations and Maintenance:

FY 1970 $3,225,000, FY 1971 $3,690,000: Increase $465,000

A total of $3,690,000 is required for Public Works - Operations and Maintenance in FY 1971, an increase of $465,000 over FY 1970.

Under this activity is included the maintenance and operation of government-owned buildings and facilities consisting of schools, quarters, hospitals, office buildings, warehouses and garages; maintenance of roads, streets, airfields, docks and port facilities; maintenance and operation of refrigeration plants; repair and maintenance of automotive and heavy equipment; and the operation and maintenance of boat transportation services. Services to private contractors and the general public are provided when such services are not available through private commercial sources.

Emphasis in FY 1971 will largely be the upgrading of the standards of maintenance along with the Micronesian personnel. The quality of maintenance and operation within the Trust Territory is well below acceptable standards of Government facilities in the United States. At least 75% of the government-owned buildings and facilities were constructed shortly after World War II. Primarily, these are quonset huts or other metal type buildings. Under the climatic conditions in this area these metal and temporary buildings are extremely vulnerable to the highly corrosive conditions in Micronesia and also to the frequent tropical storms and typhoons. These factors, coupled with the high prevalence of termites which attack all wooden members of buildings, contribute to an extremely high maintenance activity.

The following table lists the Government facilities covered under the Operations and Maintenance Activity. It will be clear from an examination of the unit cost figures that maintenance levels are presently too low. Work is in progress to establish realistic standards and costs of maintenance.

Facility Description	Area or No.	Maint. Cost/Unit	Annual Total
Elem. Schs. (750 Classrooms)	760,000 S.F.	.30	$ 228,000
Sec. Schs. (150 Classrooms)	300,000 S.F.	.30	90,000
Hospitals (440 Beds)	90,000 S.F.	.40	36,000
Dispensaries (98)	95,000 S.F.	.20	19,000
Admin. Offices (8 Locations)	110,000 S.F.	.30	33,000
Dental Clinics (6 Locations)	8,500 S.F.	.30	2,500

Facility Description	Area or No.	Maint. Cost/Unit	Annual Total
Govt. Quarters (610)	650,000 S.F.	$ .30	$ 195,000
Constabulary Buildings	12,000 S.F.	.20	2,400
Court Houses	6,000 S.F.	.30	1,800
Public Works Buildings	145,000 S.F.	.10	14,500
Hotels	12,800 S.F.	.30	3,800
Fire Stations	6,000 S.F.	.10	600
Agriculture Buildings	53,000 S.F.	.20	10,600
Communications Buildings	15,000 S.F.	.30	4,500
Warehouses	290,000 S.F.	.10	29,000
Vehicles (3/4-Ton and Under)	300 Ea.	500.00	150,000
Vehicles (Over 3/4-Ton)	175 Ea.	1,000.00	175,000
Heavy Equipment	200 Ea.	1,500.00	300,000
Miscellaneous Equipment	500 Ea.	100.00	50,000
Airfields	7 Ea.	23,000.00	161,000
Docks	9 Ea.	7,000.00	63,000
Roads	300 Miles	300.00	90,000
Garbage and Refuse Collection	9 Loc.	20,000.00	180,000
Grounds	500 Acres	100.00	50,000
Custodial and Janitorial Serv.	200,000 S.F.	.20	40,000
Appliance Repair	Lump Sum/Dist.	15,000.00	90,000
Boat Operation and Maint.	6 LCU	20,000.00	120,000
Boat Operation and Maint.	200 Misc.	200.00	40,000
Refrigeration	6 Plants	24,000.00	144,000
Air Conditioning	1,200 Units	75.00	90,000
Capital Equipment Purchase	Per District	80,000.00	480,000
Supervision and O.H.:			
U.S. Employees	45		538,000
Micro. Clerical and Supv.	70		175,000
Micro Craftsmen and Operators	640	(Cost included in unit cost)	
Training - Travel and Expenses			83,300
Total Operations and Maintenance			$3,690,000

The FY 1971 staffing consists of 45 U.S. and 710 Micronesians, an increase of 1 U.S. and 2 Micronesians over FY 1970.

Staffing:	FY 1970	FY 1971
	14 U.S. Civil Service	14 U.S. Civil Service
	30 U.S. Contract	31 U.S. Contract
	44 U.S. Total	45 U.S. Total
	708 Micronesians	710 Micronesians

The increase of $465,000 includes $118,800 in personnel services and benefits for 2 additional Micronesian positions and 1 U.S. position including the cost of normal step increases for ongoing staff of 44 U.S. and 708 Micronesians. Other increases are supplies and materials, $193,500; POL, $37,500; equipment, $128,400; travel and transportation, $2,000; and $19,800 in other related services. These specific increases are partially offset by $35,000 decrease in recruitment, repatriation and home leave.

c. Public Works - Utilities:

FY 1970 $1,347,000, FY 1971 $1,670,000: Increase $323,000

A total of $1,670,000 is required for Public Works - Utilities in FY 1971, an increase of $323,000 over FY 1970.

The utility systems throughout the Trust Territory are in poor condition. Water and sewer systems in all districts were originally constructed by the Japanese prior to World War II or by the U.S. Navy after the war. In some locations, water systems constructed by the Japanese many years ago are still in use. Owing to the lack of funds for materials and qualified technicians over the past 20 years, these systems have been allowed to deteriorate. The water and sewer systems are entirely inadequate as to capacity and operational standards.

Steps are now being taken to upgrade the utility systems including water, sewer, power and telephone. A program of power, water and sewer expansion is now underway throughout the Territory which will improve and extend these services throughout the district centers and sub-centers, and to provide support for the expected development of the Micronesian economy.

At the district centers, the Trust Territory Government provides utility services not only to Government facilities, but also to commercial establishments, churches, church schools, and to some private residences within reach of the utility installation. The extent of these services varies in different districts depending upon the size and capacity of the utility installed. With the exception of Saipan, the utility service is limited to the area within two or three miles of the district administration area.

The following table lists the utility systems that will be in operation during FY 1971 and the required cost of adequate maintenance and operation:

System Description	Size or No.	O&M Unit Cost	Annual Total
Power Generation (11 Locations)	16,500 KW Capacity 50,000,000 KWH Produced	.019 KWH	$ 950,000
Power Distribution	110 Miles	300	33,000
Wells	15 Ea.	1,500	22,500
Pumping Stations	18 Ea.	1,500	27,000
Storm Sewers	15 Miles	300	4,500
Sanitary Sewers	23 Miles	500	11,500
Water Lines	130 Miles	500	65,000
Water Treatment Plants	6 Loc.	30,000	180,000
Telephone Systems	6 Loc.	5,000	30,000
Telephone Lines	20 Miles	300	6,000
Capital Equipment Purchase	Per District	20,000	120,000
Supervision and O.H.:			
U.S. Employees	10		112,500
Micro. Clerical and Supv.	25		48,000
Micro. Craftsmen and Operators	210	(Cost included in unit cost)	
Training - Travel and Expenses			60,000
Total Operations and Maintenance of Utilities			$1,670,000

In FY 1971, three Micronesian power plant operators will be added. There will be no change in U.S. staffing. With the 3 additional Micronesian power plant operators, the staffing in FY 1971 will include 10 U.S. and 235 Micronesians.

Staffing:	FY 1970	FY 1971
	4 U.S. Civil Service	4 U.S. Civil Service
	6 U.S. Contract	6 U.S. Contract
	10 U.S. Total	10 U.S. Total
	232 Micronesians	235 Micronesians

A significant increase is in supplies and materials. Supply shortages have frequently caused serious delays in restoring interrupted service. Some of this has been due to the inefficiency of maintaining inventories of materials for non-standardized facilities which the Territory has in some abundance. As new installations are put in place, the inventory of operating and maintenance supplies and materials will be increased.

The increase of $323,000 in this activity includes $33,600 in personnel services and benefits for 3 additional Micronesian positions along with the cost of normal step increases for the continuing staff of 10 U.S. and 232 Micronesians. Other increases are travel and transportation, $300; freight, $200; equipment, $97,200; supplies and materials, $194,700; and other services, $1,000. These increases are partially offset by the decrease of $4,000 in recruitment, repatriation and home leave.

B. THE CAPITAL IMPROVEMENT PROGRAM

Type of Improvement	Estimate FY 1970	Estimate FY 1971	Increase or Decrease (-)
1. Public Affairs Facilities	$ 413,000	$ 156,000	$ -257,000
2. Legal Affairs Facilities	421,000	150,000	-271,000
3. Judiciary Facilities	219,873	519,000	299,127
4. Education Facilities	4,463,832	4,525,000	61,168
5. Health Facilities	1,400,097	545,000	-855,097
6. Transportation & Communications Facilities	3,199,679	5,000,000	1,800,321
7. Resources & Development Facilities	241,732	635,000	393,268
8. Community Development Facilities	2,859,044	- 0 -	-2,859,044
9. Water, Sewerage & Power Facilities	8,069,090	10,948,000	2,878,910
10. Maintenance & Rehabilitation Facilities	500,000	550,000	50,000
11. General Support Facilities	1,058,686	1,729,000	670,314
Total	$22,846,033 1/	$24,757,000	$1,910,967

1/ Includes $2,999,033 in unobligated balances from prior years for various projects not completed and not fully obligated on June 30, 1969. $1,999,033 has been brought forward to complete projects previously authorized and funded. It was necessary to use $1,000,000 of the unobligated balances to fully fund the FY 1970 program.

Language in the Senate Appropriations Committee report (No. 91-420) supporting the FY 1970 Appropriations Bill for the Interior Department and Related Agencies (Public Law 91-98) provided that the FY 1970 Trust Territory Budget Request of $41,612,000 would be financed by $40,612,000 of new appropriation authority and $1,000,000 of the unobligated balance of June 30, 1969. Therefore, $1,000,000 of the June 30, 1969 carryover into FY 1970 was reprogrammed from the following projects to the FY 1970 Majuro Airfield:

Ponape Referral Hospital	$ 602,162.78
Marianas Airfield Runway Lighting	25,973.23
Truk Airfield Runway Lighting	59,698.80
Saipan Water and Sewer System	312,165.19
	$1,000,000.00

The effect on the prior years' authorized projects was to require cancellation of the Marianas and Truk Airfield Runway Lighting projects and to reduce the scope of the Saipan Water and Sewer project. The Ponape Referral Hospital work was nearing a standstill pending full funding of that project. In the latter case most of the $602,162.78 unobligated would not have been required until actual construction was underway.

1. Public Affairs Facilities - $156,000

Funds requested in FY 1971 will be used for the following:

a. Transmitter (10 KW), Ponape	$ 75,000
b. Radio Station Facilities	81,000
Total	$156,000

a. Transmitter (10 KW), Ponape - $75,000

The single medium capable of reaching all the people of Micronesia is radio. Currently in Ponape District the existing 1KW station covers only 60 to 70% of the approximately 19,000 inhabitants. The proposed 10KW transmitter will increase this to around 98% of the population. The funds requested are sufficient to purchase and install a 10KW transmitter as well as a 50KW emergency auxiliary generator.

b. Radio Station Facilities - $81,000

Radio station facilities in all districts need modernizing and up-dating of old equipment. The funds requested are necessary to acquire new studio equipment, emergency generators, and for minor remodeling of existing buildings.

2. Legal Affairs Facilities - $150,000

Funds requested in FY 1971 will be used for the following:

a. Police-Fire Station-Jail, Majuro	$150,000

The police-fire station-jail complex in Majuro is composed of three tiny plywood buildings constructed in the late 1940's and a garage for the fire truck. The roofs are tin. Temperatures inside the buildings are unbearable. The single thickness plywood walls and floors are separating and termite-ridden. Security depends upon prisoners' inclinations. Sentences by the court are not meted out according to the crime but according to the meager jail capacity. The $150,000 requested will be utilized to construct a completely new facility which will include office space for the various police divisions, interrogation room, etc.; an increased capacity jail suitable for human confinement; and space for garaging and storage of fire vehicles and equipment.

3. Judiciary Facilities - $519,000

Funds requested in FY 1971 will be used for the following:

a. Courthouse, Truk	$200,000
b. Courthouse, Majuro	180,000
c. Courthouse Renovations and Furnishings	139,000
Total	$519,000

a. Courthouse, Truk - $200,000

The structure currently being used as a courthouse in the District Center for the Truk Islands is a decrepit quonset hut. This building serves as the judicial center for the most populous district in the Trust Territory. The quonset has been partitioned to contain one courtroom, two judges' chambers, a clerk of courts' office and a law library.

The one courtroom precludes the possibility of hearing more than one District Court case at any one time, even though there are three District Court Judges, and demands the suspension of all District Court cases when the High Court is in session, at least four months out of the year. The two judges' chambers must serve for three permanently employed Micronesian judges and the High Court Associate Justice when he is in Truk. Confidential hearings in chambers or even private working space are impossible. The Clerk of Courts' office is far too small to adequately handle the business of this court. One court clerk, the probation officer and the court reporter have desks in a hallway that is actually part of the law library. Silence or privacy in this area of the building that is supposed to be a law library is not even attempted, partly because it also serves as a supply storeroom. This law library is intended to serve as a facility for all legal research required in the Truk District Center.

It seems superfluous to even comment on the physical condition of this quonset hut that was intended to be a temporary structure in World War II. The building is rusty; rain prohibits testimony from being heard and provides inside showers for spectators and court personnel; the inadequately sized vault demands many valuable court records to be exposed to unsafe and damp storage; and any reference to the dignity of the courts in this building is a mockery.

The need for a new courthouse was recognized some five years ago, and funds were appropriated for construction. Problems with land acquisition prevented any progress in this matter until finally the amount originally appropriated proved to be insufficient to meet the rising building costs. The FY 1971 request of $200,000 plus the $100,000 available from prior years will provide for the construction of the space needed for basic court operations. This would include two courtrooms, one for High Court and one for District Court. Minimal office space for judges, court clerks and a probation officer would be made available, as well as storage space and public restrooms.

It is a tribute to the court personnel that in spite of the working conditions described above they have continued to attempt to meet the judicial needs of the people. During the 1969 calendar year, 690 District Court cases and 42 High Court cases were heard (when it was not raining) in the present courthouse. Truk is second only to the Palau District in the number of court cases handled. The Trust Territory Judiciary has experienced a 54% increase in court cases handled over the past three years. If the courts are to keep pace with the growing population and the increasing tendency of the people to bring their problems to court for settlement, an adequate courthouse is justified.

The existing building is impractical for its function and unsound for any purpose.

b. Courthouse, Majuro - $180,000

The building which has served as a courthouse in Majuro for approximately the past seven years is a rectangular structure of wood frame and tin sides and roof. It is approximately 60 feet long by 15 feet wide. Before being converted to a courthouse, the building was a restaurant. It is hardly more than a shed. It is totally inadequate for court purposes and its continued use is disgraceful and demeans the dignity of the judiciary.

Even if we bestow the undeserved title of "courtroom" on the largest open area in this shed, a need remains for an additional courtroom. Presently, either District Court or High Court can be held at any given time.

During the calendar year 1969, 31 High Court and 201 District Court cases were heard in the single, inadequate courtroom. However, a backlog of 65 High Court and 104 District Court civil actions is currently pending. This backlog is partially the result of one court having to postpone cases while the other is in session. Two courtrooms are needed in the Majuro Courthouse.

The Clerk of Courts office is too small and poorly located to serve the public. There is inadequate working space for the clerical staff, the records that must be stored in this area, and the number of people who conduct business with this office. In addition, this office is not easily accessible to the public, and there is no possibility of improving the location in the existing building.

The Judges Chambers are inadequate. Two District Court judges and one clerk presently share one small office. This arrangement makes private hearings in chambers impossible.

The lack of safe, dry storage for valuable records and supplies hinders the efficiency of the entire court operation.

The FY 1971 request of $180,000 plus the $120,000 made available in FY 1970 would provide a courthouse to meet the basic judicial needs of the people of the Marshall Islands. Two courtrooms would allow more prompt hearing of cases. Offices for private hearings and conferences for judges and probation officers would be available. The court clerks would have facilities to enable them to properly serve the public and to safely store valuable records. Public restrooms would also be included in the construction. The construction of such a building as soon as possible is essential to the continued operation of the courts in the Marshall Islands. In fact, to anyone who has personally visited the existing building, a written justification for a new courthouse would seem superfluous.

c. Courthouse Renovations and Furnishings - $139,000

The Palau Courthouse is a concrete structure surviving from the Japanese administration. Bordered on two sides by heavily traveled dirt roads, hearings are interrupted by dust clouds and noise. A new courthouse is not planned because required renovation can be accomplished at a fraction of replacement cost.

Courthouses and offices are absent in Ebeye, Kusaie and Rota. Court is held in a vacated school room or similar area. In Rota the Judge's Chambers consist of a corner of the supply warehouse. Because such courts are not in continuous session, the principle need is for office and record spaces. These will be provided with monies requested here.

Basic office equipment in the dilapidated courthouses has really lost the battle for survival against the tropical climate. Fairly complete re-equipment of the

new and renovated courthouses with files, desks, office machines, air conditioning for record and library areas, photocopy machines, and so on, will be undertaken. In addition, bookshelves, visitor and spectator seats, benches for the judges and similar necessary amenities will be installed.

4. Education Facilities - $4,525,000

Funds requested in 1971 will be used for the following:

a.	Elementary, Trust Territory-Wide	$1,500,000
b.	Secondary, Palau	80,000
c.	Secondary, Yap	200,000
d.	Secondary, Saipan	50,000
e.	Secondary, Ponape	350,000
f.	Secondary, Truk	500,000
g.	Secondary, Marshalls	800,000
h.	Equipment - MOC, Palau	100,000
i.	Micronesian Teacher Education Center, Ponape	500,000
j.	Occupational Training Facilities, Truk and Ponape	65,000
k.	Teacher Housing	380,000
	Total	$4,525,000

a. Elementary, Trust Territory-Wide - $1,500,000

The $1,500,000 requested for Elementary, Trust Territory-Wide will fund construction of approximately 82 additional and 68 replacement classrooms at an average cost of $10,000 per classroom. Included in the estimates are the sanitary facilities and water cisterns where required.

The objective in elementary construction is to accelerate the building program by continuing to use a simpler, less expensive design that can be built by local labor with minimum supervision. There is some loss expected in building life and in aesthetics, but not in functionality and not to the point of ugliness. The gain comes in an accelerated schedule of providing new and/or adequate space where none existed before, and in the economic and developmental benefits of involving the local community in construction activity. Also, a benefit is a positive response to growing and valid objections in the Eastern Districts and in the Outer Islands concerning their relative neglect.

The forecast distribution of classrooms is as follows:

Marianas	4	A +	2	R =	6	Rooms
Marshalls	11	A +	30	R =	41	Rooms
Palau	14	A +	4	R =	18	Rooms
Ponape	19	A +	11	R =	30	Rooms
Truk	25	A +	14	R =	39	Rooms
Yap	9	A +	7	R =	16	Rooms
Totals	82	A	68	R	150	Rooms

b. Secondary, Palau - $80,000

The $80,000 requested will be used to add dormitory spaces for 50 students to Palau High School. This should meet the need for boarding facilities. The school now enrolls 609 students and is operating on an experimental trimester system. Of the 431 students attending this trimester, 37 boys and 46 girls are dormitoried. It is master-planned to reach an enrollment of a thousand students by 1978. Yet to be designed, funded and constructed are pre-vocational shops, music, fine arts, library and athletic facilities. The department plans to request funds in 1973 for this later expansion, when the disparity of facilities in the districts will have leveled off.

c. Secondary, Yap - $200,000

The Outer Islands High School will continue at Ulithi, Yap District. The $200,000 will be used there to build a dormitory for an estimated $35,000 and a cafetorium for an estimated $165,000. This school serves 218 students of which 157 boys and 22 girls are dormitoried.

The additional dormitory, of the type designed and constructed by students at Outer Islands High School, will house 50 more students, and is needed as the number of girls enrolled increases. The cafetorium will replace an open, fly-catching eating shelter, and a small, inadequate, poorly equipped kitchen facility. The students will also use the dining room as an assembly hall.

d. Secondary, Saipan - $50,000

The $50,000 requested will be used for additional collateral equipment for the vocational facilities begun in FY 70, and if possible, to begin a science suite. No facilities designed for science instruction exist at the Marianas High School. These dollars will allow us to serve approximately an additional 50 students. This new school plant master-planned to eventually house 1,300 students in grades 10-12 has now only 27 general purpose rooms. Instruction in science, homemaking, and other vocational areas remains more academic than practical. The enrollment of 498 students includes 30 ninth graders. The department provides a daily stipend of 55 cents to local families who house 93 students from the neighboring islands. It is planned to request $112,000 in FY 73 for additional structures at this school.

e. Secondary, Ponape - $350,000

The $350,000 requested for secondary facilities, Ponape, will be used to construct as much of the following as possible, depending upon local contracting, locally available materials, and labor: 10 classrooms--2 at Kusaie High School and 8 at PICS High School; 2 dormitories—1 at Kusaie High School and 1 at PICS High School; a lunch room at Kusaie High School; vocational facilities for both high schools; a power plant at Kusaie High School. These facilities will be of the simple, functional design, and will allow for an increased enrollment estimated at 350 students.

f. Secondary, Truk - $500,000

The $500,000 requested for Truk District will be used to construct two additional dormitories on Moen. On Satawan, we will add three classrooms, and three vocational instruction spaces, a dining room/kitchen facility, and two dormitories;

and at the post elementary school on Ulul, two additional classrooms. These facilities will be of simple, functional design and will increase the District's enrollment in secondary schools by an estimated 400 students.

g. Secondary, Marshalls - $800,000

For construction of secondary facilities in the Marshalls District $800,000 is requested. $400,000 will be used to construct six classrooms, three dormitories, a dining hall, additional vocational educational facilities and water and sanitary facilities at Jaluit. $400,000 will be used to construct eight replacement classrooms, one additional dormitory, vocational educational facilities, offices and a library at Majuro. These facilities will be of the simple, functional design and will increase the enrollment by an estimated 300 students.

h. Equipment - MOC, Palau - $100,000

$100,000 is requested for the purchase of additional necessary tools, equipment, and furniture for the Micronesian Occupational Center, Palau. A 20% increase in transportation costs plus a corresponding increase in purchase prices has occurred since the original estimates were made in March 1968. The $300,000 made available in 1970 simply will not be sufficient to adequately equip and furnish this most important school.

i. Micronesian Teacher Education Center, Ponape - $500,000

$500,000 is requested for the first increment of construction of a new Micronesian Teacher Education Center on a new site on Ponape. The present facilities are limited and will be used for an elementary school. The first increment will include 4 dormitories, 10 classrooms, a library, offices, and feeding facilities. The design will be simple yet functional and it is intended that the present enrollment of 90 students will be doubled.

Additional funds will be requested in each of the next four years to continue expansion of this facility.

j. Occupational Training Facilities, Truk and Ponape - $65,000

The Trust Territory Farm Institute in Ponape closed in June 1968. It is planned to reinitiate a less costly post-secondary agriculture training program at this site. Thirty thousand dollars ($30,000) requested is to enlarge existing dormitories and classroom space and to make improvements in the water system. This construction will increase the capacity of the school by 30 students from its present 15 to 45.

On Truk, $35,000 will be used to construct a building containing instructional and living space for a Seamanship Training Program for 40 trainees. Half the trainees will remain ashore while the other half are on board ship.

k. Teacher Housing - $380,000

The funds requested herein will provide for the construction of at least 13 houses, completely furnished and ready for occupancy, at costs of not more than $30,000 per unit. This housing is required for new schools on the islands of Tol in the Truk District and Jaluit in the Marshalls; for additional staffing

for operating schools in Majuro, Marshalls and in Moen, Truk District; and for additional staffing for the Micronesian Occupational Center in Koror, Palau.

In recent years budget estimates have been based on individual unit costs of $20,000 or less. Every effort has been and is being made to simplify designs; reduce floor space as much as possible; build with the cheapest available materials, while maintaining minimum typhoon proofing standards in an area highly subject to most destructive typhoons; and to furnish cheaply. It is simply no longer possible to build at $20,000 per unit. Presently under construction in the six districts are nine 8-unit apartment houses (72 units in total). Favorable sites, available utilities to lot lines, confining apartments to two-bedroom size, and very modest dimensions have not prevented these units from coming in at $20,000 per unit. Final costs may, in fact, take them a shade higher. Current trends in this area would indicate these same units one year from now would be bid at least $1,000 to $2,000 higher. And our requirements in Educational housing for FY 1971 cannot be met with 8-unit apartment houses conveniently located in district centers.

5. Health Facilities - $545,000

Funds requested in 1971 will be used for the following:

a.	Hospital, Ebeye	$300,000
b.	Dispensaries	245,000
	Total	$545,000

a. Hospital, Ebeye - $300,000

The Ebeye Hospital has decayed to a point where it is no longer salvageable. In FY 1970, $200,000 was made available for its replacement. Further study, however, has shown that it is impossible to build a suitable hospital for that amount. The additional $300,000 requested here will provide sufficient funds for a modern 20-bed hospital.

b. Dispensaries - $245,000

There are presently 141 dispensaries in the Trust Territory. There are one hundred (100) dispensaries that need to be replaced or expanded. Of the existing facilities, half are squalid, dirty structures made of thatch or discarded corrugated sheeting. This is where the mass of medical care is rendered. At a cost of about $10,000 each, 24 such units can be built with the $245,000 herein requested.

6. Transportation and Communication Facilities - $5,000,000

Funds requested in 1971 will be used for the following:

a.	Roads	$1,450,000
b.	Dock, Ponape	300,000
c.	Intra-Island Ships	1,200,000
d.	Communication System	500,000
e.	Out-Island Radios	200,000
f.	Airfield, Majuro	1,250,000
g.	Warehousing	100,000
	Total	$5,000,000

a. Roads - $1,450,000

There is a total of approximately 470 miles of existing road in the Trust Territory. These range from paved roads to jeep trails. The majority of the paved roads are located on Saipan and Tinian Islands in the Marianas District and were constructed in late 1944 and early 1945 to support U.S. military activity. Whatever other paving remains in the other districts, literally a few scattered yards, is left over from the Japanese period. Most other roads are remnants of the Japanese period, and, except for sections in the immediate vicinity of the district centers, the graded courses have been washed and worn away leaving rutted and potholed base courses which are constant threats to springs and axles, if, indeed, they are passable at all.

$1,450,000 is requested for the construction, reconstruction and rehabilitation of existing roads in all districts. This work will include replacement, improvement, and installation of culverts, bridges and fords as required. The roads will generally be coral surfaced with high crowns and adequate drainage so as to meet an all weather standard.

With these funds, approximately 60 miles roads will be constructed or improved to an all weather condition. Our proposed method of accomplishment will be to purchase equipment with approximately $440,000 of this money and with the balance to award local contracts to Micronesians making the equipment available at nominal rental rates. The money derived from rental will be used to purchase fuel and provide maintenance of the equipment. In the process of this program, local Micronesians will be trained by U.S. specialists to operate and maintain this equipment as well as to learn the methods and procedures of road construction.

The road program hereby proposed will provide improvements in each district. While the exact locations for these improvements have not been definitely established, it will be determined by direct consultation with the local people, consistent with an overall master plan for each island. Insofar as funds will permit, roads will be constructed at locations which will contribute most to the development of each district.

Generally, the preliminary program intends to provide roads in the mileages listed below:

Koror	= 4 miles graded and paved (asphalt)
Babelthaup	= 8 miles graded and surfaced
Yap	= 10 miles graded and surfaced
Saipan	= 4 miles graded and surfaced 2 miles paved
Rota	= 8 miles graded and surfaced

Tinian	= 2 miles paved
Truk	= 6 miles graded and surfaced
Ponape	= 6 miles graded and surfaced
Kusaie	= 2 miles graded and surfaced
Majuro	= 8 miles graded and surfaced

b. Dock, Ponape - $300,000

$300,000 is requested to provide a 500 foot dock face in Ponape.

There are 18,000 people residing in the Ponape District. At the present time all sea borne goods and supplies to support this population must be lightered from ships to shore because of totally inadequate dock facilities and shallow channels. The average cost of the lightering operation, including the double handling, is $20. per measurement ton, which cost is passed on to the consumer. Based on an average monthly tonnage of approximately 1,600 revenue tons, which figure is based upon the past 18 months experience, 19,200 revenue tons are handled annually in Ponape. Using a rule of thumb that measurement tons average approximately two thirds of revenue tons, 12,800 measurement tons are handled annually. The cost of lightering the tonnage is $256,000 per annum. Approximately three quarters of this figure, or $190,000 per annum, will be saved by the elimination of the lighter operation.

The Ponape airfield project on Takatik Island included a causeway from that island to Ponape proper. The fill for the airfield project was dredged in such a manner as to provide a deep water channel and a large turning basin adjacent to Takatik Island. The funds requested will be used on Takatik to provide 500 feet of sheet pile bulkhead line, a concrete cap and working apron and all necessary deadmen and bollards to handle the large deepwater ships which are calling into Ponape.

A second 500 foot dock extension is planned when the cargo and shipping demands justify such extension. This project will allow rapid, low cost unloading of cargo at a considerable saving to the people of Ponape and the government.

c. Intra-Island Ships - $1,200,000

Of nine intra-island freight-passenger vessels, four are past their useful life of 20 years (built in 1944) and require replacement on that account.

It will be necessary to begin a replacement schedule in FY 1971. It is planned to provide for the construction and acquisition of two of these islander vessels immediately. The replacement vessels will be of two-hatch design, with adequate accommodations for 20 cabin and 100 deck passengers, 300-400 ton cargo capacity and with a speed of 12-13 knots. A similar vessel, the M/V MILITOBI, was constructed in 1961 and has proved suitable for the intra-island service.

The operational, maintenance and shipyard costs of continuing these World War II vessels in service becomes increasingly magnified with each day they continue to operate. Their sea-worthiness and safety are questionable as it becomes increasingly difficult to obtain appropriate certificates from the classification societies and obtain letters of inspection from the U.S. Coast Guard under the terms of an inspection agreement between them and the Trust Territory Government.

d. Communication System - $500,000

The funds requested herein are needed to provide full system teletypewriter equipment requirements for the five district communication stations and for the Saipan

Relay Station. System planning for the Trust Territory modernization program did not include additional and replacement printing equipment requirements. There were two reasons for this. Firstly, the project was engineered within the $2.4 million made available and secondly, it appeared at the time that late model teletypewriter equipment would be available from excess military sources. This equipment has not appeared.

Our modernization program will be completed in latter 1970. Increased services will require additional teletypewriter equipment. The limited amount of equipment now in use must also be replaced. This equipment has been obsolete for ten years and is worn out from continued use. Parts are all but impossible to obtain.

The teleprinter and message relay station at Saipan will be a very busy station when completed. Five multichannel teletypewriter circuits to the various Trust Territory districts will terminate in this facility as well as numerous other circuits from Guam and commercial message outlets. Teletypewriter connections to the Military as well as many local on-island circuits are also planned. Satisfactory operation of these circuits will require a high order of reliability. The circuits are not possible with present equipment.

In addition, office drops, monitor and spare equipment are necessary to achieve completely satisfactory performance from our new system. Lack of this equipment will delay message deliveries in some instances and will severely limit flexibility.

Installation of new equipment can be accomplished by Trust Territory Communication Division personnel. No additional funds are required for this purpose.

e. Out-Island Radios - $200,000

$200,000 is required in FY 1971 to fully meet immediate out-island radio requirements.

A total of 239 small radio stations serving a population of 44,500 are located throughout the Trust Territory on outer islands. The radios are of two types, short range units for communicating with population centers and long range units communicating with district centers.

Our primary concern is the provision of adequate long range equipment. A total of 80 long range stations consisting of 100-watt single sideband radio transceivers and small diesel generators meet the needs of 30,000 people residing in remote locations. An additional 15 stations are needed.

Seventy of the 80 stations operate without backup equipment. Failure of a radio or of an associated power supply results in a lengthy communication outage. No contact with the island or repairs to the radio are possible until such time as a field trip vessel arrives. This service is infrequent, ranging from six weeks to two months on the average. Medical emergencies, epidemics, natural disasters and food shortages can and do occur. Adequate radios are essential in order that the islanders may seek emergency assistance.

The funding requested will provide the backup requirements for the 70 stations lacking backup equipment, the equipment needed for the 15 new stations, and a modest stock of spare units together with a comprehensive stock of electronic repair components.

f. Airfield, Majuro - $1,250,000

$1,250,000 is requested to complete the second of four increments of a new airfield in Majuro. These funds are additional to the $1,216,000 made available in FY 1970.

The level of FY 70 funding was premised on improving, lengthening and realigning the existing airfield. However, subsequent to the FY 70 budget request the Master Plan for Majuro atoll was completed and it brought to light certain critical considerations in respect to the location of the facility. There are currently 4,500 persons living within the urban area of Majuro. This population is expected to increase to 11,000 by 1985. There are 505 acres in the urban area and very little opportunity for expansion. In its present location, if the airport were upgraded to meet minimum safety standards, the airport alone would consume 136 acres of ground, or 27% of the urban area. Furthermore, it would effectively shut off expansion of the urban area to the south and west.

With these facts in hand, a feasibility study was commissioned on a possible relocation of the facility. This study, done by an outside agency, recommended strongly for the relocation as being in the best interest of the community and the government. On the basis of the master plan and the feasibility study it was decided to relocate the facility to Rairok Island.

These funds will provide a 7,000 foot airfield in Majuro in operational condition, but lacking night lighting, terminal facilities, and some advanced navigational aids which will be requested in third increment funding at a later time.

g. Warehousing - $100,000

The $100,000 requested for FY 1971 will be utilized to expand present terminal buildings, provide greater security measures and increase copra and freight capacity at selected locations in the Trust Territory.

Existing terminal warehouses in all seven major ports as well as all smaller ports served by field trip vessels are small, out-dated, poorly located, or non-existent. In FY 1970 currently under construction with prior year funding are modest terminal warehouses at Ebeye and Kusaie. In addition with FY 1970 funding more substantial and additional terminal warehouses should be under construction shortly.

Revenue tonnage moving from the United States West Coast, from the Far East, and on the inter-island service has increased from 160,000 R/T in FY 1968 to an estimated 230,000 R/T in FY 1970. Open "storage," weather, multiple handling damage, pilferage, long discharge and turn-around time, escape from import tax obligations because of inability to conduct customs inspections result in non-availability of items, higher prices to ultimate consumers, and loss of domestic revenue.

District-wide warehousing is needed at selected points within lagoon areas for dry, rat-free storage. Presently the intra-island vessels make stops to pick up a few bags of copra at seven locations within a lagoon. One or two warehouses will be constructed at these selected points where copra can be purchased and stored until the arrival of the inter-island vessels. Small lagoon boats will pick up within the lagoon and deliver to the marshalling warehouses.

7. Resources and Development Facilities - $635,000

Funds requested in 1971 will be used for the following:

a.	Agriculture Equipment	$165,000
b.	Marianas Truck Garden Project	250,000
c.	Agriculture Facilities	100,000
d.	Marine Laboratory, Palau	120,000
	Total	$635,000

a. Agriculture Equipment - $165,000

Agriculture equipment needed for the promotion of commercial agriculture production is presently practically non-existent,especially in rice production. It has taken nearly 5 years to put 100 acres of paddy land into production with the use of machete, pick and shovel. With the use of machinery it is planned to get 50 acres of new paddy land into production each year for the next several years. This will be increased to 100 acres per year as techniques are improved and more farmers become involved in rice farming. Each additional 50 acres will produce 200,000 pounds of milled rice valued at about $35,000. Each 50 acres will provide a higher living standard for approximately 100 people. The cost for rice production machinery, which includes a large rice mill and building, is $100,000.

The Marshall Islands produce over one half of Trust Territory copra, (7,000 tons); their potential is 100% over present output. Part of the increased production can be accomplished by filling in the bomb craters on Mili Atoll made by U.S. bombs in World War II, development of roadways and replanting the island with selected coconut seedlings. Mili presently exports 300 tons of copra annually; its potential is 800 tons valued at $120,000. We expect to replant 200 acres per year over the next five years which would complete the planting. A bulldozer and lagoon workboat will cost $37,500. This would benefit 200 people living on the atoll.

The Marshall Islands need additional support to increase copra production. Due to infrequent and unreliable field trip service to the 30 scattered atolls, agriculture extension has difficulty in providing adequate services to the people. Therefore, a 45-foot inter-island boat will be procured to enable the extension personnel to provide better and more efficient technical management support. This will include transporting trained extension staff, seednuts, supplies and materials for replanting, and copra warehouse construction. With this boat, at least 1,000 more farmers will be provided technological services. The formation of atoll copra producers cooperatives will also be greatly assisted by this boat. The Copra Stabilization Board is funding a cooperative specialist to work under the direction of the Agriculture Division in organizing these cooperatives. Cost of this boat is $25,000.

A balance of funds (which may or may not become available by virtue of the Trust Territory's recently acquired access to excess military equipment) is needed to provide vehicles for the extension service.

b. Marianas Truck Garden Project - $250,000

The islands of Tinian, Saipan and Rota have some of the most productive soils in the Trust Territory. But due to typhoons and high incidence of pests and disease during the rainy season and the long dry season from January to June, these islands have not produced vegetables to their maximum potential of reliable quality and quantity. The most favorable time for vegetable production is from December to June if there is a sufficient supply of irrigation water. All three islands have

adequate sources of water that can be exploited for the purpose of crop irrigation. A major market for truck crops exists on Guam and a potential market in Japan for selected vegetables during the winter months. Rota is 40 miles from Guam and air freight is two cents per pound while surface freight is one cent per pound. Also military aircraft from Guam will come to Tinian, Saipan and Rota and pick up the produce at no cost. After quarantine problems are resolved with Japan, selected vegetable shipments can be made on MILI ships as they pass through Saipan on a regular schedule. After complete development of this project, approximately 400 acres would be under irrigation. Preliminary estimates by University of Hawaii engineer and horticulturist calculate a cost of $1,000 per acre for capital investment for irrigation systems (excluding cost of warehousing-packing sheds and coolers) and a possible gross return of $10,000 per acre from vegetable production, plus additional benefits from livestock production.

With these initial funds for a total $800,000 Marianas project, irrigation can be provided to 170 acres of land. On each of the three islands, the funds will be expended on: well drilling, pumps, distribution systems, reservoirs, coolers, warehouses, and packing sheds. This will also provide water for livestock operations on Tinian where the bulk of 1971 effort will be devoted. Approximately 400 people will be served in this initial increment with possible gross income of $1 million when in full production.

c. Agriculture Facilities - $100,000

Since a typhoon hit Rota several years ago, the Agriculture Department has been operating out of makeshift facilities and the equipment has been stowed outside near the village area. There are no facilities for even minimal office operations, storage of fertilizers and pesticides or the maintenance of tractors, implements and vehicles. The Rota facility will provide a base of operation to serve 1,500 people of the island. An equipment-warehouse-toolroom-office complex, estimated to cost about $25,000, will be constructed in the farm area near the airport to provide quicker and more efficient service to the farmers and also facilitate air shipment.

Kusaie Island has a population of close to 4,000 inhabitants. Agriculture has been trying to provide minimal service from thatch roof buildings and tin covered wood frame shacks for the past 10 years. These buildings need to be replaced with something more substantial which is commensurate with modern technology in farming. This building complex (warehouse-office-toolroom-equipment-nursery), estimated to cost $30,000, will be the base of operations for the provision of extension and demonstration services to the farmers of Kusaie. The nursery will provide plant materials (especially budded citrus), the toolroom and equipment shed will provide farm tools, chain saws, roto tillers and small hand tractors for farmer use. None of these services are now available. For a large island population, Kusaie has been neglected more than any similar group of people in the Trust Territory.

The Ponape Agriculture Department is now situated in a three-story antiquated concrete building which has been declared unsafe for occupancy. Furthermore, Agriculture has only one small room, the rest being occupied by Land Management and the District Legislature. Ponape Agriculture is one of the Trust Territory Agriculture Division's largest and best operations now underway; they have no space for classroom-demonstration-meeting rooms, limited office area and storage space. The new office-classroom building, estimated to cost $35,000, will serve the whole Ponape District farm population (18,000) more effectively and efficiently. Meetings and demonstrations with farmer groups can be carried on in the new building; the training, discussions and demonstrations for extension personnel can be conducted more effectively, whereas they must now meet in the equipment shed or the warehouse.

The Metalanim Forestry Station at Ponape (formerly TT Farm Institute) has had only old tanks to catch water for domestic use for the past 20 years. They are on the

verge of complete deterioration and need replacement with permanent tanks, lines and pumps at an estimated cost of $10,000. The Forestry Station will be used as a training center for forestry personnel for the Ponape District.

d. Marine Laboratory, Palau - $120,000

$120,000 is requested for the initial phase of the Tropical Marine Biological Laboratory at Koror (Malakal), Palau. The initial phase includes the detailed planning, engineering work, and the required utilities. The second phase, the construction of the laboratory, is estimated at $656,000, with that funding to be requested in FY 1972.

The Trust Territory's 3 million square miles of ocean, the reefs surrounding, and the coral fringed lagoons of some 2,000 islands potentially have enormous resources but their extent is unknown. It has been estimated that from these waters there could be harvested over $10 million worth of marine products annually. The establishment of the Tropical Marine Biological Laboratory will enable the Territory to foster the expansion of knowledge of phenomena in and related to the inshore and offshore waters of the Territory; to provide access to the world's richest biotic province at a particularly favorable place; to provide suitable research and housing facilities for visiting scientists from the United States; to undertake long-range applied and basic research projects development; improvement, conservation and management of the marine resources of the Territory. The basic plan of operation contemplated for the laboratory is directed toward making it largely self-sustaining from a financial standpoint.

8. Community Development Facilities - $-0-

No funds are requested in FY 1971 for Community Development Facilities.

9. Water, Sewerage and Power Facilities - $10,948,000

Funds requested in 1971 will be used for the following:

a.	Water and Sewerage, Yap	$ 1,920,000
b.	Water and Sewerage, Moen	3,768,000
c.	Water and Sewerage, Ponape	2,630,000
d.	Power, Trust Territory-Wide	2,630,000
	Total	$10,948,000

a. Water and Sewerage, Yap - $1,920,000

The present Yap water system, consisting of three concrete cisterns and serving an 80-bed hospital, a school, some commercial establishments, a Catholic Mission and about 200 people in Colonia town out of a total population of 1,890, is inadequate to meet the present daily demand of the system, and totally inadequate for expansion by 900 percent to meet the normal daily requirements of the unserved 1,700 people. The collected water is filtered and conveyed through inadequately sized and badly conditioned transmission lines and distributed to the limited points of usage. Pipe lines are in such poor repair that line losses average fifty percent.

Raw and fresh water storage is grossly and dangerously inadequate. Yap is subject to at least four and often ten consecutive weeks of drought, which often necessitates stringent water rationing and water deliveries. Presently, there is no water available for fire flows.

No sewerage system exists on Yap, except for several raw sewerage outfalls into Colonia Harbor from septic tanks serving the hospital, Yap Hotel, the administration building and Trust Territory staff houses. These outfalls, with many private over-the-water latrines, have polluted shallow Colonia Harbor to such a degree that much of the shoreline is black in appearance and malodorous. Pollution standards limit coliform concentration to 3,000 MPN (Most Probable Number) per 100 milliliter sample. Samples around Colonia, Yap measured 24,000 MPN per 10 milliliter sample. This is gross pollution! The Colonia area walks a tightwire between health and epidemic. The hepatitis epidemic which swept the Trust Territory in 1967-1968 was first reported in Yap.

Of the $1,920,000 requested, $1,120,000 is estimated to provide water sources sufficient to supply the projected 1,990 Yap population. The FY 1971 program will include installations of booster pumps, adequate transmission and distribution lines, and fresh water storage capable of serving Colonia Town and the adjacent Yapese communities.

Additionally, $800,000 is estimated to provide the construction of sewerage facilities to Colonia Town and areas where water is to be immediately extended. The proposed FY 1971 program consists of (1) construction of gravity and force main sewerage collection system with chlorination facilities, and (2) a deep water outfall sewer in the Colonia area. Sewage will be treated and outfalled beyond the harbor.

b. Water and Sewerage, Moen - $3,768,000

The Truk water system presently serves the District Administration area only; an area comprising but a small portion of the district center island of Moen. The main source of water for the existing system is a 91 acre catchment supplemented by ground water pumped from two deep wells, both in poor condition. Much of the transmission lines, laid above ground and subject to tampering, are inadequately sized and are in poor repair. Fresh and raw water storage are so grossly inadequate that during periods of low rainfall, available water is not sufficient to meet even the minimum requirements of the District Administration personnel. Schools have been forced to close due to water shortage. Additional facilities under construction and to be constructed, particularly the new and larger District Hospital (130 beds), and four new dormitories for the high school, will greatly increase the water supply demand and places the Truk Administration area in a very critical situation.

A sewage collection system for the Truk District Administration area does exist. Collected sewage, however, is only temporarily diverted into an inadequately sized septic tank and outfalled raw into shallow and constricted Pou Bay. With sewage from the new hospital and hotel now under construction, the present system will be

inadequate and will present a potentially highly dangerous situation. The majority of the population of Moen has settled in villages along the western portion of the island where no sewerage facilities exist. These villages (Neauo, Mwan, Iras, and Michitiu) have very high population concentrations making sanitary sewage handling and disposal a primary health concern. High population densities, often greater than 100 people per acre (large quantities of sewage), impermeable soil, and a high water table preclude the usage of "individual" disposal systems and land disposal methods. Sewerage treatment and outfalling will be necessary in these highly populated areas.

Of the total $3,768,000 requested, $2,000,000 is the estimated cost to provide new water sources adequate to supply the total eventual population of Moen. The proposed program includes construction of distribution reservoirs, diversion dams and intakes and will provide adequate transmission lines to the District Administration area, the heavily populated western side of Moen, and the southern tip (new hotel site). Reservoirs have been included to provide necessary fire flows and fresh water reserve.

An estimated $1,768,000 is required to implement and carry out the FY 1971 sewerage program for Truk. The program consists of (1) rehabilitation and extension of sewage collection system; (2) construction of lift stations and treatment plant to remove solids and pathogenic bacteria; and (3) construction of a subaqueous outfall.

An additional $1,800,000 will be required in FY 1973 to complete the construction of water and sewerage facilities adequate for the immediate needs of Moen.

c. Water and Sewerage, Ponape - $2,630,000

No meaningful water facilities presently exist on Ponape. Government distributed water, serving only the administrative area and a handful of Ponapeans, is presently obtained from a rainwater catchment off an old Japanese fighter strip and from a standby pump on the Tawannu River. The rainwater collected is conveyed in an open ditch (coliform count of 21,000 MPN) to a single 210,000 gallon reservoir, inadequately filtered, and conveyed to the administrative area for distribution. Nearly all transmission and distribution pipelines are laid above ground and consist of galvanized steel or war emergency Rainbird welded steel pipe, badly rusted, encrusted and of insufficient size to serve even the few services connected to it. Fresh water storage is so inadequate that although Ponape is water rich (200 inches average of rain per year), critical water shortages occur during the relatively short dry season.

Existing sewerage facilities, mostly inadequate and in poor repair, serve only the administrative area, the hospital, and Catholic Mission. The untreated wastes are dumped into the shallow, protected reef area around Kolonia peninsula. These outfallings, along with private over-the-water latrines, have created extremely offensive conditions along much of the shoreline used for recreation, fishing, etc. Coliform counts consistantly range from 10,000 MPN at clearer areas to 4,100,000 MPN in areas adjacent to the outfalls. Morbidity and mortality rates from fecal-borne diseases among the Ponapeans, as a result, are high.

A total of $1,580,000 is required to provide for the installation of the major portion of the basic facilities from which a total water service can eventually be provided. Specifically, the water program will provide for the development of new water sources, adequate to provide sufficient water for the projected 1995 population of Ponape. Sufficiently sized transmission lines from these sources to a newly improved treatment plant and thence to major distribution centers (areas of high population densities, the new medical center proposed for the future, and the

administration area) have been provided. Reservoirs have been included to provide necessary storage and fire flow reserves.

An estimated $1,050,000 will be required for rehabilitation and extension of the existing sewerage facilities. Raw sewage will be treated and adequately outfalled to eliminate all dangers from pathogenic sewage.

An additional $2,200,000 will be required in FY 1972 to complete the construction of major water and sewerage facilities for Ponape.

d. Power, Trust Territory-Wide - $2,630,000

Estimated usage of the FY 1971 Power funding request is as follows:

District	Central Station Area	Outer-Islands
Marianas	$ 550,000	$ 25,000
Marshalls	350,000	150,000
Palau	300,000	75,000
Ponape	325,000	75,000
Truk	280,000	125,000
Yap	300,000	75,000
Total	$2,105,000	$525,000

\During the calendar year 1971 computed electrical demand for the entire Territory will increase by 2,800 KW. Retirement of obsolete and worn out generators will require replacement units totalling another 2,500 KW. Generators of standard capacities, totalling 8,000 KW, must be purchased to make up the deficit, provide back-up equipment, and allow adequate lead time for deliveries. The cost of installation, building and switchgear facilities and the necessary distribution lines for Central Station power in FY 1971 is estimated at $2,105,000. This funding will make it possible to extend facilities to meet the impact of expanding commercial and public facilities in the district centers. In addition, the expanded line facilities will provide electricity for an additional 600 Micronesian families.

There are 14,000 people (15% of the population of the Trust Territory), living on 9 outer islands, for whom the utility of electricity is only a dream. These people send more than 3,000 children to 32 schools having an aggregate total of 120 classrooms, and are served by 34 dispensaries. None of these facilities have any electricity. The CIP Power program must be enlarged and adjusted to reflect this requirement if our commitment to the people of Micronesia is to be met. By establishing a nucleus of power (e.g. 2-50 KW generators) at these schools and/or dispensaries, the economy of refrigeration, the efficiency of pumped water and the social value of lighting can be brought to the people for approximately $25,000 per installation. The concept could grow from such features as a small refrigerator building adjacent to the school and a pumped, community water source, to the more sophisticated needs that would develop in future years. Power development begun on a modest basis is the first step toward economic growth. These minute systems would provide a powerful stimulant to achieving the goal of self-sufficiency. The $525,000 requested for Outer-Islands power will be utilized for selected island power development on 9 outer islands in all districts at an average cost of $25,000 per installation.

10. Maintenance and Rehabilitation Facilities - $550,000

Funds requested in 1971 will be used for the following:

a. Heavy Construction Equipment	$350,000
b. Emergency and Minor Construction	200,000
Total	$550,000

a. Heavy Construction Equipment - $350,000

$350,000 is required in FY 1971 to continue the program of establishing a basic pool of Heavy Construction Equipment in the Trust Territory. This amount will replace some more of the equipment inherited from the military more than 20 years ago that is still being pressed into service at excessive cost and with great loss of time and efficiency. The increasing and accelerating construction, improvement, maintenance and development programs require modern and efficient heavy equipment for their success.

The local economy still cannot afford items of heavy construction equipment. Therefore, in order to encourage self-help projects and to foster the development of entrepreneurial skills, this equipment is made available to local Micronesian government agencies at rates that cover out-of-pocket costs of operation. This equipment is also made available to construction contractors on a rental arrangement that covers all costs in order to reduce costs of construction. Without equipment for rent, a contractor would tend to include the cost of its purchase, transportation and operation with attendant mark-ups for mobilization, overhead, and profit in his bid price on a project. In effect, the Trust Territory Government might more than pay for the equipment without owning it and having it available for further use after the completion of a construction project by private contract.

b. Emergency and Minor Construction - $200,000

$200,000 is required in FY 1971 for Emergency and Minor Construction in the Territory. Even under ideal conditions, the best of planning and programming cannot provide for all of the unforeseen contingencies and emergencies beyond routine maintenance functions that invariably occur and require prompt reaction in order to prevent higher losses and expenses if deferred. In this area of high humidity, rapid corrosion due to action of salt water and atmosphere, and prevalent termite infestation, this situation is all the more valid and requires a nominal fund for emergency type projects of a capital nature.

In addition, public facilities are often damaged or destroyed as a result of tropical storms which are not of sufficient magnitude to warrant a request for assistance under the Federal Disaster Act. In such cases, these funds will give partial assistance to permit immediate reconstruction.

11. General Support Facilities - $1,729,000

Funds requested in FY 1971 will be used for the following:

a.	A&E Revolving Fund	$ 480,000
b.	Staff Housing	649,000
c.	Civic Action Teams	600,000
	Total	$1,729,000

a. A&E Revolving Fund - $480,000

The A&E Revolving Fund was officially established within the 1970 Supplemental Appropriation in the amount of $300,000. The additional funds requested in fiscal year 1971 in the amount of $480,000 are to increase the size of this fund until a Fund of $1,500,000 has been established.

The purpose of this Fund is to provide financing for advance engineering work so as to enable the Government to move ahead with more realistic planning and estimating of future work. Included in this advance engineering work are feasibility studies, master planning of areas which were not included previously or of specific sites such as high schools, hospitals, airfields, port facilities, roads, etc. Also included, as may be required, are advance surveys, easements, land acquisition, soil investigations and preliminary plans and drawings.

When this Fund is fully in operation, this Government will be in a position to furnish supporting data and estimates for Capital Improvement projects submitted annually to the U.S. Congress. It is not intended for final design and engineering work for projects projected in the future. The plan for reimbursement of expenditures against this Fund is the inclusion of sufficient mark-up in future projects to permit the transfer of advance engineering costs to fund projects and the Fund to be thus increased to its original size as approved projects go forward.

b. Staff Housing - $649,000

The funds requested herein will provide for the construction of at least 22 houses, completely furnished and ready for occupancy, at costs of not more than $30,000 per unit. This housing is in addition to the quarters requested under Educational Facilities and is for the added staff of 50 (excludes local hires) in all the other program areas. It is anticipated that the remaining new staff of 28 will be quartered in locally leased houses. The Government is doing what it can to stimulate private industry in this area and the current outlook is for a slight increase in local housing available for leasing in FY 1971. It is hoped that within another year or so the economy will have progressed sufficiently to provide adequate housing for any additional staff.

In recent years budget estimates have been based on individual unit costs of $20,000 or less. Every effort has been and is being made to simplify designs; reduce floor space as much as possible; build with the cheapest available materials, while maintaining minimum typhoon proofing standards in an area highly subject to most destructive typhoons; and to furnish cheaply. It is simply no longer possible to build at $20,000 per unit. Presently under construction in the six districts are nine 8-unit apartment houses (72 units in total). Favorable sites, available utilities to lot lines, confining apartments to two-bedroom size, and very modest dimensions have not prevented these units from coming in at $20,000 per unit. Final costs may, in fact, take them a shade higher. Current trends in this area would indicate these same units one year from now would be bid at least $1,000 to $2,000 higher.

Our FY 1971 housing requirements cannot be met by 8-unit apartment houses. While multiple unit dwellings of varying sizes will be constructed where possible, there will be fewer units per dwelling and a need for some single unit structures. Whether single or multiple unit, we will build at as low a per unit cost as possible. Final decision on location and number of units will be made based on current data on availability of houses for lease in the six districts.

c. Self-Help Community, Water, Roads and Other Facility Development - $600,000

In recognition of the great need to extend some of the benefits of a modern infrastructure to Micronesians living adjacent to, but outside of District Centers, we are planning to continue the use of Civic Action Teams in 1971. The requested sum will provide the Trust Territory's share of the total cost for the budget year. The Civic Action Teams work at the direction of local and District leaders, on projects that the Administration could not get to in years in a regular construction program or perhaps ever. The teams are self-contained and can camp and work in remote areas without modern conveniences. They have available to them all the necessary equipment to accomplish planned projects and work effectively in training Micronesians in this self-help program. These teams are working throughout the Trust Territory on village roads, clean water sources and its distribution and other municipal and village projects. The municipalities, villages, or Districts concerned provide the necessary materials or funding therefor for use of these teams. The programs are developed by the people and accomplished on a self-help basis with the Civic Action Teams.

STATEMENT OF

REIMBURSEMENTS AND OTHER OPERATING INCOME

Source	FY 1969 Actual	FY 1970 Estimate	FY 1971 Estimate	Increase + Decrease -
Real Property Rentals 1/	$ 24,822	$ - 0 -	$ - 0 -	$ - 0 -
Concessions 1/	7,188	- 0 -	- 0 -	- 0 -
Housing Rentals 1/	10,895	- 0 -	- 0 -	- 0 -
Medical and Dental Fees	69,241	86,000	70,000	-16,000
Public Works Sales and Services	27,572	50,000	- 0 -	-50,000
Agriculture Products Sales	21,945	40,000	28,000	-12,000
Utilities - Sales of Power	65,002	105,000	99,000	-6,000
Utilities - Sales of Water	8,769	12,900	12,900	- 0 -
Utilities - Sales of Telephone	165	100	100	- 0 -
Commercial Cablegrams Income	44,864	130,000	90,000	-40,000
Other Reimbursements and Income	169,537	26,000	- 0 -	-26,000
Total	$450,000	$450,000	$300,000	$-150,000

1/ FY 1970 onwards, these revenues are available to the Congress of Micronesia for appropriation.

Saipan Utilities Agency
Operating Statement
June 30, 1969

	FY 1969 Actual	FY 1970 Estimate	FY 1971 Estimate	Increase + Decrease -
Operating Costs:				
1. Salaries - U.S.	$ 9,993	$ 15,000	$ 15,600	$ +600
2. Salaries - Micro	147,632	130,300	138,200	+7,900
3. Fuel	260,338	280,900	300,000	+19,100
4. All Others	43,649	113,600	177,600	+64,000
Total Operating Costs	$461,612	$539,800	$631,400	$+91,600
Income:				
1. Grant Fund Subsidy	$291,978	$379,800	$451,400	$+71,600
2. Revenues from Sales	169,634	160,000	180,000	+20,000
Total Income	$461,612	$539,800	$631,400	$+91,600

Saipan Trust Fund
Balance Sheet
June 30, 1969

	Prior Fiscal Years	Changes in Fiscal Year 1969	To Date 6/30/69
Assets:			
Cash on Deposit	$ 6,528	$ 5,696	$ 12,224
Time Deposit Open Account	304,717	42,523	347,240
Loans Receivable	130,000 1/	5,849	135,849
Total Assets			$495,313
Net Worth:			
Net Worth	$441,245	$54,068	$495,313
Analysis of Changes in Net Worth:			
Net Worth at July 1, 1968	$441,245		$441,245
Add: Revenue -			
Interest on Investments and Loans		$54,068	54,068
Total Net Worth at June 30, 1969			$495,313

1/ A twenty one year loan for $130,000 at three and one-half percent was made in September, 1967, to Mariana Islands Housing Authority to provide capital for financing private, low cost housing construction in Saipan.

Copra Stabilization Fund
Balance Sheet
June 30, 1969

Assets:		
Cash on Deposit	$554,726	
Time Deposit with Bank	325,000	
Due from General Fund	- 0 -	
Total Assets		$ 879,726
Liabilities and Net Worth:		
Net Worth at June 30, 1969		$ 879,726
Analysis of Changes in Net Worth:		
Net Worth at July 1, 1968	575,575	
Add: Revenue -		
Interest on Investments	15,843	
Profit on Price Support Settlement	458,832	
Other Income	385	$1,050,635
Less: Expenses:		
Export Taxes	136,575	
Freight and Handling Charges	57	
Travel and Transportation	110	
Purchase of Empty Bags	34,167	$ 170,909
Total Net Worth at June 30, 1969		$ 879,726

Economic Development Loan Fund
Balance Sheet
June 30, 1969

Assets:

Cash on Deposit	$ 320,457	
Time Certificate of Deposit	200,000	
Loans Receivable	458,959	
Accounts Receivable (General Fund)	225,000	
Total Assets		$1,204,416

Liabilities, Reserve and Net Worth:

Reserve for Loans Guaranteed	$ 106,606	
Net Worth at June 30, 1969	1,097,810	
Total Liabilities, Reserve and Net Worth		$1,204,416

Analysis of Changes in Net Worth:

Net Worth at July 1, 1968	$ 961,892	
FY 1969 Addition to Capital	225,000	
Retained Earnings - FY 1969	17,524	1,204,416
Less: Reserve for Loans Guaranteed		106,606
Net Worth at June 30, 1969		$1,097,810

Cash Available for Direct and Guaranteed Loans:

Cash on Deposit	$ 320,457	
Time Certificate of Deposit	200,000	
Accounts Receivable (General Fund)	225,000	
Less: Reserve for Guaranteed Loans	106,606	
Balance Available at June 30, 1969	638,851	

Supplemental Data on Cash Availability - FY 1970:

Cash Available for Loans at June 30, 1969	$ 638,851	
Add: FY 1970 Appropriation	150,000	$ 788,851
Less: Loans Approved 7/1 thru 11/30/69 - (1) Direct Loans	20,000	20,000
Balance Available at December 1, 1969		$ 768,851

Literature Production
Estimated Revenues and Obligations
Fiscal Year 1971

	FY 1971 Estimate
REVENUES	$200,500
Obligations by Object Classifications:	
Personnel Services - Stateside	$ 14,400
Personnel Services - Micronesian	34,500
Personnel Benefits	300
Travel and Transfer	6,400
Rental, Communications and Utilities	5,200
Other Services	6,000
Supplies and Materials	83,000
Acquisition of Capital Equipment	50,700
Sub-Total, Estimated Obligations	$200,500
Net Revenues	$ - 0 -

CONGRESS OF MICRONESIA

Pursuant to the Secretary of the Interior's Order 2882, the Congress of Micronesia was created on September 28, 1964, consisting of two Houses, the Senate and the House of Representatives. The Senate is composed of 12 Senators, two from each of the six administrative districts, elected for a term of four years. The House of Representatives is composed of 21 Representatives, elected on a population basis from each of the twenty-one Representative Districts for a two-year term. On July 26, 1968, Amendment No. 4 to the Secretarial Order was issued by the Secretary of the Interior which made several significant changes to the Order, among which are the lengthening of the annual Regular Session from the present 30 to a 45-day session beginning with the Fifth Regular Session in July 1969, and the convening of a 15-day session in January of each odd numbered year, with the first such January's session to take place during FY 1969 in January 1969. The same Amendment further provides that effective July 1, 1969, all thirty-three Members of the Congress of Micronesia are to receive an annual salary of $3,500 each, with the President of the Senate and the Speaker of the House of Representatives receiving an additional $500 each.

Section 3 of the Order, as amended, sets forth the legislative authority of the Congress of Micronesia to enact tax laws and other revenue laws, while Section 5 provides the authority to the Congress to make appropriations from such revenues. The pertinent Section 5 of the Order, as amended, reads as follows:

> "Section 5. Budget. Money bills enacted by the Congress of Micronesia shall not provide for the appropriation of funds in excess of such amounts as are available from revenues raised pursuant to the tax laws and other revenue laws of the Trust Territory: Provided, That the Secretary of the Interior shall, from time to time, define the term "revenue" as used herein, so as generally to exclude therefrom all sums attributable to user charges or service related reimbursements to the Government of the Trust Territory."

Order No. 2918, dated December 27, 1968, consolidated previous Trust Territory orders, and their amendments, into a single document. The legislative provisions, formerly contained in Order 2882 and its four amendments, are Part III of Order 2918.

CONGRESS OF MICRONESIA

SUMMARY OF APPROPRIATIONS

	Public Law Number	Fiscal Year 1970	Fiscal Year 1971
A. CONGRESS OPERATIONAL EXPENSES			
1. Senate and House Expenses		$ 270,667.50	$110,737.50
2. Legislative Counsel's Office Expenses		182,995.00	77,760.00
3. Special Session Expenses		25,000.00	...
4. Political Status Delegation		40,000.00	...
5. Joint Committee on Program and Budget Planning		7,500.00	7,500.00
Sub-Total		$ 526,162.50	$195,997.50
B. OTHER PROGRAMS			
1. TT Social Security System	P.L. No. 4-35	$ 6,000.00	$ ...
2. TT Social Security System	P.L. No. 3C-17	103,000.00	...
3. Two Dump Trucks for Yap	P.L. No. 3C-14	14,000.00	...
4. Public Facilities Improvement, Ponape	P.L. No. 3C-39	150,000.00	...
5. Public Facilities Improvement, Truk	P.L. No. 3C-41	150,000.00	...
6. Rota's Slaughterhouse	P.L. No. 3C-19	10,000.00	...
7. Public Health Station for Lamotrek, Yap	P.L. No. 3C-18	5,000.00	...
8. Palau's Sporting Facilities	P.L. No. 3C-20	75,000.00	...
9. Water Truck for Rota	P.L. No. 3C-22	12,000.00	...
10. Public Market for Saipan	P.L. No. 3C-24	30,000.00	...
11. Marianas Commercial Fertilizers Revolving Fund	P.L. No. 3C-26	10,000.00	...
12. Yap Housing Authority	P.L. No. 3C-29	40,000.00	...
13. Freezing and Chilling Facility, Tinian	P.L. No. 3C-30	15,000.00	...
14. Adibue Road, Yap	P.L. No. 3C-32	35,000.00	...
15. Bulldozer for Saipan	P.L. No. 3C-33	47,000.00	...
16. Marshalls Heavy Equipment	P.L. No. 3C-34	70,000.00	...
17. Jeeps for Marianas Agriculture	P.L. No. 3C-42	7,000.00	...
18. TT Employment Service	P.L. No. 3C-43	35,000.00	...
19. Scholarships and Other Purposes	P.L. No. 3C-23	...	200,000.00
Sub-Total		814,000.00	200,000.00
Total Appropriations		$1,340,162.50	$395,997.50

CONGRESS OF MICRONESIA

ESTIMATED REVENUES BY SOURCE

Source	FY 1969 Actual	FY 1970 Estimate	FY 1971 Estimate	Increase + Decrease -
1. Public Law No. 3-22				
Business Licenses	$ 18,628	$ 20,000	$ 22,000	$ +2,000
Gasoline and Diesel Fuel Tax	38,280	40,000	40,000	- 0 -
Copra Export Tax	68,241	70,000	70,000	- 0 -
Scrap Metal Export Tax	7,071	8,000	8,000	- 0 -
Import Taxes	580,710	640,000	700,000	+60,000
2. Public Law No. 2-16 as amended				
Nomination Fees - C of M Elections	720	- 0 -	- 0 -	- 0 -
3. Other Revenues				
Unimproved Land Rentals	24,121	26,000	29,000	+3,000
Improved Real Property	- 0 -	26,000	30,000	+4,000
Concessions	- 0 -	8,000	10,000	+2,000
Resident Housing	- 0 -	10,000	10,000	- 0 -
Fines, Forfeitures & Penalties	21,829	22,000	25,000	+3,000
Court Fees	5,882	9,000	9,000	- 0 -
Corporation Income (Mobil Oil Co.)	82,000	82,000	82,000	- 0 -
Miscellaneous Licenses and Permits	632	2,000	2,000	- 0 -
Sub-Total Revenues	848,114	963,000	1,037,000	+74,000
Unallotted and Unobligated Balances Available for Reappropriation Forwarded from Prior Years	216,576	197,149	- 0 -	-197,149
Unallotted and Unobligated Balances Available for Reappropriation to Following Year	-197,149	- 0 -	- 0 -	- 0 -
Appropriated or Estimated to be Available for Appropriation	$867,541	$1,160,149	$1,037,000	$-123,149

UNEXPENDED AND UNOBLIGATED BALANCES

Mrs. HANSEN. Please insert in the record your unexpended and unobligated balances as of June 30, 1969 and January 31, 1970.

(The information follows:)

TRUST TERRITORY OF THE PACIFIC ISLANDS

UNEXPENDED AND UNOBLIGATED BALANCES

	June 30, 1969	Jan. 31, 1970
Unobligated balances	$3,338,266	$28,339,296
Unexpended balances	15,019,770	43,279,192

REDUCTION IN BUDGET TO MEET AUTHORIZATION CEILING

Mrs. HANSEN. Your budget estimate of $60 million exceeds the current authorization by $10 million. There is a possibility the new authorizing legislation will not be enacted by the time this committee is ready to report out the appropriation bill.

I think it would be well for you to place in the record, by activity, how the reduction of $10 million should be allocated.

Mr. JOHNSTON. That will be done.

(The information follows:)

REDUCTIONS TO REMAIN WITHIN CEILING AUTHORIZATION

The effect of failure of the Trust Territory ceiling authorization for fiscal year 1971 being raised from $50,000,000 to $60,000,000 can be seen in the following catalog of activities or projects which, as presently contemplated, would be removed from the fiscal year 1971 program. As hurtful as these cancellations would be, the harmful impact is by no means restricted to the simple dropping or postponement of these programs. To drop from the proposed sixty million to the present ceiling of fifty million would entail, in the eyes of the people of Micronesia, some reneging by the United States on its publicly announced commitment to build a rudimentary infrastructure base for economic development, provide universal and equal opportunity for 12 years of education throughout the Territory, and prepare the foundation for self-government in Micronesia.

The following activities would be dropped from the fiscal year 1971 program of the Trust Territory ceiling is not increased. The schedule represents what is presently contemplated. Some minor changes might be made in the event, depending on whether or not access could be had for some activities (for example teaching English as a second language) to other Federal agency funds.

Education (TESL), $485,000.—Removes formal English language instruction from the public schools under the Trust Territory funding schedule.

Elementary education operations, $214,000. Cuts education supplies (schoolroom books, etc.) to the pre-1970 level and retards development of schoolroom materials tailored to Micronesian (as against continental North American) environment.

Occupatinal training $175,000.—Reduces adult worker training programs mainly in construction trades designed to offset, at least partially, the importation of alien labor on major projects by about 90 trainees; may cause the dropping of the Seamanship Institute.

Water and sewerage, Moen Island, $1,250,000.—This 30 percent reduction in the Moen project will foreclose, at least temporarily, the provision of potable water and waste disposal facilities to about 1,000 of the people of Moen. Moen has been regularly subjected to water shortages necessitating the periodic closing of schools and the close rationing of water to other public and private consumers. Moen is the "capital" island of the Truk District, the most populated district of the trust territory.

Water and sewer project, Ponape, $2,630,000.—The Kolonia population of 3,700 retains a polluted open ditch water supply or individual roof catchments sys-

tem. Untreated wastes from Kolonia Town will continue to be dumped along shores where coliform counts range from 10,000 MPM to 4,100,000 MPM (PH limit is 3,000). Epidemics of hepatitis, etc., are now prevented largely by the special mercy of Almighty God.

Power, Saipan, $500,000.—Prevents acquisition of 2,250 kilowatt generating capacity needed to increase that capacity by 42 percent to meet a load forecast up to 26 percent in 1972 from 1970 and to introduce some now almost nonexistent standby capacity. The alternative is power rationing or refusal of services.

Power, Outer-Island, $300,000.—Will cut out about twelve villages in the nondistrict center islands from their power program. For them, electricity for homes and schools will continue to be a dream.

Employee staff housing, $544,000.—Cuts into operating programs by foreclosing the employment of 18 to 25 expatriate experts to guide the development of Micronesia. Needed professional personnel in construction inspection, business stimulation, and such programs cannot be employed unless and until quarters are available.

Police station-fire station-jail, Majuro, $150,000.—The law enforcement and property protection equipment and personnel will continue to be housed in a rotting-rusting plywood and tin "complex" of three 15 x 15 shacks.

Elementary school construction, $350,000.—Removes 35 classrooms from fiscal year 1971 program.

Secondary school, Marshall Islands, $400,000.—Where only 25 percent of the eligible elementary graduates may now attend because there is no space for them, a cut would both deny opportunity and preserve the existing imbalance in opportunity compared with the three western districts of the trust territory.

Micronesian Occupational Center, Koror, $200,000.—The nonconstruction of dormitories will keep 120 students from enrolling in this keystone institution for vocational training. The nonpurchase of shop machinery will prevent needed instruction from being offered.

Micronesia Teacher Education Center, Ponape, $500,000.—Elementary school teacher needs require an enrollment of 200, but the present facility, now exceeding capacity with 90 students, will be continued as it is squeezed on to an elementary school "campus."

Communications system, $200,000.—Continuing the use of slow antiquated teletypewriters in a new, modern high speed radio network would be an anachronism seriously comprising the purpose of the new system.

Medical referrals, $50,000.—By tight screening and barring personal financing, some 30 patients would be denied referral for special surgery or treatment in Guam or Hawaii.

Road construction, $502,000.—This would reduce fiscal year 1971 road program by 30 percent. Roads must become the prime commercial and social intraisland artery. Of trust territory "primary roads", 31 percent are not passable at any time, only 13 percent can be driven at 25 m.p.h. or more, 89 percent are not paved and 61 percent are less than 16 feet wide.

Out-island radio communications, $100,000.—30,000 residents of 70 odd outer islands are linked to their district and trust territory headquarters by the thin and fragile media of "portable" SSB radio. An outage means a temporarily "lost" island precipitating "search and rescue" operations. The reduction would eliminate 35 backup radios and 15 new stations.

Inter-Island Ship, $600,000.—Basic interisland sea transportation is now provided by a "fleet" of seven regular interisland vessels, one per district except for the Marshalls. Elimination of this purchase will necessitate continuing in use an unsafe, small capacity, slow, and expensive to operate 25-year-old vessel (the MV Palau Islander). Breakdowns at sea and expensive annually required repair should no longer be tolerated.

Fisheries, $80,000.—The MV Emeraich will be discontinued as a training vessel for commercial fishing.

Agriculture, $300,000.—This will eliminate extraterritorial training of Micronesians in commercial agriculture, will cancel proposed feasibility studies and operations planning for particular commercial agriculture projects, including probably the postponement if not prohibition of mounting commercial rice production in Ponape. This latter is considered vital to relieve the now total dependence on imported rice.

Community development, $20,000.—The director-coordinator to expand and

develop boy and girl scout programs would be eliminated—particularly hurtful during a period of growing juvenile delinquency.

Architectural and engineering design fund, $300,000.—Reduces to $180,000 the fund available for planning projects in advance of appropriation, delays construction and provokes fund carryover problems.

Engineering services, $50,000.—Reduces travel and construction inspection, thus placing the Government in the position of not exercising proper surveillance over its capital improvement programs.

Secondary school operation, $100,000.—Teaching positions in the secondary schools would be reduced by about ten faculty members.

INCREASES REQUESTED

Mrs. HANSEN. Mr. Commissioner, $36.6 million was appropriated in 1969; $51.4 million in 1970, and you are requesting $60 million for 1970. Program administration and operating costs increased from $20 to $28 to $35 million. Capital improvement costs increased from $9 to $19 to $24.5 million. This is a rather ambitious program.

USE OF FISCAL YEAR 1971 FUNDS

Can you assure the committee that you have the manpower and facilities available to use all the funds you are requesting for 1971 in a practical and efficient manner?

Mr. JOHNSTON. Yes, ma'am.

Mrs. HANSEN. That is a guarantee?

Mr. JOHNSTON. That is a guarantee.

Mr. LOESCH. I may say, Madam Chairman, the Department will take part of that guarantee.

Mrs. HANSEN. The funding has always been far better than the performance in the Trust Territory.

Mr. LOESCH. We understand that, Madam Chairman.

Mr. JOHNSTON. I was warned about that before I ever went out there.

Mr. LOESCH. The High Commissioner and I have discussed the matter and we are convinced we are not going to have any June 30 contracts this year and, furthermore, if we are a little overcommitted at the end of June this year, he and I have agreed to pick up the deficit.

Mrs. HANSEN. Performance is what the committee wants. In the total national budget, $60 million is not a large sum, but $60 million of nonperformance is an indictment of your efficiency.

OBLIGATIONS OF FUNDS

Mr. NOSEK. If I may make a few remarks, it will show the picture is not dark and has been brightening the past year and will become brighter in the future. In the fiscal year 1969, there were $25.7 million for capital improvements.

At the end of the year, every penny of that was obligated or committed. I understand there is a misunderstanding at this level or some level here where it is believed we have money left over. In construction you must have some money in reserve for contingencies.

Mrs. HANSEN. The committee understands that.

Mr. NOSEK. And for inspection of contract construction.

When you have only a million dollars or so out of $25.7 left over, that is very little. We are going ahead and I am sure we will go ahead in 1971.

TRAINING PROGRAMS

We are training the people. If you look in the budget here, you will see we have a rather insignificant amount, yet it is substantial, $50,000 or $60,000 for training. In the past 2 years just in the public works field, the people who do the work, we sent 90 men to special schools; this is something apart from education. We have everybody working with us.

The East-West Center at Honolulu is training automotive mechanics successfully. We had three one year, nine the next year. We are working with the U.S. Navy at Port Hueneme, sending men to study industrial safety.

This is in construction and the Navy does do a good job there. I am sure.

Also, outboard motor mechanics. We still rely on our sea transportation, the small boats, for the interdistrict transportation, and we need trained men there. We send them there. We have arrangements with a private firm in Honolulu to train mechanics on heavy equipment. Our Micronesians go there and they are paid the prevailing salary. They run into a little difficulty in unions. They thought they could pay them low, but they said no, the regular salary.

When the man goes there, he is learning a trade and at the same time he is learning what it feels like to be an American earning an American salary.

Last year we sent four men to the Auto Electric Co. in Chicago, Ill., to study communications. We are finally putting in some telephone communications in the districts. All we had was the left-over Navy, rather decrepit, equipment. The telephone systems are slow coming in because it takes 12 to 18 months to get the automatic switchboard and allied equipment.

We have taken care of two districts, one of which did not have telephone communications, Yap and Koror systems, in other districts are being repaired, including Saipan, next year. Soon we hope to get the other three districts.

Mrs. HANSEN. I criticize a Department which has been in existence for 121 years and has not established a task force to meet current situations and solve the problems in the Trust Territory.

If you sat on this committee for 8 long years and listened to the promises and then had the report on nonperformance, you would want something more than just pleasant words.

USE OF CARRYOVER BALANCES

I am sure you realize why the committee asks for carryover balances.

If you do not show carryover balances the committee does not get the complete picture of the progress made in certain programs especially with regard to construction.

PERSONNEL CONSTRAINTS

The committee is deeply interested in personnel. I think the people should understand that if Congress authorizes 25 positions and budget constraints are put into effect to allow only 20 positions, that is not the fault of the Congress or the planning agency, but the fault of the Bureau of the Budget.

This is the type of situation this committee confronts year after year.

HIGH COMMISSIONER'S OFFICE STAFFING

Three of the U.S. positions in the Office of the High Commissioner were lapsed in fiscal year 1970, but apparently will be reactivated in 1971.

Why is this being done?

Mr. JOHNSTON. If I might make a comment for the record Madam Chairman, the Office of the High Commissioner, the way it is defined in this budget document includes some of the directors of the departments who are on one of our pay scales.

Mrs. HANSEN. Will you insert in the record those positions?

Mrs. JOHNSTON. Yes.

It includes the High Commissioner, the Deputy High Commissioner, the executive officer, the secretary to the High Commissioner, secretary to the Deputy High Commissioner, secretary to the executive officer, the administrative assistant secretary, the director of finance, and his secretary, the director of resources and development and his secretary, and the director of public affairs and his secretary.

Remembering that these people held departments with several hundred employees in them, they are not actually assigned to the Office of the High Commissioner but, because they are under Federal civil service rather than contract employees, they are listed as under the Office of the High Commissioner.

DUTIES OF HIGH COMMISSIONER'S STAFF

Mrs. HANSEN. Give us an example of some of the director's responsibilities.

Mr. JOHNSTON. The director of finance has three divisions, the division of accounting, the division of automatic data processing, and the division of procurement and supply, and he performs many of the functions formerly performed by this catchall position of commissioner of administration, performs all of the functions of the fiscal management of the Trust Territory government.

The director of resources and development has five very important divisions in his department—economic development, agriculture, marine resources, labor and land.

Mrs. HANSEN. Is he actually in charge of the supervision of all of the programs under these categories?

Mr. JOHNSTON. That is correct.

He is a member of the High Commissioner's cabinet and is responsible for those areas.

The director of public affairs has in his department the division of political education, public information, publications, radio broadcasting, and so on.

DIVISION OF POLITICAL EDUCATION

Mrs. HANSEN. What does your division of political education, encompass?

Mr. JOHNSTON. Political education is educating the people of Micronesia in the process of government in general, how their government operates at the various levels and so on; encouraging participation in government by participating in elections and so on.

This is an area where we are adding people and stepping up the program where we feel not enough has been done.

Mrs. HANSEN. Are the people of Micronesia responding and taking an interest in their government and its processes?

Mr. JOHNSTON. I think they are, but I believe the Members of the Congress could comment more effectively on that.

Mr. SETIK. Yes, they are.

1970 LAPSED POSITIONS

Mrs. HANSEN. What three positions were lapsed in 1970?

Mr. ALLDREDGE. Two special assistants and one secretary were lapsed in fiscal year 1970, under the High Commissioner.

Mr. JOHNSTON. These were Federal civil service positions.

BACKLOG OF COURT CASES

Mrs. HANSEN. As of November 1969, you had a backlog of 316 cases in the high court trial division. This backlog has increased from 269 in 1965. What are the causes and what are the possible remedies?

Mr. JOHNSTON. What I would like to do if I may, Madam Chairman, is to furnish the committee with an up-to-date report as of the present month. I believe the backlog has been reduced almost to zero. There have been—Mr. Melich the solicitor of the Interior Department, has just returned from a trip to the Trust Territory and looked into this entire matter and I would like to, if I may, discuss this matter with him.

INCREASE IN CRIME

Mrs. HANSEN. You had an increase in 1968, of 54 criminal cases in the high court. Does this represent better law enforcement or an actual increase in crime?

Mr. JOHNSTON. I would say definitely there is an increase in crime in Micronesia.

Mrs. HANSEN. What kind of crime?

Mr. JOHNSTON. Primarily juvenile delinquency. We are faced with the problems you inevitably have with a group of young people who finish the eighth grade. We are not able to accommodate them with high school.

Mrs. HANSEN. Do you feel that the lack of ability to get further education is one of the factors in your crime rise?

Mr. JOHNSTON. It is according to the people in the various districts definitely one of the factors. The remedies are those I think you would find in any group in any civilization that we have got to provide more jobs for them, more recreation for them, more meaningful activity for them and I think all of us in Micronesia are well aware of the problem, becoming increasingly aware of it. It will be one of our major thrusts in the coming year to try to effect some solutions to it. It has become a problem. There is no question about that.

You visit one of the jails in one of the districts and are instantly amazed at the youthfulness of the occupants of the jail. They are not mature hardened criminals, they are just kids. And the increases in crime have been among the younger segments of the population.

REHABILITATION PROGRAMS

Mrs. HANSEN. What special type of court procedures do you have for young people? Do you have any counseling or advisory services?

Mr. JOHNSTON. There are embryonic rehabilitation programs, but not what we should have.

Mrs. HANSEN. Isn't this the time to accelerate this program before the situation gets worse?

Mr. JOHNSTON. Definitely, yes. Our people are aware of it and we have not had the staff to do it at all. But it is something that we are trying to get for the very near future.

Mrs. HANSEN. What is the cost of a day in jail compared to the cost of a day in school?

Mr. JOHNSTON. I am sure even if the cost were greater in one direction, the results would be greater if we put more emphasis on rehabilitating them.

Mrs. HANSEN. In one instance you provide opportunity and in the other instance you have left a scar on a boy's or girl's record for the rest of their lives. The tragedy of the situation is that the young person of 14 or 15 is seldom aware of what the total meaning of a jail sentence will be 20 years later.

I think it is mandatory that you do a better job in the solution of crime.

Mr. JOHNSTON. We have a start on the program, we do have one juvenile officer in each of our six districts, a Micronesian, and the program has been started, we do intend to make progress with it.

Mrs. HANSEN. As your society becomes more sophisticated, is it not true that the disciplinary ability through old village concepts will decrease?

Mr. JOHNSTON. I think this has already occurred, Madam Chairman. For example, one of the traditional leaders of the Micronesians spoke with me very seriously during my last visit to Ponape district, and he pointed out that if he took the same disciplinary measures against a young person that he might have taken some years ago, he would now be hauled into court for assault and battery, and said that maybe our courts should let the parents and the traditional leaders discipline some of the young people a little bit more.

I made no comment on it at the time except that we would check into that. But already the change has started taking place that the stern disciplinary measures formerly invoked by the traditional leaders, and the parent, and the elders; many of them are illegal now.

As you say, we get more sophisticated in our court system, and our law enforcement, more of it is taken on by society and less by the family.

Mrs. HANSEN. Unless you want continued rebellion you will have to channel the young people's energies into other fields.

Mr. JOHNSTON. I might say for the record too, Madam Chairman, because it is something that we are rather proud of, that in our judiciary there are only eight Americans in the entire judiciary.

Mrs. HANSEN. How many stateside personnel do you have in your judiciary system?

Mr. JOHNSTON. There are only eight in the entire judiciary system.

Mrs. HANSEN. Are the rest Micronesians?

Mr. JOHNSTON. Yes; all of our local judges and their personnel are Micronesian.

Mrs. HANSEN. I hope when you return next year to the committee, that you will be able to tell us that you have made progress on the prevention of crime, particularly juvenile delinquency.

Mr. JOHNSTON. Yes, ma'am.

Mr. LOESCH. If I may interject, I think it is very interesting to note that our accelerated program for school construction in the areas where it needs it the most apparently will have a direct bearing on the problem you have just been discussing. There is a direct corollary, Mr. Yarberry advises me, between the availability or lack of availability of the school facilities and juvenile delinquency and this is clearly shown by statistics in the district.

So we think our school construction program will work to alleviate the problem. It will not cure it; that is for sure.

NEW TRUK HOSPITAL

Mrs. HANSEN. Your new hospital in the Truk district is scheduled to be operative in fiscal year 1971. Give us the details on the additional requirements and additional benefits which will accrue from this.

Mr. JOHNSTON. We are planning to use the new Truk hospital for a training program which will benefit all of the other hospitals in the Trust Territory.

Mrs. HANSEN. In other words, you are training health workers?

Mr. JOHNSTON. Yes, ma'am. We recently had a group of doctors from the University of Hawaii Medical School who went over to Truk and set up the basic planning. Using the Truk hospital as a base, they have quite a far-reaching plan for upgrading the training of our medical personnel so that more medical officers can become medical doctors, so that persons who are first trained as nurses, male and female, and serve as nurses for a few years can then continue their education and become medical officers.

I think it is an excellent program of upgrading the entire medical personnel. And this will start revolving around the Truk hospital.

Mrs. HANSEN. Have you received any assistance from the Indian Health Service?

Mr. JOHNSTON. We are working through region IX of the Public Health Service on all of these programs. I mentioned yesterday the Communicable Disease Center is helping us in the immunization field. We did, starting last year, get a great deal of help from region IX of the Public Health Service.

Mrs. HANSEN. We saw in the Navajo country health workers going

into the Navajo homes and explaining in very simple terms the necessity of the families participating in health programs.

Mr. JOHNSTON. This of course is all handled by Micronesians. Every one of our six district health directors is a Micronesian.

Mrs. HANSEN. In the past there has been a failure to train enough health representatives to adequately handle the number of people who need health services.

HOSPITALS AND OUT-ISLAND HEALTH SERVICES

Please justify the increase of $447,000 for hospitals and out-island health services.

Mr. JOHNSTON. The largest single increase of $270,000 is for 109 new Micronesian employees, 56 of which will be at the new Truk hospital. It includes 11 in the Marianas, seven at Palau, two at Yap, 15 at Ponape, 18 in the Marshalls, and as I said, 56 at Truk.

Another large item is $14,600 for supplies and materials.

Mrs. HANSEN. What do you do to make sure that your supplies are always available in the outer islands?

Do you keep a good inventory on hand?

Mr. JOHNSTON. One of the authorizations in our fiscal 1970 supplemental was for a half-million dollars for a revolving fund, and this is working effectively. We are getting our supplies in the district centers and they can be much more quickly sent out to the outer districts.

So that is one breakthrough we have made.

Mrs. HANSEN. Are your district headquarters equipped with adequate medical supplies?

Mr. JOHNSTON. Yes. And as we finish our dispensaries, more and more of them in the outer districts, each one of them will have adequate storage space for a small amount of medical supplies.

ISLAND DISPENSARIES

Mrs. HANSEN. How many dispensaries do you have and on how many islands? In 1960, 1965, and 1970, what percent of the population did this program reach?

How many areas have no health program?

You also might insert in the record the progress you intend to make with your health service program in 1971 and 1972.

Mr. JOHNSTON. Yes.

(The information follows:)

DISPENSARIES IN THE TRUST TERRITORIES

District	Existing	To be replaced by 1975
Marianas	6	4
Marshalls	46	34
Palau	10	6
Ponape	10	7
Truk	53	37
Yap	16	12
Total	141	100

DENTISTS

Mrs. HANSEN. You show no U.S. personnel for dental service. Do you have qualified Micronesian dentists?

Mr. JOHNSTON. Yes, ma'am.

Mrs. HANSEN. How many dentists do you have in the Territory?

Mr. JOHNSTON. The total is 19.

MEDICAL DOCTORS

Mrs. HANSEN. How many doctors do you have in the Territory?

Mr. JOHNSTON. Thirty-three Micronesian medical officers and nine American M.D.'s.

Mrs. HANSEN. Is it a customary practice that the doctors regularly visit the outer islands?

HEALTH AIDS

Mr. JOHNSTON. In the various districts we have health aides who operate the dispensaries and who train people in sanitation and public health and so on.

Basically, our doctors are in the hospitals although they do go on field trips on our field trip vessels.

REGULAR MEDICAL OFFICERS

Mrs. HANSEN. Do you have one medical officer that has the responsibility for the entire medical program?

Mr. JOHNSTON. Yes, ma'am. Our Director of Public Health Services, Dr. Peck, and he has Micronesian deputies, Dr. Hicking and Kumangai. One of the three is traveling almost constantly to coordinate the programs among the six districts.

Dr. Peck is an M.D. and the other two are both medical officers.

PERCENT OF OCCUPANCY OF HOSPITAL BEDS

Mrs. HANSEN. The percent of occupancy of your hospital beds varies greatly from 54 percent to 120 percent. What causes this variation?

Mr. JOHNSTON. That is a pretty good occupancy rate.

Hotels and airlines traditionally overbook, but I did not know we were doing it in hospitals. This emphasizes the need for the Kusaie hospital.

Perhaps Dr. Samuel could comment on why there would be that much variation in the average daily occupancy of hospital beds.

Mr. ALLDREDGE. It probably means at Kusaie they are putting beds in corridors and in halls, so there are a greater number of occupancies than normal capacity indicates.

Mrs. HANSEN. Why is the occupancy ratio so low in Yap? Is Yap a healthier area?

Mr. ALLDREDGE. The variation in hospital occupancy and the fact the percent of occupancy is less than 60 or 90 percent in most cases derives mainly from the fact that insofar as possible separate wards are set up, surgery, medical, the obstetrician, gynecology, children's wards, all of which may be not filled to capacity.

So there is always this degree of apparent nonuse of facilities.

In the particular case of Yap, my recollection is that there is a rather large communicable disease area there set aside. We have a

major pollution problem, hepatitis is a tightrope situation, and probably there is a larger capacity in that particular area and it is not normally used.

SANITATION PROGRAM

Mrs. HANSEN. What are you doing to improve your sanitation facilities to eradicate hepatitis?

Mr. ALLDREDGE. Sewage and water programs are scheduled for the district.

Mrs. HANSEN. Nothing has yet been done yet?

Mr. ALLDRIDGE. Inoculation, sanitation, boiling, and one thing and another, but not a formal sewage program.

Mr. NOSEK. We have small projects going on all of the time in all of the districts. Resources are so limited there is just so little we can do. I could comment on some of the classic designs we have like in Ponape where we start out with a 12-inch water line, it goes down to 8, goes up to 10, and gets down to 4 inches.

Mrs. HANSEN. Why?

Mr. NOSEK. They used whatever pipe was available, whatever they found that the Navy left behind. Anything found in one of the districts like Saipan was shipped over there. That was the only pipe available to extend water so people could have it. We are trying to correct that now.

Mrs. HANSEN. Is it not true, Mr. Commissioner, that if a good job is to be done, you have to have funds for sanitation and sewage systems?

Mr. JOHNSTON. Yes, ma'am.

Mrs. HANSEN. When did the Navy leave the pipe?

Mr. JOHNSTON. The Navy turned over the government in 1951 to the Interior Department.

Mrs. HANSEN. That has been 19 years.

FUNDS FOR WATER AND SEWER PROJECTS

Mr. JOHNSTON. I might say, Madam Chairman, that in the requested budget for fiscal 1971, we have $1,920,000 in the request for water and sewage on Yap.

Mrs. HANSEN. Good.

Mr. JOHNSTON. And we have $3.7 million in Truk, $2.6 million in Ponape in the fiscal 1971 schedule.

EDUCATION

STAFFING FOR EDUCATION ADMINISTRATION

Mrs. HANSEN. You have 35 American employees in the Education Administration. You are asking an increase of $134,000, yet the Micronesian Budget Committee has recommended a reduction of three positions, the directors of vocational education, instructional programing, and education specialist.

Mr. JOHNSTON. I will ask Mr. Yarberry to comment, our Director of Education.

Mr. YARBERRY. I might respond to that request, Madam Chairman, by saying that the GAO auditors attacked this same problem, and at first had the same approach to it, that is, that we were overstaffed in specialists and confusion in titles and so on. But I think that the conclusion which they came to and the conclusion which I am convinced is right, is that in fact if we are to build a cohesive and coherent educational system, we must have these special people to build the continuity, the interrelating in the total system.

I feel, however, that this is one of the things which I have yet to convince all parties concerned there is a real need.

Mrs. HANSEN. I have felt that you achieve your best results if you have a central department of education that includes various specialists who provide assistance when necessary to the classroom teachers, and direct force and directors who have responsibilities for the general school programs. Is that your philosophy?

Mr. YARBERRY. Right. This is exactly the way we are approaching it and I feel that in building curriculum programs, in supervising to infuse quality into the school system, we must have these kinds of special people.

Mrs. HANSEN. This is the only way you will achieve the desired results.

No longer can you select one teacher to handle the whole school program. You have to set your goals for education, and then attempt to achieve them through teacher selection and the training process.

Mr. YARBERRY. Madam Chairman, we have some very dramatic proof or assurance at least that this works effectively in Micronesia.

In our teaching of English as a second language, we are moving into a phase in this TESL program where the major portion of the teachers are Micronesians, where the supervision is being done by Micronesians, and where in fact the test results as coming from this crucial program are dramatically on the rise.

I feel in this one program where we have been particularly effective to this stage, we have had very competent and very extensive supervision and coordination. Admittedly, if those in headquarters or in the districts are not supervising and coordinating effectively, they are in for criticism, but nevertheless I think that the system itself must contain a great deal of coordinative and supervisory personnel.

UPDATING TEACHER SKILLS

Mrs. HANSEN. We learned long ago in many of our school systems that the untrained teacher was not expendable because we had too great a need. We learned it was a relatively simple matter to bring inservice training to her and update her skills and her abilities.

EDUCATIONAL STATISTICS

Will you please insert in the record for 1960, 1965, and 1969, the number of students attending your elementary, secondary, and vocational schools. Also, what proportion of the school population is actually in school.

(The information follows:)

TRUST TERRITORY OF THE PACIFIC ISLANDS, SELECTED EDUCATION STATISTICS, 1960, 1965, AND 1969

Item	1960	1965	1969
Elementary:			
Pupils, public	10,630	17,497	25,068
Pupils, private	2,787	4,463	3,517
Classrooms	330	580	834
Percent of school-age population in school	60	75	[1] 97
Secondary:			
Pupils, public	135	[2] 2,984	3,721
Pupils, private	200	1,275	1,465
Classrooms	6	90	[1] 150
Percent of school-age population in school	10	35	[1] 42
Vocational:			
Classrooms and shops, number	2	12	26
Enrollment	135	720	[1] 1,560

[1] Estimated (public).
[2] Junior high included.

EDUCATION OF TEACHERS

Mrs. HANSEN. Will you please insert in the record for 1960, 1965, and 1969 the level of education of your teachers. I think 8 years ago that the average teacher had about a fourth-grade-level education.

Mr. YARBERRY. You might be interested in knowing that the profile of the typical Micronesian teacher at this stage is around 11.1 years of education.

Mrs. HANSEN. That is a very dramatic rise.

(Note: The information was not supplied in time for printing.)

NUMBERS OF CLASSROOMS AND PUPILS

Mrs. HANSEN. Also insert in the record the total number of school facilities you have and the number of pupils per teacher or classroom.

Mr. YARBERRY. Yes.

(The information follows:)

Trust territory selected education facilities, fiscal year 1970

Item	*Total*
Elementary schools:	
Number classrooms	854
Average pupils/classroom	29
Secondary dormitories:	
Number	24
Capacity	1,248

Mrs. HANSEN. The committee would be interested in any other highlights of your school program.

TEACHER EDUCATION

Mr. YARBERRY. I think one of the most important highlights is the greater emphasis we are giving to teacher education. We are adding another dimension to the Micronesian teacher education center in Ponape which is now a 2-year institution.

Mrs. HANSEN. How many students do you have in that institution?

Mr. YARBERRY. We have 87 right now. For the first time this year, they will be given associate of science degrees through the Hawaii Community College system.

We are upgrading that program pretty dramatically. Then we have

in each district about 120 teachers being trained in district teacher training centers, inservice training. The MTEC is preservice training.

The new dimension is that we are putting master teachers into schools, especially the remote schools, so that the faculties in those schools will associate with good teaching and be upgraded right on their own home ground. This is an added dimension we are undertaking.

Mrs. HANSEN. Do you use teacher aides?

Mr. YARBERRY. We do. We use teacher aides right from the communities.

Mrs. HANSEN. Do you have kindergartens and preschool training programs?

Mr. YARBERRY. We are just beginning to break into that level, and by 1972, in our present rate of elementary school building, we will begin to have a considerable capacity for preschool or kindergarten.

Mrs. HANSEN. You are well aware in any society where there is a language barrier that if you begin programs in preschool education you have eliminated a great deal of your language problems.

Mr. YARBERRY. That is right.

One of the very, very exciting things in the TESL program is, we are projecting a bilingual program. We are developing orthographies, grammars and dictionaries of the nine major languages so the child will not just be studying English but studying the home language in addition.

TEXTBOOKS

Mrs. HANSEN. You probably recall in the hearings about 3 years ago we discussed textbooks and had hoped there would be some imaginative and creative progress that would be oriented to the islands' way of life.

Mr. YARBERRY. We are just finishing a textbook history of Micronesia. It should be off the press this week. This is the kind of thing we are emphasizing, locally, appropriate materials.

Mrs. HANSEN. I have seen some startlingly bad examples of textbooks in some of our Alaskan Indian schools.

SAMOAN PRESCHOOL PROGRAM

I might make a suggestion that you talk with the Governor of Samoa on his program. They have an excellent preschool program.

Mr. YARBERRY. I was down there a short time ago and did talk with him.

SHIFT IN FUNDING FOR ELEMENTARY EDUCATION

Mrs. HANSEN. You indicate that a $546,000 increase in elementary education is necessary to fund the TESL and Ebeye homemaking projects which were formerly funded by Health, Education, and Welfare. Why is it necessary for you to finance these costs in 1971?

Mr. YARBERRY. Madam Chairman, this is a shift in funding from Public Law 89–10 to our general appropriations.

Mrs. HANSEN. Did this transfer of funding from HEW result from the dialogue on the floor of the House a couple of years ago.

Mr. YARBERRY. This is part of it, yes.

We also feel that the original intent of Public Law 89–10 in its various titles meant for us to do this; in other words we should not be

running an ongoing program, our regular programs, from these sources of funds. We think fiscally and I suppose in the educational intent it is sounder to make this transition. We are facing this and it is a transitional move.

INCREASED FUNDS FOR SECONDARY EDUCATION

Mrs. HANSEN. Please justify the increase of $450,000 for secondary education.

Is this to provide more teachers?

Mr. YARBERRY. This is definitely one of our crisis areas and the High Commissioner has referred to this, not only in juvenile delinquency, but in general community expectation.

We are trying to establish much more of a balance among all of the districts in secondary educational opportunity. In the eastern districts at the present time the limitations are very severe.

Mrs. HANSEN. How do you draw the line?

Mr. YARBERRY. We are forced to do this by testing as a way of selecting who can go to school and who cannot, largely because of the limitation in dormitories and school facilities.

Mrs. HANSEN. When do you expect to be able to break out of this syndrome?

Mr. YARBERRY. We are programed so that by 1975 at the present rate of funding, we will have what we call a volunteer secondary opportunity for all of the students who wish to go to high school.

Mrs. HANSEN. Tests are not always the answer.

Mr. YARBERRY. No, they are not. You might be interested in the testing program which we are developing, Madam Chairman. It is a so-called culture free test we are developing which will I think give us a better, more valid, fix on the students. But in the meantime, we are trying to increase the enrollment in each high school.

MICRONESIAN EMPLOYEES IN DORMITORIES

Mrs. HANSEN. To what extent do you make full utilization of Micronesian employees in supervisory and administrative positions in the dormitories?

Mr. YARBERRY. Almost wholly so.

We use Micronesian employees extensively in this kind of thing. I might illustrate by saying in our entire student scholarship program, very shortly we will have only Micronesian employees in that division of our department.

Mrs. HANSEN. Will you please insert in the record how many dormitories it is necessary to maintain in the territory for the students.

(See p. 742.)

MICRONESIAN OCCUPATIONAL CENTER STAFFING

Mrs. HANSEN. You are requesting $761,000 for the Micronesian occupational center. How many of the U.S. positions at this location fall within the specialist-supervisor-counselor-nonteaching category?

Mr. YARBERRY. In the present staffing, Madam Chairman, there are two administrators, U.S.; two teachers, U.S.; 14 Micronesian teach-

ers; one audiovisual specialist, U.S., and that makes up the faculty. I have not mentioned clerk-typists: one U.S. and three Micronesian, for a total staff of 23—17 Micronesian and six U.S.

PREVOCATIONAL TRAINING

Mrs. HANSEN. I have here a report which recommends limitation of the program for prevocational training and the Farm Institute in Ponape. The report suggests that the prevocational training program is primarily a secondary-level program in industrial art and home economics, an area lower in priority than actual training in marketable skills.

I disagree with whoever made this report because home economics should be one of the basic ingredients within your curriculum. Every woman is going to be a homemaker one day.

AGRICULTURAL TRAINING

The report goes on to say:

The Farm Institute program in agricultural training is a desirable one, but the cost per student, when compared to that at the adjacent Ponape Agricultural and Trade School, is likely to be extremely high. The committee recommends that greater financial assistance be given to the PATS program, including use of the Farm Institute facility.

Do you have any comment?

Mr. YARBERRY. Since that time, we have contracted educational services with PATS for agricultural training.

Mrs. HANSEN. May I say to the gentlemen in the Micronesian Legislature, do not ever downgrade training your women to be skilled homemakers.

This is the basis of any society. We would have far less pollution if we did not have so many unskilled homemakers.

Mr. OLTER. I think it is not the problem of the legislature. It is the problem among the women of Micronesia. They want to get married too early so we have no chance of training them.

Mrs. HANSEN. Maybe the women will be more selective if you train them first.

The committee will resume at 1:15.

AFTERNOON SESSION

OCCUPATIONAL TRAINING PROGRAM

Mrs. HANSEN. You request $435,000 for occupational training. How does this activity coordinate with the course of instruction provided the Micronesian Occupational Center?

Mr. YARBERRY. Madam Chairman, the tracking of this entire vocational capability is all a part of a total; that is, in the secondary schools there will be an increase in vocational and prevocational training all related to the program at MOC. By 1975 we feel that the MOC program, Micronesian Center program, will be postsecondary. Between now and that time, it will be a combination or kind of a transition of the programs through the high school and into the occupation center. In each high school now we are increasing the prevocational and vocational education capabilities. We feel very strongly that there

must be prevocational training if the vocational training is to be effective at all.

Mrs. HANSEN. Are you coordinating your training program closely so that you are not training students for jobs that will be literally nonexistent by the time the training is completed?

Mr. YARBERRY. Yes. This of course poses a problem everywhere. In Micronesia we are gearing with the new Division of Labor in establishing occupational training which does relate to the economic realities and to the economic developments.

Mr. JOHNSTON. I might add, Madam Chairman, our Trust Territory Manpower Advisory Council even has an input into our Scholarship Committee that they establish areas in which we need training, and this is considered by the Scholarship Committee when they give out the scholarships to the Trust Territory students.

AVAILABILITY OF SCHOLARSHIPS

Mrs. HANSEN. How many scholarships are available and from what sources? Also, how much are the average scholarships?

Mr. YARBERRY. This year, in summary, the Manpower Advisory Council met recently to award the scholarships. The full support scholarships from the territorial government and from the Congress of Micronesia totaled 162.

The government scholarships and support is 126.

Scholarships from all other sources, such as East-West Center, district legislatures, various other private sources, 189, for a total of 477 youngsters out on scholarships.

I think one of the important things to note is that the Congress of Micronesia has set aside a good bit of its income, a major portion of its income for scholarships. We administer that within our total scholarship administration. Then, in addition, there are medical scholarships, 64 last year and 77 this year. That is an additional number.

Mrs. HANSEN. Don't you feel scholarships should be ever increasing when you have such a limited economic base?

Mr. YARBERRY. Yes, ma'am. One of the things that you perhaps noted is that although the total sum of scholarship moneys in our general appropriations has not increased markedly, we have increased or improved upon the administration so that about $100,000 more goes into scholarships where previously it went into administration costs.

PREVOCATIONAL TRAINING FUNDS

Mrs. HANSEN. $165,900 is requested for prevocational training.

How effective do you expect this program to be?

Mr. YARBERRY. In each district there is a vocational coordinator who relates the prevocational training with the vocational center in Lau. I think that this is a very important part of undergirding the entire vocational program.

I might say, Madam Chairman, this vocational thrust really puts into balance, we think, the entire educational system. We feel that it will now present a comprehensive opportunity to students.

Mrs. HANSEN. Coordinated effort?

Mr. YARBERRY. Yes, ma'am.

GRANT-IN-AID PROGRAM

Mrs. HANSEN. You are requesting $325,000 for your grant-in-aid program. Describe how this program operates.

Mr. JOHNSTON. This program is for assistance to local municipalities, particularly in our more remote regions, out islands. This is administered through our community development program under the Director of the Department of Public Affairs.

The various communities apply for a grant-in-aid for a certain specific purpose and then this is given to the local community for that purpose.

AVERAGE AMOUNT OF GRANT-IN-AID

Mrs. HANSEN. What is the average amount of the grant?

Mr. JOHNSTON. $3,500 to $4,000 is the average.

Mrs. HANSEN. How do you supervise this program?

Mr. JOHNSTON. We have a community development officer in each district under the overall supervision of the territorial community development officer. He is on the staff of the district administrator and would supervise it at that level.

ECONOMIC DEVELOPMENT

Mrs. HANSEN. You request $562,000, an increase of $208,000, for economic development. Describe the operation of this program.

Mr. JOHNSTON. This program is being shifted in emphasis from one of economic planning, which was not getting anywhere in the Trust Territory, to one of a business advisory service, where we will have trained business advisers, men or women who know business from having had experience, who will show the potential small businessman such simple things as how to plan and control his inventory, how to keep his books, how to make certain reports that have to be made, and basically, how to make a profit and stay in business.

One of the problems we have had is this: Even when a businessman gets a small loan from the economic development loan fund, it may not be used wisely just because of a lack of business training and business knowledge. Part of this is to fund that part of the program.

Mrs. HANSEN. You are requesting four additional U.S. civil service employees for this work. What are the titles and what will they do?

Mr. JOHNSTON. I stand corrected. The program I was referring to is in our fiscal year 1970 budget. By fiscal year 1971, this would provide for a market specialist, a survey statistician, one secretary, and the recreation and historical sites restorations specialist.

In fiscal year 1971, we for the first time get into the start of an organized recreation program in the trust territory.

Mrs. HANSEN. An article in the October 15, 1969, Wall Street Journal says:

> Attempts have been made through the American administered economic development loan fund to promote small business but results have been disappointing largely because basic business techniques have not been mastered by many would-be business men.

The article quotes further:

> We loan the money but we can't give business management assistance—we need to be in a position to provide advisory service in such simple matters as bookkeeping.

This is at variance with your present staffing. I understand you have an industry economist, financial economist, realty officer, analytical statistician, and planner in your headquarters office. May we have your comments?

Mr. JOHNSTON. No, we do not. Those were dropped within days of our new administration.

Mrs. HANSEN. Do you have any comment on the rest of the article?

Mr. JOHNSTON. It is correct that we have not given them the business know-how. Since that article was written, I believe that we have had two business advisers sent down to Micronesia from Hawaii by the Small Business Administration in a cooperative venture where the SBA brought them down there and we provided their local room and board while they were there.

This program was successful and I am sure that it will be continued in future years. We are recruiting now for the business adviser-type people in each district who will provide this type of information and will prevent the loss of economic development loan funds by people as they did in the past, got the money, no supervision, no training in how to use the money. We did have some rather disastrous results.

Mr. LOESCH. Could I interject with an observation?

This is really for the future.

I look upon the economic development loan fund as potentially one of the very top tools that we have, provided we furnish this business advisory expertise in the districts on the ground where it is needed by the potential small businessman. I think that we can, through the loan fund, make great strides in basic economic development. I would have come to you this year in this budget with a request for more funds in that loan fund except that it had not, in my opinion, been properly used. It certainly had not been lent out either in sufficient volume or with two people and with sufficient advice so that it could be well used. I hope to be before you for more money in that respect next year.

NUMBER OF LOANS MADE

Mrs. HANSEN. How many loans were made and to how many businesses? Also what kinds of businesses were the loans made to and how many have failed?

Mr. JOHNSTON. This is as of February 2. We had a total of 52 outstanding loans which represented $564,623; outstanding balance of $440,849. And of the 52, 37 of the loans are shown as delinquent loans. One thing we discovered very recently and are correcting right now: There are loans where the borrowing party is now deceased. There are loans that could not be repaid because what they were borrowed for was completely destroyed by a typhoon. These loans have been carried from month to month as delinquent loans rather than marked as uncollectible loans.

UNPAID LOANS

We are trying to update that part of our statistics.

Mrs. HANSEN. Do you just write the loans off as a loss?

Mr. JOHNSTON. We spoke to Mr. Zachary about that just before I left on this trip with the recommendation that these be just marked off as uncollectible loans.

Mrs. HANSEN. The Congress of Micronesia must take cognizance of the problems in Micronesia where no property titles are clear.

SETTLEMENT OF PROPERTY TITLES

Mr. JOHNSTON. Of course, we expect to have some titles to property issued definitely by June 30 of this year.

Mrs. HANSEN. This would lead to the solution of some of your title problems?

Mr. JOHNSTON. Very definitely. This has been a problem with the Small Business Administration, banks, lending institutions. Even though they are willing to grant a mortgage on the basis of the submission to them, they couldn't possibly foreclose. They have nothing, no clear title to the land. There are many problems in granting mortgages out there that still have to be worked out. Some of the laws pertaining to the classification and registration of title of land have been passed by the Congress and there are other elements in the whole package of land legislation that have yet to be submitted to the Congress.

Mr. REIFEL. Before you leave that subject——

Mrs. HANSEN. Surely.

ATTITUDE OF PEOPLE REGARDING ECONOMIC DEVELOPMENT

Mr. REIFEL. This is another question I have to ask the representative of Micronesia.

This, with respect to the attitude of the people themselves, regarding economic development.

I belong to a tribe of Indians known as the Sioux. Most of the Sioux Indians are in South Dakota, about 35,000. When it comes to economic development, establishing a commercial business, I am not aware of one single full-blood Indian who is successfully in business, because of the cultural factors involved in accumulation of property. The principle of sharing what you have with your people is so strong that as property is accumulated in any kind of business, it is visible; you can see it, you have increased stock, inventory, or things such as an automobile or nice home. It is almost impossible to bring about an accumulation of property in order to generate an income that will expand a business.

The few people that we have who are of Indian descent are mostly near-whites like myself. I am half white. I wonder what the situation is with respect to your people with regard to economic development?

We have tried time and again cooperatives, Mr. Secretary, where we must apply the principle of one man, one vote. It is entirely democratic, and should be. So as soon as they begin to accumulate a little property in the cooperative, this is visible and the members want their share of it. They insist on their share being sold. The cooperative gets to a point where it is going very well and then it has to be disbursed

because you can see it and the people are poor and they need it. You have two factors there. The poverty of the people is one, and then the cultural values that do not contribute to the accumulation of wealth by individuals, which is primary to our private enterprise system in our country.

SALE OF LANDS

Mrs. HANSEN. Isn't it true that many Indians are forced to sell their lands when the tribe is not able to reinvest the land for the benefit of everybody?

Mr. REIFEL. Yes, you are right about that.

With the land there, in order to use the land effectively, you must build it up. If you build it up you have got visible livestock and other things that your relatives want to share. If they are very poor, you have to share or you are not a very good relative.

I wonder whether this is a problem that is faced in the various districts of Micronesia and Trust Territories?

Mr. OLTER. Madam Chairman, I think that that is a very good observation of my area. I cannot speak of all of the six districts. This is very true. If you run a business in the capitalistic form in the area you are subjected to two things you mentioned. The cultural aspects, wherein all relatives feel that what you own is part theirs or otherwise you are not a good relative. Two, the level of living standard at this point is pretty low and the degree of demand on material things is pretty great and everyone wants to have some of it.

Mr. REIFEL. It seems to me, Madam Chairman, if we are aware of this, then when SBA or any other development organization from this highly-geared private enterprise oriented individual in this country goes out, this he must understand. Otherwise if the business fails because he set it up on the basis of an acquisitive-value society, the thing is going to flounder and then he blames or is likely to blame the people rather than himself because he didn't understand the people in the first place. This is where it is going to take a lot of patience and understanding. The people themselves must be helped to understand this.

In economic development it is necessary to accumulate property so that you can have an ongoing business. It is a very difficult thing but something that we must somehow or other surmount for the future development of a healthy society.

REPAYMENT OF LOANS

Mrs. HANSEN. I agree with Mr. Reifel.

The same situation is probably going to happen in some of our underdeveloped countries where loans are being made.

Mr. REIFEL. A specific example in our economy is when the Bureau of Indian Affairs makes a loan to an individual Indian and his family. The man and the wife will sign the loan contract, and actually if we had some system where we could have all the relatives who make a demand on that particular family sign the contract too, then they would all be involved in it. We don't look at this that way because we don't do business that way in this country. What we do is, the borrower signs and his wife or spouse, and they are the ones responsible for the repayment, not all those that depend on the business that is generated by the contract.

COOPERATIVES

Mr. OLTER. Madam Chairman, I would like to make an observation. I think that you mentioned something about cooperatives. I think in the area where I come from, the co-op setup seems to solve part of the problem for a single person owning property. No one can really claim or attempt to claim any part of it since everyone owns a share of the property. The co-ops in our district are quite successful.

Mr. REIFEL. That is very encouraging.

MARINE RESOURCES

CONTROL OF CROWN-OF-THORNS STARFISH

Mrs. HANSEN. $477,000 is requested for marine resources. How much of this is for control of the crown-of-thorns starfish?

Mr. ALLDREDGE. $150,000.

Mrs. HANSEN. What progress are you making on crown-of-thorns starfish research?

Mr. JOHNSTON. We are eradicating the crown-of-thorns starfish in a couple of areas now. I talked to the chief of our Marine Resources Division about that at this Skipjack Tuna Conference we held in Hawaii last week and he said that so far the program was moving slowly, although it was effective, that the methods they were using to——

Mrs. HANSEN. What methods are they using?

Mr. JOHNSTON. They inject formaldehyde into the crown-of-thorns and bring it out of the water. He said they were burying them so that they don't create a problem. There is a fascinating new method. A Japanese scientist has announced a method of putting little tubes—he planned it for the Great Barrier Reef in Australia and he said he will make it available for anybody that wants it—putting a little network of tubes that eject a jet stream of some kind of poison that kills the starfish and does not bother any other form of marine life. This is just fascinating enough that Peter Wilson, our marine specialist, has written to the gentleman to see what there is to this new system of his.

The method we are using now is a little bit slow and tedious but it is definitely making progress.

Mrs. HANSEN. Does the crown-of-thorns starfish destroy any part of your land?

Mr. JOHNSTON. It kills the coral on the reefs offshore.

Mrs. HANSEN. How many reefs are involved?

Mr. OLTER. It varies in degree. Very much in Saipan, some in Tinian, and some in Rota. To a certain degree in Palau and Truk and Ponape and also in the Marshalls. There are some areas that are not infected, of course.

Mrs. HANSEN. Has the starfish always been present?

Mr. OLTER. Always been present, so the scientists at this point don't really know whether at certain points it is epidemic, overproduction, or what causes the population to rise. At this point there is noticeable increase in the population during the war when they started dynamiting the reefs and so forth. Whether it had any effect on the production or not, the scientists at this point don't know.

Mr. LOESCH. Is the bounty system working?

Mr. JOHNSTON. I think they are paying them an hourly wage.

Mr. ALLDREDGE. The Saipan Legislature gives them a bounty.

Mr. SETIK. I talked to one of the employees that collected starfish and he said it is very difficult. By the time it is collected, and even if one "finger" is left, one small one, they come back next day and it begins to develop from that little one left.

Mr. JOHNSTON. It regenerates itself if you don't get the whole thing. The scientists involved in this problem, particularly the United States and Australia, are not yet in agreement as to whether the so-called dead coral will in time regenerate itself. Some of the scientists say it is completely killed once and for all; it becomes covered with algae. Then the other scientists are willing to bet that within a few years it will prove that so-called dead coral will gradually regenerate itself and take on life again. This we won't know for several years. They admit that they had not done adequate research on this previously or they might have had some of this.

Mrs. HANSEN. What effect did the nuclear bomb have on the starfish? Are the scientists working on that?

Mr. JOHNSTON. That we don't know. We will see if we can get an answer on that.

Mrs. HANSEN. That would be very interesting.

(NOTE.—A special report will be supplied to the committee at a later date when available.)

ADDITIONAL U.S. CIVIL SERVICE POSITIONS FOR MARINE RESOURCES

Mrs. HANSEN. You propose nine additional U.S. Civil Service positions for Marine Resources. Give us the details.

Mr. JOHNSTON. Yes, ma'am.

This will be a marine reseach laboratory director. We are building a marine laboratory in Palau. A shipyard manager, fishing boat captain, bait man, starfish control specialist, fisheries education specialist, field assistant director to develop a program in the Truk district, a marine engineer, and a program assistant for the marine director who is stationed on Palau.

Mrs. HANSEN. One of the new employees is to be a marine resource laboratory director. In your capital improvement budget you include $120,000 for the initial phase of the tropical marine biological laboratory at Koror. Where will this individual work until the laboratory is completed?

Mr. JOHNSTON. He would be working with the chief of the division. The chief of our Marine Resources Division is based in Palau because Palau is the center of our marine resources program. He is the only major division chief in the trust territory government who is not headquartered on Saipan. This individual would be, when hired, working with him in the development of the laboratory.

Mrs. HANSEN. We will take a short recess to answer the rollcall.

HOUSING LOAN FUND

Mrs. HANSEN. $750,000 is requested for the housing loan fund. This is a new program in 1971.

Give us the details on how you expect it to operate.

Mr. JOHNSTON. I do not know as I can give you exactly how many houses. We have a housing authority in the Marianas which has operated very well. This is to create them in the other five districts.

Mrs. HANSEN. Is this similar to the housing program in the Mariannas?

Mr. JOHNSTON. Yes, ma'am.

Mrs. HANSEN. What have your experiences been with the Marianas program? How much money have you loaned and how many houses have been furnished?

Mr. ALLDREDGE. They have just made their first loan a couple of months ago.

Mrs. HANSEN. You said the housing program was working very well.

Mr. JOHNSTON. As to completion of the loans?

Mrs. HANSEN. Yes.

Mr. JOHNSTON. We do not have the experience on it yet.

Mrs. Hansen. How do you expect the housing program to operate? What set of criteria are you using?

Mr. JOHNSTON. We will make the money available.

COST OF HOUSING

Mrs. HANSEN. About how many houses will this provide?

If you are going to spend $750,000, you must have some idea whether you are going to have one house or six hundred houses. What is going to be the price of each housing unit?

Mr. SETIK. It is low-cost housing, not more than $15,000 per unit. That is the type of housing.

Mrs. HANSEN. Yesterday you said the average yearly income was $800. Who is going to be able to afford a $15,000 home?

Mr. SETIK. I am speaking about the average cost of the present housing. It depends upon the type of material that would be used which may lower that a bit.

Mrs. HANSEN. It will be in the vicinity of $15,000?

Mr. SETIK. Yes.

Mr. JOHNSTON. One estimate is we would have 1,500 households in district centers and outside the district centers who would have access to dollar incomes and could benefit from the housing loan fund.

And if we divided that 1,500 equally in the five districts that will give you about 300 families per district.

INVESTMENT IN HOUSES

Mrs. HANSEN. You stated that in the Marianas and Saipan from $200 to $700 is to be invested in each home.

Mr. JOHNSTON. That is the information here. That is the average amount invested in a Saipan home.

Mrs. HANSEN. How does a $15,000 home fit into your program?

Mr. JOHNSTON. This particular type——

Mrs. HANSEN. Is this all going to be low-cost housing?

Mr. SETIK. That is right.

Mr. JOHNSTON. I do not think it would get up to $15,000 would it?

Mrs. HANSEN. Will you please insert in the record some specific

plans as to how many homes are planned, the average investment cost of each home, and the kind of plumbing facilities that will be available.

I see that in Saipan no more than seven percent of the population have inside flush toilets. Is a sewage system going to be provided for this new development? What are you going to do? Your answers are very vague right now.

Mr. JOHNSTON. You are right and I apologize for it. We do not have the breakdown of just exactly how this is going to be used.

Mr. ALLDREDGE. For exact criteria, the types of buildings which are to be supported by these loans, only a few available kinds of plans have been developed.

Mrs. HANSEN. How do you know you need $750,000?

Mr. ALLDREDGE. Because some of those plans have been developed for houses in the rural areas where experience shows a bare-boned house can be erected at a material cost from $2,500 up, depending upon the location, the kind of materials.

For an inexpensive plywood house, the materials cost about $2,500. Estimates for a preengineered steel house will cost in the neighborhood of $7,000.

LOAN SECURITY

Mrs. HANSEN. How are your loans going to be secured in case of typhoon damage?

Mr. ALLDREDGE. One of the criteria in approving a loan is the assurance that the structure will sustain winds of a certain height. The frame house I spoke about will withstand winds of 150 miles an hour. We want to have specific approved designs, or if an applicant wants to vary and comes in and says he wants to build this instead, he gets it approved.

Mrs. HANSEN. Mr. McDade, any questions?

Mr. MCDADE. At this point I do not. Thank you, Madam Chairman.

Mrs. HANSEN. Will you please insert the information in the record.

Mr. JOHNSTON. I will.

(The information follows:)

HOUSING LOAN FUND

The Housing Loan Fund is intended to perform a dual function: provide a source of capital whereby improved housing can be made available at low cost on reasonable terms to private owner-occupants and stimulate the establishment of a domestic construction industry. Because foreign banks, (e.g., the Bank of America or the Bank of Hawaii), cannot lawfully own real property in Micronesia, they are understandably reticent to enter into mortgage agreements with respect to which default cannot ensue in foreclosure, this irrespective of the resolution of title and tenure problems in the Trust Territory. Thus, until such time as there have been created viable domestic capital resources, government financing, either by direct loan or guarantee, is required.

Present plans are to establish Loan Funds in each of the six districts, (one being already operating in the Marianas from an FY 1968 appropriation). These funds would be administered by a district housing authority with power to grant loans or make guarantees upon the presentation of applications meeting pre-established criteria. These criteria would relate to the type of house to be erected, (size, material, features), assurance of the right to erect a house on the land proposed for such building by the applicant, the financial resources available to the applicant.

Building standards would not be absolutely uniform throughout the Trust Territory. In districts where typhoons are a real possibility, structures capable of withstanding winds of 125 to 150 miles per hour would be required; in areas where power will become available, electrical standards would have to

be observed. Loans or guarantees will range from as little as $1,000 to perhaps as much as $15,000 per dwelling, with the majority estimated to be in the neighborhood of $5,000. Some loans will be made for materials only, the dwelling being constructed by the owner-builder from pre-engineered and/or pre-fabricated elements. The district housing authority will have available model plans meeting acceptable standards. Applications for loans, whether for owner-builder or owner-contractor constructed houses will be reviewed by housing authority boards. Those applications meeting the pre-set criteria will, within the limits of the available corpus of the fund, be granted.

LANDS AND SURVEYS

Mrs. HANSEN. $1.7 million is requested for lands and surveys. Describe your problems and indicate the progress you are making.

Mr. JOHNSTON. We have now 21 surveyors on a reimbursable basis from the U.S. Geological Survey and the Bureau of Land Management. They are actually in the field now making their surveys and we have our Land Commission in operation in two of the districts now and four more to go.

The program was officially kicked off while Assistant Secretary Loesch was in the Trust Territory. We actually planted the first marker, and the land determination board in the Marianas held its first meeting, and it was interesting to note that the place was packed with people an hour or so before the hearing was held.

They made decisions that day and are now in operation, and we hope to have the program extended to every district within the next few months.

We have phased the cost of this over a 5-year period, and the amount requested for fiscal year 1971 is the second increment in that program.

Mrs. HANSEN. Do you have a quasi-judicial Land Commission established to make decisions on the controversial land titles?

Mr. JOHNSTON. We will very shortly. One is actually operating in the Mariannas.

Mr. LOESCH. If I could interject at this point, I might tell you this land program was one of the departmental priorities and as the High Commissioner says, we have borrowed the people on a priority basis from the Bureau of Land Management and from the Geological Survey.

We think this is one of the most important basic things to be done in the territory and are not only proud of getting it under way, but greatly appreciate the committee's giving us the money to do it within the supplemental in December.

Mrs. HANSEN. Until you settle your land problems not much can be done in the way of economic advancement or providing housing.

Mr. JOHNSTON. I might say the program so far has met with general acceptance in the Trust Territory. We have had a program of radio announcements in the vernacular whenever surveyors are going into an area explaining what the program is going to do and so on, and there has been great acceptance of the effort at this point.

Would you care to add anything, any of you gentlemen?

Mrs. HANSEN. An increase of $550,000 for a total of $3.8 million is requested for administration. We recognize the difficulties of the job you have and we are aware of cost, however, the administrative costs seem to be increasing rather rapidly.

May we have your general comments as to the reasons for this increase?

Mr. JOHNSTON. Most of these increases are in the districts where we are decentralizing.

Mrs. HANSEN. Is this due to the peculiar necessity of transportation and the diffusion of population.

Mr. JOHNSTON. Yes, ma'am.

With our great emphasis on decentralizing and giving the district administration more responsibility, more actual work to do, it is necessary to have people in each district who are capable of doing that type of work.

In time this should reflect a decrease in the over-all administration at the territorial level. And in the future I would look forward——

Mrs. HANSEN. As the districts develop, will the costs in the central operation decrease and the costs in the district increase?

Mr. JOHNSTON. That is right. That will not occur immediately, because we still have to train the people and make the new system work.

EXECUTIVE OFFICE OPERATIONS

Mrs. HANSEN. The executive office operation provides for the cost of supporting the High Commissioner's office, Government House, and other operations relating to visiting dignitaries.

Please insert in the record a breakdown of these costs for fiscal years 1969, 1970, and 1971, showing the amounts provided for each activity.

(The information follows:)

COST OF EXECUTIVE OFFICE OPERATIONS

Executive Office Operations is a small stable item of $20,000 annually. This fund assures the maintenance, repair and upkeep of the High Commissioner's residents and immediate grounds, "Government House" and furnishes the cook and custodial services for the residence. The fund includes "representation" monies for the official entertainment of such dignitaries as visiting United Nations Missions or Committees of the United States Congress. Expenses of the High Commissioner's personal vehicle are defrayed from this fund as are the travel expenses of the High Commissioner's wife when she accompanies him on those very infrequent official trips where her presence is deemed appropriate. Actual cost details will be provided when the information is transmitted from Saipan.

AUTOMATIC DATA PROCESSING

Mrs. HANSEN. In fiscal year 1971, much of the clerical work of the Division of Procurement and Supply will be converted to automatic data processing. However, I note that you plan an increase of one civil service employee and five Micronesians for this work in 1971. Would not the greater use of automatic data processing reduce the need for clerical help?

Mr. JOHNSTON. It probably would in time, but the conversion to it is when it takes the extra people.

Mrs. HANSEN. How long will it take to convert to data processing?

Mr. ALLDREDGE. One hopes a single year. The attempt to simultaneously convert to ADP and have controlled inventories established in the district, to diversify and use the ADP at the same time, I think we ought to have 2 years to get this particular job done.

Mrs. HANSEN. Everybody understands the need for rapid informa-

tion. However, I think many people fail to realize the built-in difficulties.

That is why the committee would like to have an analysis of the advantages in going to a data processing system.

Mr. LOESCH. I think one of the problems the Trust Territory is going to run into is that of basic records so it will have accurate input into the computer.

Second, I would make the observation that the clerical help that is available is not always of first class. Many of these people are still more or less in the process of getting on-the-job training.

MEDICAL SUPPLIES

Mr. MCDADE. Your decisive comments about some of the activities of the Defense Department brings to mind the question that occurred yesterday on the other subcommittee of Appropriations Committee I sit on, involving the use of medical supplies.

Sometime ago the Office of Civilian Defense, when it was Pentagon-oriented apparently overbought so much medical supplies they now have a stockpile that numbers something like $175 million worth of medical supplies which cannot be used.

There is an obsolescent factor of about $3 million worth of medical supplies that just rot per annum, they cannot dispose of them, they become obsolete and are not being used.

We are trying to get these people to discuss with other agencies of the Government how this medicine can be used and I note in the supplemental you were creating a revolving fund to buy medicine. I would urge you to contact these people. They maintain inventories around the country, they are up to their necks in medicine and it may be something you can use.

Mrs. HANSEN. Mr. Secretary, the next time the Indian Health Service runs out of medical supplies, you better contact Civil Defense.

(Off the record.)

FUNDS FOR TRANSPORTATION OFFICE

Mrs. HANSEN. An increase of $282,000 is requested for the transportation office. Please justify this increase.

Mr. JOHNSTON. In our recent reorganization of the government, we created a new Department of Transportation and Communications. We have emphasized in our hearings and always do—whenever we start discussing the Trust Territory, this problem comes up of the widely dispersed area, the huge area that we have to cover with a few people here and a few people there.

Mrs. HANSEN. You have 3 million square miles in the Trust Territory?

Mr. JOHNSTON. Yes.

Mrs. HANSEN. You have approximately 100,000 people?

Mr. JOHNSTON. Right. Yes, you have maybe four, five, 600 people at the most in any one area except in the district centers.

Mrs. HANSEN. You have the problem of geting supplies into how many islands?

Mr. JOHNSTON. There are roughly a hundred populated islands.

BOAT DOCKING PROBLEMS

Mrs. HANSEN. You have a hundred islands. How many have sufficient docking space? What do you have to do, ride on the rocks like they used to do on the river?

Mr. ALLDREDGE. There are about six that have a docking place.

Mr. JOHNSTON. I would say four might have adequate docks. You anchor and lighter in.

Mrs. HANSEN. Is this docking system only good as long as you have calm seas?

Mr. JOHNSTON. It is not too great even them. It increases your chances of pilferage ad damage and everything else. Even if the seas are calm, you have two more chances of dropping it.

Mrs. HANSEN. Do you have a survey going on so that you know how many islands are going to require new docking facilities?

Mr. JOHNSTON. Yes, ma'am; we have this all planned over the next 5 years.

Mrs. HANSEN. How many docks are you going to build per year?

Mr. JOHNSTON. Is it one per year?

Mrs. HANSEN. That is going to take you a hundred years.

Mr. JOHNSTON. On some of the islands we would never have one.

Mrs. HANSEN. How many islands need dock facilities?

Mr. JOHNSTON. You would need one in each district center, and one at Kusaie, Tinian, and Rota.

Mrs. HANSEN. Five years have elapsed already.

COST OF TRANSSHIPMENT OF GOODS

Mr. ALLDREDGE. These are mainly rehabilitation at Ponape District Center Island, the vessel has to anchor about 3 miles out from the point where the goods can be handled. They ship anchor and offload the merchandise on lighters. It costs approximately $21 per measurement ton to ship that merchandise 900 miles from Guam to Ponape. It costs $20 per measurement ton to lighter it in from the ship 3 miles to the shore. The impact of that kind——

Mrs. HANSEN. You could soon pay for a dock?

Mr. ALLDREDGE. Yes, ma'am.

Mrs. HANSEN. These are the kind of economic figures that sell a program.

UPGRADING OF FIELD VESSELS

Mr. JOHNSTON. We also need to upgrade our field vessels and are planning to replace one of those a year.

Mrs. HANSEN. How many vessels do you need?

Mr. JOHNSTON. We need a total of five field vessels to be replaced.

Mrs. HANSEN. Is this going to take 5 years?

Mr. JOHNSTON. That is right. That, however, is under a different item here of sea transportation.

DRYDOCKING AND VESSEL REPAIR

Mrs. HANSEN. What are you doing about drydocking and repair? Do you have your own facilities?

(Off the record.)

Mrs. HANSEN. If you do not have your drydocking facilities repaired, what are you going to do?

Mr. JOHNSTON. We do the drydocking in Japan.

Mrs. HANSEN. It all goes to Japan?

Mr. JOHNSTON. Yes. I do not believe it would be practical for some years to come for us to build major drydocking facilities.

Mrs. HANSEN. I am quoting your statement, "annual drydocking and repair is more costly than it should be."

Mr. ALLDREDGE. Because we have not undertaken annual drydocking before. We should drydock annually.

Mrs. HANSEN. Will that decrease your docking costs?

Mr. ALLDREDGE. There have been insufficient funds, so maybe 2 or 3 years and then a major overhaul, replacements of machinery.

Mrs. HANSEN. Maritime law requires that you have drydocking at regular intervals for the safety of your vessels and the safety of the people who might be in the vessels.

Mr. JOHNSTON. If the maritime laws had been strictly enforced, we would not have had any field trip vessels for several years.

Mrs. HANSEN. Are they hauling people?

Mr. JOHNSTON. They certainly are.

Mrs. HANSEN. It seems to me you should provide for this cost in your budget.

Mr. JOHNSTON. When I came there they had one man in the transportation department with a couple of assistants, it was the most undermanned department we had in the whole Trust Territory government, and all he could try to do was keep his head above water, and when a ship broke down, try to get it back into operation with no real planning.

This is why we are asking for a considerable amount here to get this department of transportation really staffed and rolling. It is something we have not had.

Mrs. HANSEN. I think you are aware that hulls, gear, and machinery, need periodic inspection.

Mr. JOHNSTON. Our firefighting equipment. We lost a lot of time on our vessels because several of them are single hatch construction where you cannot be loading through one hatch and unloading through the other at the same time, and it is a bad situation. But we hope to have it remedied within 5 years.

Mrs. HANSEN. You go on to say, "Harbor operations are inefficient, vessel crews, stevedores and allied personnel are inadequately trained, examined and licensed."

U.S. COAST GUARD ASSISTANCE

Mr. JOHNSTON. We are also working with an updated agreement with the U.S. Coast Guard which should be in effect very shortly where they will give us additional assistance in upgrading these facilities. They have always been a little reluctant to enter into the trust territory.

Mrs. HANSEN. Why?

Mr. JOHNSTON. Because it is not a part of the United States. In other words, Guam, Samoa and so on are part of the United States; we are not. In the same way we are gradually getting the FAA to take a greater and greater interest in the Trust Territory even though it is not technically U.S. territory.

COLLECTION OF REVENUES AND TARIFFS

Mrs. HANSEN. Then you say:

Proper revenues are not collected because of the absence of up-to-date tariff schedules or the failure to interpret existing ones accurately.

Mr. JOHNSTON. We have already employed one new individual who is a licensed naval architect and quite experienced in tariffs. He has been added to the Department of Transportation. He is in the process of moving to Saipan at the present time, and has already made a difference in this important area.

Mrs. HANSEN. You are not going to improve the territory until you improve your transportation.

Mr. LOESCH. I might interject one statement at this point.

I was greatly impressed on my trip out there with the small ship and boatyard operation in Palau. They have a good little shipyard working there, too small to take care of the field trip vessels, but that is an entirely Micronesian operation, if I am not mistaken, and is so far behind on its orders it is just crying for money for expansion to take care of the local boat trade.

Mrs. HANSEN. When your fishing industry develops further you are going to have to have more shipyard facilities. Every fisherman is not going to take his boat to Japan for repairs.

LOCAL SHIP REPAIR FACILITIES

Mr. LOESCH. This really comes under our marine resources section, but these people are skilled sailors and skilled boat builders. I think this is one area in which we can build a little more economic base, too.

Mrs. HANSEN. Why give Japan all of your trade when you can provide your own facilities?

Mr. JOHNSTON. We do have facilities for repair and docking of the small boats at the Palau shipyards, but there are other districts where similar facilities should be available.

Mr. LOESCH. There is a million-dollar hole there in this shipyard installed by the Japanese and taken by our Navy during World War II which, according to the man I talked to on the scene, without a great deal of expense could be put back in operation and used as a drydock for field trip sized ships. I am quoting him when I say a million-dollar hole. He took me along the shore and showed me this abandoned drydock full of water and said, there is a million-dollar hole we could use very well if we could fund the repair.

I think that is something that the High Commissioner's office will be looking into this year.

COMMUNICATIONS SYSTEM OPERATIONS

Mrs. HANSEN. How are your communications systems operating?

Mr. JOHNSTON. We are now in the process of completing a communications system that will link all of our districts with the exception of Palau by the end of this year. It is scheduled now for roughly October of 1970 for completion.

We are now hooked into the rest of the world by telephone from Saipan; for example, you can pick up a telephone here and talk to any one of us on Saipan, which did not used to be possible. A year ago you had to fly over to Guam to make a phone call, and then fly back

to Saipan. So we are hooked in. The Guam-Saipan link has been operational for several months and that of course is a mixed blessing and nonblessing. It makes it very easy for people to get in touch with us. We have people now who sometimes insist on getting a hotel room without a telephone just to be away from them. But we are working on the transmitter sites and the transmitter and receiver buildings in each of the other districts with the exception of Palau, which is considerably behind schedule.

As I say, by the end of this year our districts will be much better hooked into each other by voice communication. Right now we have nonsecure radio communication that works fairly well most of the time our other districts. But this new system was engineered by the FAA. When we get it in operation, we need skilled technicians to keep it in repair and keep it operating. They are not available in the way of trained Micronesians, so we are going to have an increase in U.S. personnel in communication for the next few years.

There again the U.S. personnel will be phased out as Micronesians are trained to operate this new and very complicated equipment.

WEATHER ALERT SYSTEM

Mrs. HANSEN. What weather alerts and typhoon warnings systems have you developed?

Mr. JOHNSTON. This is a subject that we have been discussing a great deal lately. As I started this trip I met with a Captain Nagalee on Guam who is head of the fleet Weather Service for COMNAV-Marianas and he is setting up, for the first week in April or at least sometime during the month of April, a conference of representatives of each of our six districts with the weather people in the Navy to set up a better system of reporting and to more fully understand the system. It is something we need improvement in. We do have the first, I hope, of several conferences to start improving the situation.

TYPHOON DAMAGE

Mrs. HANSEN. Do your typhoons cause a lot of property damage? How many lives have been lost?

Mr. JOHNSTON. We have not had much loss of life even in the one in Saipan in April 1968, Typhoon Jean, I believe one or two were injured. There was no loss of life.

In the typhoons we have had this year, there has been no loss of life, no serious injuries. It is property damage. The one that hit Yap recently, the deputy called me and infromed me there had been no injuries, no loss of life. But it looks like it may run to a million dollars in loss of property.

STATUS OF AIR ROUTES

Mrs. HANSEN. What is the status of the air routes in the Trust Territory?

Mr. JOHNSTON. Air Micronesia operates a regular schedule, basically twice a week among all of the district center islands with far more frequent flights between Guam and Saipan and they connect with Honolulu and Okinawa. They have added another link to their jet service. For a time they were operating three types of aircraft, the DC–6 to Yap and Palau, the 727 jet on most of the route, and then

the SA–16 water landing plane between Truk kand Ponape. Now with the completion of the new Ponape International Airport they have added Ponape to the regular jet run.

Mr. ALLDREDGE. It may not be what you would call an international airport.

Mr. JOHNSTON. Let me say in tribute to Senator Olter and Mr. Falcam and the constituents from the Ponape District, it is closer to an international airport than Saipan or any other part of the Trust Territory or Pacific Islands. They do have a terminal. The terminal will shortly have a restaurant and bar and gift shop, the things a terminal should have. I hope the rest of the districts will take heart and follow the example. By fiscal 1972 at the latest, we hope to have upgraded airports at Yap and Palau so that Air Micronesia can convert to an all-jet operation in the trust territory.

Mrs. HANSEN. Who owns Air Micronesia?

Mr. JOHNSTON. Continental owns 30 percent of the stock, Aloha Airlines, of Hawaii, 21 percent, and the other 49 percent is owned by Micronesian capital.

Mrs. HANSEN. Do you have proposed routes still pending before the CAB?

Mr. JOHNSTON. Yes, ma'am. Air Micronesia and Continental is one of the competitors for the proposed new route from Japan to Saipan direct, that Japan Airlines is going to fly very shortly. Others are interested in that, too.

And then Air Micronesia has pending a Pacific route extension case which would allow them to connect up. They now fly to the Republic of Nauru twice a month.

Mrs. HANSEN. Are the pending air routes still waiting for a decision from CAB?

Mr. JOHNSTON. Yes, ma'am, and they are pending for quite some time and they are all sort of linked into each other. And one of the things we have to prepare for in upgrading our airfields is that they keep telling us Japan Airlines is going to be landing at Saipan and we do not have an airport that would accommodate them yet. This involves a joint agreement with the military on the reactivation of Isley Field, which we have planned for not later than fiscal 1971. It is one of the things we hope to make progress on within the next few weeks.

STATUS OF LEASE AGREEMENT WITH MICRONESIA DEVELOPMENT CO.

Mrs. HANSEN. Mr. Marsh has requested me to ask a question for the record with your reply. This is on the status of a lease agreement with the Micronesia Development Co., a subsidiary of the Jones-Guerro Co., of Guam. He would like to have you include the performance of the contractor with regard to fencing and range improvements and show the gross receipts of the venture and the rental paid.

Mr. JOHNSTON. We shall provide that.

(The information follows:)

Effective date of lease was June 11, 1965. No gross receipts reported first 2 years. Gross receipts for the period July 1, 1967–June 30, 1969 amounted to $164,001. Rental paid for this period was 1 percent of gross receipts, or

$1,640. Rental rate increased to 2 percent of gross receipts, effective July 1, 1969. Rental not paid for the period July 1, 1969–December 31, 1969.

Lessee required (barring acts of God, etc.) to clear, fence and improve 7,560 acres and stock with 4,000 head of beef cattle within the first 7 years of agreement date. Micronesian Development Co. now stocks about 2,500 head of cattle, 1,500 head of hogs, and over 75 percent of acreage has been cleared, fenced, and improved.

Total assets were $1,140,059 on June 30, 1969. Current investment estimate now placed at $1,500,000.

TB EPIDEMIC AMONG THE CATTLE ON TINIAN AND SAIPAN

Mrs. HANSEN. Is there currently a TB epidemic among the cattle on Tinian and Saipan?

Mr. JOHNSTON. Yes, ma'am. For a long time we did not have a veterinarian in the Trust Territory and we have one now on loan from the U.S. Air Force. He has an assistant who is a Peace Corps volunteer. They did find TB in some 31 percent of the herd on Tinian and a great many of the animals had to be destroyed, causing the proprietor of that operation a great financial loss. This is correct. It was discovered just a few months ago.

Mrs. HANSEN. Has any provision been made for assistance to the owners of those herds?

Mr. JOHNSTON. This was not herds of small individual owners, this was the large herd operated by the organization referred to in the question. I do not know whether it extended to any cattle owned by small individuals or not. I do not believe it did.

Mr. OLTER. The examination was primarily on Jones' ranch. There was no testing of the small herds.

Mr. JOHNSTON. It may be, Madam Chairman, that it will take us a while to get the information on the Micronesian development lease from a private concern. It is not as easy as if we were getting it from our own records.

Mrs. HANSEN. You should have this information in your own records because it is your responsibility to police the leases.

Mr. ALLDREDGE. We will find when the last inspection was made from the district agriculture files. It is a matter of days rather than hours.

Mrs. HANSEN. I understand that.

Mr. JOHNSTON. It is no problem.

Mrs. HANSEN. I expect the committee's request to be complied with.

(See page 762.)

MANAGEMENT OF CONSTRUCTION PROJECTS

Mrs. HANSEN. You have 19 U.S. civil service employees in public works, engineering, and administration. Does this include a programing schedule officer? If so, what is his function.

Mr. NOSEK. I will be glad to answer the question, Madam Chairman. We have hundreds of construction projects of various magnitude going on. With the limited resources, we have difficulty to program in what sequence to plan the work, to see how it is progressing, what payments to make, what projects are under contract, or to get equipment to a particular project, to get materials there that may be short, just to keep ahead and in touch with all of the projects going on.

After all the planning is done, we still have to get a schedule worked

out for the time-money-material-equipment-manpower framwork of a project to see that it goes on as efficiently and economically and timely as possible.

Mrs. HANSEN. Does this program also include a fiscal officer and what are his responsibilities?

Mr. NOSEK. We are dealing with $30 to $40 million worth of construction at any given time. We feel there should be one qualified individual who does nothing but keep track of the money part of it right from the budgeting until we capitalize the project and get it off the books.

Mrs. HANSEN. This has been one of the troubles in the past, that there was a laxity in charging a project with its proper costs. If one project ran out of funds nobody hesitated to transfer funds from another category.

Mr. NOSEK. Yes, ma'am.

Mrs. HANSEN. You lose track under that type of cost-accounting system of what any project actually cost?

Mr. NOSEK. In this case it is not so much the accounting. We have an accounting department to do that. In fact, this man could well work for the accounting department, but he should devote his time to nothing but construction activities. So when we are dealing with that amount of money, we should know before reports are submitted what the cost is and see when we plan to run out of money. Sometimes we do.

In other projects we may have money left over and we can shift it over to another project.

We do have a limitation of 10 percent or $50,000. We have to be flexible, but we cannot be flexible if we do not have the information at our fingertips.

Mr. LOESCH. In fairness, I do not think the Trust Territory has had the same kind of trouble on this that Samoa did.

Mrs. HANSEN. I am sure they did not.

Does this program also include a management officer and what are his functions?

Mr. NOSEK. We are operating without the customary book of procedures, practices, and just normal guidelines that an organization involved in this big an activity needs. We need a management officer there to keep track of our 1,000 people, to see the job descriptions are up to date, that the people are doing them. He is to see that we have efficient operations in filing the plans that we receive, the correspondence that we get from dozens of contractors, to see that we have a procedure whereby those things are not lost, and that replies are out on time. If we cannot get the complete answer within 3 or 4 days, we shall send out interim replies.

We have nothing like that. We have not had the people to organize it. It is right down the line in all phases of operation.

OPERATION AND MAINTENANCE PROCEDURES

In operation and maintenance we should develop procedures in every activity and every maintenance function. We should keep track of how our vehicles are utilized, we should keep track of how our supplies or materials are being used for maintenance and we just do not have even

the records. We are just in a sort of hand-to-mouth existence. We have not had anyone to look into it and establish the procedures to guide the people in the field and then to see how it is working.

ELIMINATION OF POSITIONS

Mrs. HANSEN. I notice in the report of the Senate Committee on Ways and Means and the House Committee on Appropriations of the Congress of Micronesia, August 1969, a recommendation that says:

> Engineering and administration reduction of $115,000. Elimination of nine U.S. staff positions. Positions recommended for elimination are as follows:
> In the Office of the Commissioner, programing schedule officer, fiscal officer, and management officer. In the division of construction, deputy chief of construction and field construction, four inspectors, Marianas and Ponape and Marshalls, and one construction foreman in Palau.

What is your comment to that?

Mr. NOSEK. If we ever did that, we could not do anything and we would not know what we were doing at the time. It would collapse the whole organization.

Mr. SETIK. At that time we were working on the $50 million limitation and we were trying to organize the budget to live within that ceiling allowance.

Mr. NOSEK. May I comment further on that?

I think we must know the background of this and when you understand the background, I believe you will understand why that recommendation is made.

The emphasis now is on decentralization. Decentralization means to give as much authority to the district—we have six of them—in other words, to develop a smaller but greater staff than they have now, to do many of the things that headquarters does for them now.

HEADQUARTERS STAFFING

At headquarters, we are what I call one deep. We have one engineer, one architect with respective skills. We have one special technician in fields like electric work, telephones, plumbing, and equipment. We are getting by somehow with one key specialist in each field at headquarters whom we keep sending around to the districts. We also use them to check the submissions of design engineers. We have work done by contract. In order to decentralize it means we have to multiply the number of these engineers, architects, and technicians by six. With our budget of $60, $70, or $80 million, I do not think we can afford that now. Yet decentralization is the answer.

We have to go that way. But with the distances here, we cannot assign the people out to the district even with good communications. In the construction and engineering fields, even the technical fields, we have to have a rapport between the different disciplines when they are designing something or reviewing the submission of the contractor. Whether it is a design project or a construction project, the mechanical engineer sits down with the civil engineer and electrical engineer and works concurrently.

Each man may review specifics, but "How does this tie in with you, Tom? Does my mechanical work fit in with your electrical work spacewise? Quantitywise?"

We do have to have a complete staff in one place. I think it is pre-

mature to have that in each district. We just cannot afford it, as much as we all would like to. That day will come eventually. When, I cannot predict at this time.

Mrs. HANSEN. Thank you very much.

PEACE CORPS ASSIGNMENTS

How many Peace Corps people do you have in the Trust Territory at the present time and in what activities are they participating?

Mr. JOHNSTON. We have roughly 374 as of January 15, 1970. They are in education. The biggest single number is 195 in primary education.

Mrs. HANSEN. Are the Peace Corps personnel located throughout the islands?

Mr. JOHNSTON. All through the Trust Territory and even in the islands where the Peace Corps a few weeks ago was almost threatening to pull them out because of lack of radio facilities. We now have backup radio.

One of our communications problems was in the remote areas where, if a radio went out, you just waited a few months until somebody happened to drop by and fix it. We now have backup equipment in or ordered and on the way to every one of these remote districts.

Then there were 54 in secondary education, seven in educational administration, and five in teachers training. Forty of them are in agriculture. Seven nurses, one medical technician, seven lawyers, and one veterinarian.

In economic development there are a total of 22.

Mrs. HANSEN. In the economic development program what type of experiences do the people have?

Mr. JOHNSTON. Some of them are people with experience.

For example, we have one man involved in agriculture on the island of Tinian, who, after his children had finished college and married, with his wife went to Tinian and he serves as an agriculture advisor. He is a mature experienced man who has done a great deal toward helping the farmers get started on Tinian.

We do have a number of these. But basically, seven of these are business advisors. I would say they are mostly on the young side, recent college graduates, eight in community development, six fisheries, and one in handcrafts, is the way they are broken down in economic development.

NATIVE CRAFT DEVELOPMENT

Mrs. HANSEN. What crafts are you developing in the Trust Territory?

Mr. JOHNSTON. It is something that could be developed a great deal more than it is. We are now marketing handicraft as people come through Kwajalein and Majuro, particularly on the airplanes at the terminal in Kwajalein. There the passengers cannot leave the terminal. There is a volunteer operation, a gift shop that sells handcrafts from all of the different districts.

But one problem, of course, we have a bag called a Kili bag that is something that could be sold in any store in America, but we would have to pay a tariff on it to bring it into the United States.

Here again, this is something we have pending before the Congress and would hope that eventually, and the sooner the better, the Trust Territory be given somewhat the same duty-free status that American Samoa and Guam and other friendly neighbors have.

Mr. LOESCH. Madam Chairman, a sideline on the Peace Corps involvement, I would like to say that I was impressed by the people who had been in the Peace Corps and who then remained on or came back.

PONAPE TRANSPORTATION BOARD

The managerial head of the Ponape Transportation Board, for instance, a young man named Wade Judson of a U.S. contractor who was an original Peace Corps guy, came back to the United States, was then hired by Senator Olter's committee to manage the Ponape Transportation Board, and as far as I am advised, he is doing a very, very fine job.

LONG-RANGE PEACE CORPS WORK

On my staff is Tom Whittington, who was a Peace Corps lawyer out there stationed in Ponape to start with, and then was a legislative counselor for the Congress of Micronesia, and is doing an outstanding job staffwise for me.

So I think that the Peace Corps is very helpful after they are through in many instances.

Mr. JOHNSTON. Also, our land management officer on Yap, the district administrator's representative on Ebeye, the district administrator's representative on Bikini, to mention a few others, are former Peace Corps people who have stayed with the trust territory government and are doing a very excellent job.

If I might finish the breakdown, if you are interested, in public works we have six architects, three mechanics, nine in construction, and six engineers, and others in general. We have four working in mass media, four secretaries, one in recreation, and two in entomology, for a total of 374 for the program that will begin on July 1 of this year.

For the first time, the territorial Peace Corps director worked with our headquarters and the district Peace Corps director with the district headquarters. We in the Trust Territory government fed into them what specialties we would like. The whole program has shifted from its original concept of: send a thousand kids out there and let them do what they want, their thing, to a program where we let them know what specialties we need and the Peace Corps makes every effort to fill those specialties.

Mrs. HANSEN. This will make for a happier experience.

Mr. JOHNSTON. It will be cut down a little bit to 330-some. Every one of them will be a specialist in some field, will be trained in the area in which they are operating.

CIVIL ACTION TEAMS—NAVY SEABEES

Mrs. HANSEN. What progress are you making with your military civil action teams?

Mr. JOHNSTON. This is a problem in itself, but we are working on it. The local people make a list of projects that they want completed and they have to provide the materials and they have to provide the local

help to work with the CB's to accomplish these projects. One of the fringe benefits of this whole program, is in training Micronesians in these various skills. It is not that the imported labor, as the gentleman puts it, just pitches in and does the job and leaves. One of the big advantages of the whole program is their training of the local people who work with them. We have the work accomplished. We have the people trained and so on.

Mrs. HANSEN. How does the Department of Interior participate in this program?

Mr. LOESCH. May I speak to that?

Mrs. HANSEN. Please.

Mr. LOESCH. The original agreement between Secretary Hickel and Secretary Laird anticipated that Interior's portion of the total cost would be around 30 percent. This has not proved to be the case.

As it has turned out, according to Defense Department accounting, our participation is between 18 and 20 percent, the reason being that we are not charged with any portion of the transportation costs, resupply costs, or perhaps some other items that I don't know about.

I recognize full well this does not do anything for the United States taxpayer, but it certainly does a lot for Interior and a lot for the Trust Territory. We get much more than dollar value under our budget for the work that we get done by these teams.

Mrs. HANSEN. What has been the total dollar amount spent so far?

Mr. LOESCH. We are spending during the current fiscal year $384,000. During 1971 we have budgeted $600,000. That should turn out to be perhaps $592,000, I believe, if it is all exact. The cost per month to us is $8,250 per team.

I might say, incidentally, I don't know how this is going to turn out, but I am dealing today with Defense in getting an extra team into Yap within the next week for typhoon damage repair. This will not come under our budget presumably but under the OEP disaster $10 million fund. I don't know what the split on that particular team will be. I have not had a chance to confer with HiCom on this. We have made no firm decisions on it but it is available to us within 10 days in Yap if we are able to give them a green light.

As you know, Mrs. Hansen, I am personally convinced that these teams are fitting in well—a few minor annoyances perhaps, but they are fitting in well in the districts with the people and they are being fully responsive to the local priorities of what should be done.

I want to emphasize especially that these teams, while under perhaps the overall control of the High Commissioner, are designed to take care and be responsive to municipalities, localities, local legislatures, and those are the ones who determine which project they would address themselves to.

Mrs. HANSEN. I want to emphasize that the High Commisisoner and the civilian government are responsible for managing the civil action teams.

Mr. LOESCH. We may at any time—and Defense is well aware of this—I must say that I have appreciated your strictures about Defense, but Defense has been very responsive to us in this matter. What they want to do, they recognize that any time we have problems or should run into local problems in any place where we have a team deployed, they are prepared to pull them out forthwith on our say-so

as soon as the High Commissioner lets them know. I think the Members of the Congress of Micronesia might like to comment on this subject also.

Mrs. HANSEN. The committee does not oppose this at all. I think it is a sad commentary on the Department of Interior that you have to look to the military for support. It is too bad you haven't developed your own techniques.

Mr. LOESCH. This is one reason why I downgraded, frankly, I didn't pay very much attention to the man's letter after I considered it, and I felt sure that under the circumstances it was better for us at this point in time to have these teams, not as a permanent thing, as you are well aware, but to try to get us up to where if we had a level program of decent caliber all these years we should be.

I really can't help but think that this gentleman has a certain monetary interest in this.

Mrs. HANSEN. When we have a letter that comes in with conflicting statements, I think the committee should have your comments. This is the process of democracy.

Mr. LOESCH. I sure have learned a lot this winter, Mrs. Hansen.

Mrs. HANSEN. I would be interested in hearing the comments of the Congress of Micronesia on the Seabees program.

Mr. OLTER. As the High Commissioner mentioned, during the session generally the Congress endorsed the civic action team throughout the trust territory after an exchange of discussions as to what is the effectiveness of the program out there. The Congress is aware and they see that the program has been carried out in the area where the Public Works and this administration is not able to do that.

Mrs. HANSEN. The committee would like to know the attitudes of the local people so we can determine what type of program is needed.

Mr. LOESCH. Could I say one more thing?

Mrs. HANSEN. Yes.

Mr. LOESCH. With regard to A. & E., many of these projects are small local projects that either do not require any or on which A and E is already prepared for taxing methods or project for which there is more or less a standard plan in engineering. There is not a great deal of space for the kind of thing that the gentleman wants anyway.

Mrs. HANSEN. We will take a brief recess for the rollcall.

(Short recess taken.)

CAPITAL IMPROVEMENT PROGRAMS

PUBLIC AFFAIRS FACILITY

Mrs. HANSEN. You have requested $156,000 for the public affairs facility.

Will you give me the details on this?

RADIO FACILITIES

Mr. JOHNSTON. The entire $156,000 is for radio facilities to conduct our radio broadcasting. It points out that with this amount of money we expect to then be able to reach 98 percent of our total population in the trust territory by radio. We do not reach them by daily newspapers or any other medium.

We have the nearby Pacific Daily News which gets over into part of the trust territories. Radio is the greatest means of reaching people with news and typhoon warnings and education, and transistorized radios are a sort of necessity of living rather than a luxury. They are very inexpensive.

This will build one new transmitter on Ponape and update the radio station facilities in the other six districts.

Mrs. HANSEN. How old is the combination police and fire station that you are replacing?

Mr. JOHNSTON. I am not sure anyone really knows. It has been slapped together here and there. You do it great honor by calling it a structure. It is practically nonexistent.

Mrs. HANSEN. Is the station going to provide space for garaging and storing of fire vehicles as well?

Mr. JOHNSTON. Yes. We will have with our 1970 supplemental at least one operational fire truck in every district center.

FACILITIES AT TRUK AND MAJURO

Mrs. HANSEN. Are you going to have courthouses at Truk and Majuro?

Mr. JOHNSTON. No. This will be used in other areas where renovation and furnishings will do, rather than building new courthouses. We have a beautiful new courthouse on Saipan, thanks to Typhoon Jean, but we need them badly in Truk and the Marshalls. The others, for example in Palau, where the courthouse is located in a concrete building left over from the Japanese days; renovations, improvements in the air-conditioning system and lighting, and so on. We will do it without building a new courthouse. That money will be also used on Ebeye, Kusaie, and Rota for renovating courthouses there.

EDUCATIONAL FACILITIES

Mrs. HANSEN. You have requested $4,525,000 for Education Facilities. Will you please give us the details on this?

Mr. YARBERRY. The estimate there, Madam Chairman, would be around 25 students average per classroom.

Mrs. HANSEN. You have 150 classrooms?

Mr. YARBERRY. Yes, elementary classrooms at a cost of $1,500,000.

Mrs. HANSEN. What percentage of your students will be provided with decent schools?

Mr. YARBERRY. By 1972, through fiscal year 1972, we will have completed the replacement program so that it will be an ongoing extension just based on increased enrollment.

WATER AND SEWER FACILITIES

Mrs. HANSEN. Do all your schools have sewage facilities and water?

Mr. YARBERRY. No, they do not.

Mrs. HANSEN. Why not?

Mr. YARBERRY. Many of the schools are very elemental, very primitive in their facilities. They will have water catchments.

Mrs. HANSEN. You have requested an increase to provide 13 houses for teachers. Please give us the details on this.

ELEMENTARY CLASSROOM COST

Mr. NOSEK. When these figures came in, this is before we started on our construction program for the present year. This year we are trying to build 115 classrooms at the rate of $7,000 each. We hope to do that by using as much local effort as we possibly can. We are hoping that we can do it, but we have had some complaints from the district administrators, the people charged with this construction. The district administrators say they will complete the elementary classrooms this year by utilizing some of their other resources. They recognize the importance of schools.

Their other resources are in the O. & M. field. We believe $10,000 is more like the figure to build a classroom. Some say $11,000 or $12,000 would be even better. We are going to push them and see if they can get it done for $10,000 or less. This is just the bare building with all the equipment that goes into it, such as desks, blackboards—what else?—closet space.

Mrs. HANSEN. Where do you purchase your materials?

Mr. YARBERRY. These are ordered from various supply places. We have ordered some in the past, I understand, from Taiwan. These are all ordered from U.S. suppliers.

MICRONESIAN TEACHER CENTER

Mrs. HANSEN. How many will the new Micronesian Teacher Center in Ponape accommodate?

Mr. YARBERRY. This will accommodate about 120 students at the first enrollment.

Mrs. HANSEN. Are these secondary school graduates?

Mr. YARBERRY. These are secondary school graduates who will undertake two years of education school training. We have cooperating teachers to follow them into the field, that is, into the classrooms, so there is followup there on this.

COST OF STAFF HOUSING

Mrs. HANSEN. You have requested $380,000 for teacher housing units that will cost no more than $30,000 per unit. $30,000 per unit will give you what?

Mr. YARBERRY. This a three-bedroom——

Mrs. HANSEN. Is this a family type dwelling?

Mr. YARBERRY. Yes.

Mrs. HANSEN. What is the average cost of the units?

Mr. NOSEK. We had a staff limitation put out by the Department of Interior which states that we could not spend more than $29,000 per house. The limit of $29,000 does not normally include the cost of removable and replaceable items such as ranges, venetian blinds, storm doors or windows. Nor does it include the cost of inspection if the construction is performed by contract. Nor does it include the cost of furniture. In this case we believe that we can include all of this and perhaps connect it to the sewer for the $30,000. We have some designs which provide 1,200 square feet, three-bedroom apartments. They

will be multiple units to keep the cost down. We will be able to provide all these other items, which are normally not in the $29,000 limitation, for $30,000 per unit.

EBEYE HOSPITAL

Mrs. HANSEN. You are requesting $300,000 for your hospital on Ebeye. Will you please give us the details on this.

Mr. JOHNSTON. This $300,000 will complete an adequate modern hospital. Added on to the funds available in this fiscal year, construction will be started on that very shortly. The ground is already cleared for it.

ROADS

Mrs. HANSEN. You have requested $1,450,000 for roads. What is your total road mileage in the Territory?

Mr. NOSEK. 470 miles.

Mrs. HANSEN. Where are the roads located?

Mr. NOSEK. That is throughout the principal islands of the Trust Territory, the major islands only.

Mrs. HANSEN. Are the roads adequate?

Mr. NOSEK. No, ma'am.

Mr. JOHNSTON. Not at all.

Mrs. HANSEN. $1.450 million will not accomplish very much?

Mr. JOHNSTON. It will construct about 60 miles.

Mrs. HANSEN. What kind of surfacing?

Mr. JOHNSTON. Crushed coral, and I believe this will be lightly coated.

Mr. NOSEK. A few miles will be coated with asphalt, 6 miles.

Mrs. HANSEN. Aren't you going to have to have a continuing yearly road program until you bring the roads up to a certain standard?

Mr. JOHNSTON. Yes. Our program is to have all of the primary roads and a good start on the secondary roads within the next fiscal year.

DESIGNATION OF PRIMARY AND SECONDARY ROADS

Mrs. HANSEN. What is your classification designation for the difference between a primary and a secondary road?

Mr. JOHNSTON. There has been some argument about that, but basically, a primary road is the road that connects your district center with the important parts of the island or a road, say, that would go completely around the island. And then the roads that would go from that up into the hills or down toward the beach, these are your secondary roads that feed into your one main primary road.

By some tests of use, some of the roads that we call secondary might be called primary roads. But basically our primary roads are just those that you might say are absolutely essential.

PROCUREMENT OF ROAD CONSTRUCTION EQUIPMENT

Mrs. HANSEN. You are going to buy $440,000 worth of equipment. Will you give us the details on this.

Mr. JOHNSTON. Heavy construction equipment, yes, the heavy graders, the vibrating compacters, and so forth.

Mrs. HANSEN. If the equipment is maintained will you be able to use it for following construction projects?

FUNDS FOR EQUIPMENT MAINTENANCE

Mr. JOHNSTON. Yes, ma'am, and we are budgeting funds now for the maintenance of this equipment, which was not done at times in the past.

DOCK FOR PONAPE

Mrs. HANSEN. You have requested $300,000 for a dock at Ponape to provide 500 feet of dock space. Will you give us the details on this?

Will this reduce the $265,000 per year lighterage costs?

Mr. JOHNSTON. It says in this presentation, we would eliminate $190,000 of the $256,000. There are some unloading costs at the dock we would have anyway. So it would eliminate approximately $190,000 of excess cost now being eaten up by the lighterage process.

INTRA-ISLAND SKIPS

Mrs. HANSEN. You are requesting $1.2 million for intra-island ships. We discussed some of your transportation problems earlier. Do you have anything to add on this?

Mr. JOHNSTON. No, I think this pretty well explains it.

In the first sentence, it says four of them are past their useful life of 20 years. We do need new modern double-hatched vessels designed for the Micronesian trade. We have sort of a miscellaneous collection of vessels following no one given pattern.

NEED FOR WAREHOUSING & TERMINAL BUILDINGS

Mrs. HANSEN. You are requesting $100,000 to expand present terminal buildings. Where are they going to be located?

Mr. ALLDREDGE. They are putting this together right now.

Mr. JOHNSTON. This is spread out over all seven.

Mr. ALLDREDGE. Not all seven harbors in fiscal year 1971. We get three this year.

Mrs. HANSEN. Are you sure you have read your own justifications?

Mr. ALLDREDGE. There was a little side difficulty that came in the intervening period between the preparation of the justifications and these hearings.

The seven major ports all need additional ones, Yap and Ponape in particular. With the harbor going in at Ponape there will be warehouses. Ponape and Yap will be the principal recipients of terminal warehouses at this time plus a very much needed expansion of the terminal warehouse at Truk.

Mr. NOSEK. We need these warehouses all over the place and this is just a start to get two and maybe three.

Mrs. HANSEN. How many warehouses are available now?

Mr. NOSEK. Off the top of my head, I would say there are four that have warehousing, but none of them are adequate quantitywise and definitely not adequate qualitywise.

RESOURCES DEVELOPMENT FACILITIES

Mrs. HANSEN. You have requested $635,000 for resources and development facilities, $165,000 for agriculture equipment, $250,000 for the Truk garden project, $100,000 for agriculture facilities, and $120,000 for a marine laboratory in Palau.

Will you discuss this for the committee?

Mr. JOHNSTON. The marine laboratory is a new facility.

You recall we discussed that previously in connection with a marine laboratory manager.

Mrs. HANSEN. How about the Truk garden project?

Mr. JOHNSTON. Right now the island of Rota has a contract with Anderson Air Force Base that the Air Force will fly a plane into Rota, pick up the vegetables, and take them back to Guam and pay them a very top rate for their production. This is an industry that could be tremendously expanded, we have the land.

Mrs. HANSEN. What is the export figure now?

Mr. ALLDREDGE. I do not know in dollars.

Mrs. HANSEN. Will you insert this information in the record.

(The information follows:)

EXPORT OF PRODUCE FROM ROTA

The Air force from Guam flies two cargo flights a week from Anderson AFB to Rota. About 1½ tons of produce per flight can be transported. This has developed into a fairly regular project, although difficulties are to be expected in maintaining a steady export volume during the dry season.

Mr. ALLDREDGE. Two planes a week come over and return loaded.

Mrs. HANSEN. What type of vegetables do they raise?

Mr. JOHNSTON. Lettuce, green peppers, tomatoes, cabbage, cucumbers, squash, watermelons. Quite versatile. They have excellent green beans.

Mrs. HANSEN. You have requested $1.929 million for water and sewage on Yap.

I suspect this is probably just a start of this program.

Mr. JOHNSTON. Yes, ma'am, that is a start.

Mr. ALLDREDGE. This will provide an operating sewer system in the district center.

Mrs. HANSEN. How many families will be served?

Mr. JOHNSTON. The Yap district has a total of only about 7,300 people and I would say 3,600 will be served in the concentrated area. The outlying communities are too far distant to be efficiently connected to a central sewer system.

Mrs. HANSEN. You have requested $3.768 million for the water and sewage system on Moen. How many people will this serve out of the total population?

Mr. ALLDREDGE. When completed, the population of Moen to be served is about 4,400 people.

Mrs. HANSEN. You have requested $2.630 million for water and sewage on Ponape. How many people will this serve?

(The information follows:)

An estimated 3,700 residents in Kalonia Town region will be serviced in addition to education, medical, and other public facilities.

Mrs. HANSEN. Electric power—Trust Territorywide power. You have requested $2.630 million to provide power for all six districts?

Mr. JOHNSTON. Yes, ma'am. I think the significant thing here, Madam Chairman, is that we are getting our power into the outer island areas.

You notice in each one of the six districts there is not only power for the central stations (for the district center), but we are now providing at least some power in outlying areas in every district. And these are the——

Mrs. HANSEN. How do you service the power system after a typhoon?

Mr. JOHNSTON. We are going to try to have people trained to perform the ordinary service and maintenance on plants in each one of these outer island areas. But after a typhoon you just have to send in crews to rebuild them. This is one of our big problems.

Mrs. HANSEN. Will you have to train crews?

Mr. JOHNSTON. Yes. We have a great shortage of trained telephone repairmen, electric repairmen and so on to react quickly in times of emergency.

MAJURO AIRFIELD CONSTRUCTION

Mrs. HANSEN. Do you have any other details on the $1.25 million for the Majuro Airfield?

Mr. JOHNSTON. For the construction on that, we have given the contract for the engineering to the Corps of Engineers district office in Honolulu and their people are on Majuro at the present time.

When I talked to the Deputy High Commissioner yesterday, he assured me that the last step had been taken to acquire the land for the runway. So that we do have the 120 acres that we need, have acquired it at a cost of $400 an acre on a 25-year lease.

It is up from what it was and the people there feel this was a very fair offer. We were able to do it on the basis of so much per acre without counting coconut trees and breadfruit trees and using a more involved formula.

So the airport is moving along. Remember that the Majuro Airport itself, has a new water system (water catchment, water storage, and water distribution system) an airport and a road to get from the present airport location to the new airport location, which is between 6 and 7 miles.

And the whole three-way project is phased into three fiscal years, 1970, 1971, and 1972.

FLIGHT-CARGO AND PASSENGER STATISTICS

Mrs. HANSEN. How much cargo tonnagewise does this airport accommodate? Also how many passengers does it accommodate?

Mr. JOHNSTON. We have two flights each way each week by Air Micronesia. It is the entryway of course to the Trust Territory from Hawaii.

(The information follows:)

MAJURO AIRPORT, MAJURO, MARSHALL ISLANDS MONTHLY TRAFFIC VOLUMES, JANUARY 1969 TO JANUARY 1970

Month	Passengers		Freight (pounds)		Mail (pounds)	
	Enplaned	Deplaned	Enplaned	Deplaned	Enplaned	Deplaned
1969:						
January	250	294	11,997	16,846	972	3,342
February	281	266	16,425	12,284	812	3,148
March	329	316	21,399	11,566	1,650	4,420
April	289	305	17,051	21,657	1,535	4,398
May	322	305	7,190	12,986	1,339	4,414
June	536	316	11,776	18,633	4,253	3,760
July	324	434	13,579	12,430	2,930	3,741
August	381	442	9,326	16,987	2,247	4,722
September	320	375	11,452	7,741	2,099	3,137
October	291	240	10,197	26,285	2,178	6,365
November	286	302	12,110	27,485	1,638	5,366
December	409	338	9,110	32,185	2,623	7,498
1970: January	321	328	8,955	31,458	1,898	7,321

USE OF A. & E. REVOLVING FUND

Mrs. HANSEN. You are requesting $480,000 for the A. & E. revolving fund.

What is this going to encompass? What do you use this fund for?

Mr. NOSEK. The main reason we would like to have A. & E. funds is that we want to become more efficient in the construction programs, more practical in getting estimates on what something is going to cost. We want to known beforehand that the land is available. We want to know everything else that fits into it. No project is alone. When we build something, we should have water for it, we should perhaps have power and we should have access by road, and sewage facilities—and we should plan and seek funds for all of these related items.

Mrs. HANSEN. Will you build some standard designs and plans?

Mr. JOHNSTON. That is correct. We want a school. People just think of the building, but how are the children going to get there, what are they going to use for water?

Another thing is, perhaps if we can get roads through we will not need so many dormitories and we would like to get more of that type of planning.

NEW YAP AIRPORT

Also, we know we need an airfield at Yap or improved one at Yap. We know we have to improve the airfield at Palau. What are the improvements going to cost?

The figures we have to pull out of air based on experience and very limited analysis. We should have engineers go out there, technicians to see if we can build an airfield for the 727. If not, is there another site where we can build it, and if we build it there, how much will it cost?

Mrs. HANSEN. You also have to make sure when you locate a school that you have an adequate water supply as well as adequate space for your recreation facilities.

Mr. JOHNSTON. That is true.

Mrs. HANSEN. I think in the Trust Territory areas you have to use your schools for a multiplicity of purposes. They can be used as community centers and community playgrounds.

NEED FOR FEASIBILITY STUDIES

Mr. JOHNSTON. We have a number of projected projects we are hoping to get: Palau Airfield, Yap Airfield, Yap Harbor, Truk Airfield, or Kusaie Airfield. We have to get feasibility studies on them. We are talking at least $10, maybe $15 million.

We should have something detailed to tell us what we are talking about and bring it here so you will know what it is and why.

Mrs. HANSEN. You also have to evaluate your own priorities.

Mr. JOHNSTON. That is true.

INVOLVEMENT OF MICRONESIAN PEOPLE

Mr. LOESCH. May I put in here, in accordance with the policy of the administration, and I am sure also of this committee, of involving our Micronesian Congress in this kind of thing and getting its input on the priorities, it has to have this information to know where to go.

Mrs. HANSEN. I want to commend you on this. I think this has been one of the things that many of us have experienced with construction activities that we didn't have enough of a knowledge base.

(Off the record.)

DESIGN OF FACILITIES

Mr. NOSEK. To continue with this, after we have these feasibility studies, of course we need to design the facility. The Majuro school system administration, Ponape police, and fire station, and all of the airfields we are talking about, must be designed.

What we would like to do is get on a 3-year cycle. The first year, have a feasibility study. We need some money for that. The second year, have the design so we know what we are talking about, and then, the third year, we ask for construction money.

Mrs. HANSEN. I congratulate you on this. This is exactly what the committee has suggested to the Bureau of Indian Affairs. It prevents the setting aside of a large sum of money for something which could not possibly be constructed in a particular fiscal year. It gives you a much more workable construction schedule.

A. & E. FUNDS FOR LAND ACQUISITION

Mr. NOSEK. There is one other purpose for which we may have to use this money and that is land acquisition. We try in all cases to use public lands, but it is not always possible. Sometimes we have to acquire private land. Some think that the community should provide land for a capital improvement project like a school. They ask, why does not the community do so? Well, the capital is not there at this stage.

All we are doing is leasing land. We never take land. That is a new policy set by the High Commissioner. We do not buy land in fee simple; we lease it.

PUBLIC DOMAIN LAND

Mrs. HANSEN. What proportion of the land in the Trust Territory is public domain and how was it determined?

Mr. JOHNSTON. The way it was determined is that if it was taken from the people by the Spanish, German, or Japanese Governments in the past, it is generally considered public domain and this is one

of the great sore points in Micronesia today, and one of the things we are trying to establish by this land program we discussed earlier in the day.

Now before we declare them public lands, we want to make sure that these are bona fide public lands and of course there are many people throughout Micronesia who contend that land was wrongfully taken at some time in the past, and therefore should be returned to the rightful owners.

These are the things we are going to try to determine equitably and fairly and establish some order out of chaos in the whole land pattern of Micronesia.

Mr. ALLDREDGE. The gross figure is about 39 percent of the land is private land. The remainder of the land is public domain, of which in total 38 percent is now vacant public lands, leaving approximately 20 percent in public lands set aside for local or the Trust Territory use, public lands held under agricultural homestead, under village homestead, under special use permit, lease to Micronesian citizens and so forth.

Mrs. HANSEN. How much of the public domain land is in question?

Mr. JOHNSTON. Depending to whom you are talking. If you talk to some people, 100 percent of it. But certainly a great percentage of it would be.

Mrs. HANSEN. How much of the land do you feel actually should be under public domain for the practicalities of government?

Mr. JOHNSTON. It would probably be a greater percentage than you would find in the average area of the continental United States, certainly. You need so many thousand feet to build an airstrip.

For example, in the area of the Majuro, where we could have improved the present strip instead of building the new one, it would have taken 27 percent of the usable land in that area of population center, what we call the DUD area at Majuro. It would have taken 27 percent of the usable land in that area just for the airstrip, not adding any other public facilities to it at all.

This is an example of how disproportionate our requirements may be to some other areas where there are just so many feet added for an airstrip, and that is a greater percentage total area than it would be in other places.

RECREATION FACILITIES AVAILABLE TO TOURISTS

Mrs. HANSEN. What kind of recreation is currently available for a tourist when he goes to the Trust Territory.

Mr. JOHNSON. There is a certain amount of sightseeing with tour guides. Some deep-sea fishing is starting to develop in the Palau district, and a little bit in the Marianas. Glass bottom boat trips. It is one thing we have to develop to a much great degree. The sales manager of Air Micronesia has just recently finished a paper on what the Trust Territory still has to do to prepare for the six hotels they are building under contract.

Mrs. HANSEN. What about swimming?

Mr. JOHNSTON. Swimming I did not mention, because that is very, very limited. We have one swimming pool in the Trust Territory, that is at Royal Taga Hotel. There are good swimming beaches but we have to identify them and clean them up.

SHARK POPULATION

Mrs. HANSEN. Do you have a large shark population?

Mr. JOHNSTON. We have a shark population and of course particularly in Palau a crocodile population, too, which can be equally fatal.

(Off the record.)

Mrs. HANSEN. May I express my appreciation, Mr. High Commissioner, to you on a well-planned job?

I want to compliment the members of your staff. I want to again express my appreciation to the members of the Micronesian Congress.

It is important to the U.S. Congress to develop Micronesia wisely.

ADMINISTRATION POLICY ON LANDS AND BUILDINGS

Mr. LOESCH. Could I make one remark?

Mrs. HANSEN. Yes.

Mr. LOESCH. We were talking a while back about the airport and the public land and how much percentage of land was public and the arguments about it and the difficulties. I would like the record to say that it is the administration policy that whatever status is worked out with the Micronesians as to future political status, the U.S. Government is already committed to the policy that was called the public land—I am not talking about a place where there is a post office, for instance, but that the public land as presently defined will become the property of the government of Micronesia, whatever status that government should have.

I feel that the dislocations and the irritations and the anger that are inherent in this land question will be largely relieved when the Micronesians themselves are in charge of retention, disposition or whatever they may decide on the public lands.

Mrs. HANSEN. I would also like the gentlemen from Micronesia to present my personal greetings and the greetings of our committee to the Congress of Micronesia and express our appreciation for the privilege of having you with us today.

We look forward to many more discussions between your country and ours.

Mr. REIFEL. Madam Chairman, I want to second enthusiastically what you have said in regard to the manner in which the presentation was made by Mr. Johnston and his staff and members of the legislature.

EDUCATION OF MICONESIANS

Much is going on and a great deal of emphasis is being placed on education. I would only hope that real focus will be placed on educating the Micronesian young people so that they will be prepared to take the ADP opportunity for employment and whatever all these communications activities are going to go on.

I would think that no greater service could be done to the American people than we in a few years could say that we have helped these people come to a place where they can run their own government from that which is now being so amply carried on by the High Commissioner, Mr. Johnston.

Maybe you are doing this. I think that you are. But I think at every turn in the kindergarten and every step of the way we can hold out the hope that the opportunity is there and to prepare them. And I do not think we need sometimes to go through some long roundabout way to prepare an individual to be some kind of a technician. I had only 15 months of high school before I went to the university for my education, and this is when I was 19 years old when I started to high school. There is a lot of folderol that can be cut out to get these folks to the point where they can take over some of these things, and I think this should be our primary concern, that of the legislature and the executive working together.

What an exciting thing it would be if say 10 years from now, whatever direction you took as a people out there, that we had a part in accelerating the time when you would be running everything with your own people.

Even if you continue to be operating under the same circumstances that you are now as a Trust Territory, if you do everything yourself, it would be a tremendous, I think, recommendation to the people of the world what America can do and wants and has done for people.

I want to close by again commending all of you for an excellent presentation, I think a great perspective, and what appears to me a real dedication to bringing the Micronesian people as rapidly as possible to a point where they can feel that they are standing on their own feet and within the umbrella of a free and democratic society.

Mr. JOHNSTON. May I say, Madam Chairman, that we all of us certainly appreciate your courtesy and understanding and your helpful suggestions.

And we have enjoyed the hearing and have learned by it. We would like to extend our thanks to you and Mr. Reifel and the members of your staff and the other members of your committee.

Mrs. HANSEN. Thank you, Mr. Johnston.

The committee has a deep and continuing interest in Micronesia. I came on the committee 8 years ago when the situation was far sadder than it is today. I would like to pay tribute to Mr. Kirwan. for it was his interest in Micronesia that stimulated progress. It was through his efforts that the first beginnings were made on the program which you now lay before the committee. It never would have been done had he not taken the time and the effort. Micronesia did not always have the congressional interest it has today.

I cannot help also paying my deepest respect to Mr. Reifel who has given abiding support to the programs of Micronesia through the years. It has been a great privilege working with Mr. Reifel.

I may say it is a great privilege for Micronesia to have had this kind of support.

Mr. LOESCH. I would like to add my thanks to those of the High Commissioner and to also hope that next year when we are before you, we will have proved the pudding.

Mrs. FARRINGTON. Thank you for your patience and kind understanding.

Mrs. HANSEN. Thank you, Mrs. Farrington.

MONDAY, MARCH 2, 1970.

BUREAU OF MINES

WITNESSES

DR. EARL T. HAYES, DEPUTY DIRECTOR
HENRY P. WHEELER, ACTING ASSOCIATE DIRECTOR, HEALTH AND SAFETY
PAUL ZINNER, ASSISTANT DIRECTOR, PLANNING
CARL RAMPACEK, ACTING ASSISTANT DIRECTOR, MINERALS RESEARCH
ALVIN KAUFMAN, ACTING ASSISTANT DIRECTOR, MINERAL RESOURCE EVALUATION
FRANK D. LAMB, DEPUTY ASSISTANT DIRECTOR, MINERAL RESOURCE EVALUATION
DR. WALTER J. LANDER, ASSISTANT DIRECTOR, ADMINISTRATION
HAROLD W. LIPPER, ACTING ASSISTANT DIRECTOR, HELIUM
THOMAS E. HOWARD, DIRECTOR OF MINING RESEARCH
JOSEPH A. CORGAN, CHIEF, DIVISION OF ENVIRONMENTAL ACTIVITIES
ELWOOD THOMSON, CHIEF, DIVISION OF BUDGET
RICHARD R. HITE, DIRECTOR OF BUDGET, DEPARTMENT OF THE INTERIOR

BIOGRAPHY OF ACTING DIRECTOR

Mrs. HANSEN. The committee will come to order. We have this morning the Bureau of Mines. Television advised me last night that Mr. O'Leary is no longer the Director. Who is the Acting Director?

Dr. HAYES. I am the Acting Director.

Mrs. HANSEN. Will you please insert your biography in the record.

Dr. HAYES. Yes.

(The biography follows:)

EARL T. HAYES' BIOGRAPHICAL SKETCH

Dr. Hayes has been Deputy Director of the Bureau of Mines since April 1967. In this position he acts for the Director on all phases of general management of the Bureau's activities in research and development, health and safety, mineral resources and helium conservation.

Dr. Hayes had been Science and Engineering Advisor to the Director of the Bureau of Mines since August 1966. Previously he was Assistant Director—Materials in the Department of Defense Office of Defense Research and Engineering with responsibility for coordination of Army, Navy, and Air Force materials research and development programs. The Materials Advisory Board and Defense Metals Information Center were advisory to his office.

Prior to this Dr. Hayes had spent 20 years with the Bureau of Mines rising to the position of Chief Metallurgist.

Dr. Hayes was born in Wallace, Idaho. He holds a bachelor's and a master's degree in metallurgical engineering from the University of Idaho (1935 and 1936) and a doctorate in chemical engineering from the University of Maryland (1940). Before joining the Bureau of Mines for the first time at College Park, Md., in 1938, he was employed in mine leasing of lead-silver-zinc ores in Idaho's Coeur d'Alene mining district.

Author of approximately 40 technical publications, mostly in the rare and refractory metals field, Hayes also was active in Bureau of Mines efforts at Salt Lake City, Utah, and Albany, Oregon, that developed a technology for production of titanium and zirconium metals. He has been Executive Secretary of the Federal Council on Science and Technology's Coordinating Committee on Ma-

terials Research and Development and a member of NASA's Advisory Committee on Materials. A registered professional engineer, he also belongs to the American Society of Mining, Metallurgical, and Petroleum Engineers, the American Society for Metals, Sigma Xi and Phi Kappa Phi.

Dr. Hayes and his wife, the former Carlene Smith of Wallace, Idaho, have lived in the Washington, D.C. area since 1956 and their home is presently at 517 Gilmoure Drive, Silver Spring, Md. They have three children, all married.

Mrs. HANSEN. I understand Mr. Dole, the Assistant Secretary for Mineral Resources will be unable to attend the hearing today.

Mr. HITE. Mr. Dole was called to the White House this morning.

Mrs. HANSEN. We will continue with the hearing but if I do not feel the answers being given are definitive, your hearing will be rescheduled at a later date.

Dr. HAYES. Yes.

Mrs. HANSEN. The Bureau of Mines is a critical program in this year's budget as far as its impact on the people of the United States. You are aware that in the closing days of congressional session last year the very important Mine Health and Safety Act was enacted.

Subsequent to that, I served on the Supplemental Conference Committee that provided initial funding to carry out the provisions of this legislation.

GENERAL STATEMENT

Dr. Hayes, will you please insert your general statement in the record and summarize it for us.

(The statement follows:)

STATEMENT OF THE ACTING DIRECTOR, BUREAU OF MINES

I am grateful for the opportunity to be here today and to discuss with you the financial needs of the Bureau of Mines for fiscal year 1971.

Since I met you last, the duties and responsibilities of the Bureau have been greatly expanded with the passage of the Federal Coal Mine Health and Safety Act of 1969 and with the promulgation during 1969 of many mandatory health and safety standards for noncoal mines, as authorized by the Metal and Nonmetallic Mine Safety Act of 1966. To meet its new and substantially heavier responsibilities, the Bureau needs substantially increased funding.

The 1969 act, for example, calls for more frequent and more detailed inspections of coal mines. To adequately discharge this responsibility, as well as others placed on the Bureau by the new act, we will have to increase our staff by about 700 inspectors, technical specialists, and other supporting personnel. As you may know, there is a shortage of manpower—within the coal mining industry—and the number of men with sufficient training and knowledge to perform the newly intensified duties of the mine inspector is relatively small. Consequently, to obtain an adequate number of inspectors and, at the same time, avoid weakening the industry's ability to improve health and safety in the mines, the Federal Government should utilize fully those authorities it has by which the number of qualified personnel can be augmented. Since we must, in effect, tap the industry's manpower pool, it is in the national interest that we help replenish that pool.

With the promulgation of 1,700 health and safety standards for noncoal mines, we must prepare to enforce mandatory standards at approximately 25,000 mines and related processing plants. To perform these inspections will require an additional 315 man-years for the Bureau's inspection force. We have now established the field organization that will be needed to carry out the requirements of the 1966 Metal and Nonmetallic Mine Safety Act. District and subdistrict managers have been appointed, and staffing is steadily progressing toward an adequate complement of inspection personnel to be available when the provisions of the act become fully enforceable.

Increased funding for a greatly enlarged inspection force is a major need. By no means, however, is it the only one for which the Bureau will require additional

funds if it is to accomplish the goal of providing the Nation's miners with a safe and healthful working environment. We will also require increases in funding for research and development work to establish as regular practice safer and more healthful mining techniques, and for increased technical assistance to the industry on health and safety problems.

BUDGET ESTIMATE

Our budget estimate for fiscal year 1971 totals $101,166,000. This represents an increase of $6,299,000 above the adjusted appropriation for 1970. The total Bureau request includes $30,299,000 for new or expanded programs, most of them in the health and safety fields that I just mentioned. Our being only $6.3 million above last year's adjusted appropriation is accounted for by the fact that we are not at this time requesting $24 million in borrowing authority for the helium conservation portion of the helium program. The conservation effort is currently being reexamined within the Department. Whatever the results of that reexamination, we anticipate that we shall have to submit later a request for a supplemental appropriation of approximately $40 million.

Federal Coal Mine Health and Safety Act

With your permission, I would now like to describe briefly some of the features of the new Federal Coal Mine Health and Safety Act. To carry out adequately the provisions of the new law, we are requesting increases totaling $26,646,000 in the health and safety appropriation and an additional $1.3 million for research and development on methane control under the conservation and development of mineral resources appropriation. Here are some of the law's features that account for our request for increased funds:

Provisions for inspections of underground coal mines at least four times a year. In the past the Bureau has inspected every underground coal mine twice a year and we have managed to inspect most of the large coal mines three times a year.

Requirements that each coal mine operator sample the amounts of respirable dust in the mine at least every third production shift. These samples are to be analyzed by the Bureau of Mines.

Establishment of a respirable dust standard of 4.5 milligrams per cubic meter effective the day of enactment and a standard of 3 milligrams effective 6 months later. The Bureau is now implementing procedures designed to achieve the earliest possible uniform compliance with these respirable dust standards, which represent an entirely new mandatory health requirement for the industry.

Requirement that all face equipment is to be of a permissible type and maintained in permissible condition. Face equipment in use when the act was passed must be upgraded to permissible condition. We are now nearing completion of a plan under which field testing of such equipment can be accomplished.

Requirement that Federal inspectors make spot inspections at least once each 5 working days in each underground mine that liberates excessive quantities of explosive gases.

Provision for increased education and training of miners and operators.

Authority for the Secretary to make grants to any State in which coal mining takes places.

Provision for training of persons necessary to fulfill the requirements of the new regulations. For example, we have already launched intensive training programs at three Bureau installations to train our own people, as well as industry and State officials in proper techniques of sampling coal mine atmospheres for respirable dust.

Authorization for as much as $20 million in 1970, $25 million in 1971, and $30 million in 1972 and in years thereafter to conduct such studies, research and demonstrations as may be needed to protect the health and safety of the coal miner.

These are only a few of the important new responsibilities the Bureau is required to assume under the new law. I'll be glad to review them, and others, with you in greater detail during the forthcoming discussion of our appropriation request.

SUMMARY OF MAJOR PROGRAM INCREASES

Let me now summarize briefly each of the major program increases that we are proposing.

Coal mine inspections

An increase of $16,826,000 is requested for coal mine inspections and related responsibilities as set forth in the new Act. More complicated mandatory electrical standards, for example, will require inspections by personnel specially trained in electricity. Similar needs apply to other specialized areas, such as ventilation, roof control, and methane control. Also, the additional funds will provide for spot inspections at least once each 5 working days of each underground mine which liberates excessive quantities of explosive gases or otherwise presents a particular hazard.

The new Act establishes for the first time a respirable dust standard for all underground coal mines. The request covers the estimated cost required for collecting and analyzing samples to assure that the airborne dust concentrations do not exceed the standard. In addition, assistance will be provided to mine operators to help them meet new standards as they become effective.

Metal and nonmetal mine inspections

Several hundred of the health and safety standards authorized by the 1966 Metal and Nonmetallic Mine Health and Safety Act have now been promulgated by the Secretary of the Interior, and the Bureau has recruited and trained a staff of inspectors that will enable it to assume part of its responsibilities under that law. In this fiscal year (1970) we will be able to make about one-fourth of the total number of inspections required under the Act. The requested increase of $1,065,000 will enable the Bureau in fiscal year 1971 to assume a substantially greater share of its responsibility for health and safety in metal and nonmetallic mines.

Health and safety research

The Bureau's health research program will be directed toward the development of technology required to minimize and control hazardous concentrations of respirable dust which can cause pneumoconiosis, silicosis, and lung cancer. Basic research will be conducted to determine the physical characteristics of dust, including its generation, behavior, and relationship to the properties of the strata being mined. Other research will be aimed at improving mining equipment and methods to reduce the health hazards now encountered by mine workers and to develop a technology that can greatly reduce the health problems in the uranium mining industry presented by radon-gas and radon-decay products.

Methane control

The Bureau's expanded research on mine safety places heavy emphasis on methods for preventing fires and explosions caused by the ignition of methane. The workers in our coal mines will never have adequate protection against disastrous explosions until effective control of explosive methane gas is achieved. The $3.5 million increase requested for methane-control research will fund both accelerated development of a technology for predicting and measuring the occurrence, accumulation, and migration of this lethal gas in coal-bearing formations, as well as stepped-up efforts to devise practical ways for removing large volumes of methane from coal deposits before mining begins and safely removing the remainder during mining. Included in this work will be a search for methods to capture methane and put it to use as a premium fuel. Funds for this program are requested under both the "Health and safety" and the "Conservation and development" appropriations. It is, however, a single program.

Research is being stepped up also on rock mechanics to obtain the basic physical data requisite to safer coal mine design. This includes intensive investigation of the "bump" or coal outburst problem and on means for achieving more dependable support of roof and rib by such methods as roof bolting and chemical stabilization. Funds are requested also for completing the development of a post-disaster survival and rescue system. Research is being directed as well toward the development of safe lighting systems for underground mines and toward the prevention of numerous other hazards now encountered in mining coal.

PROGRESS TO DATE

As soon as our responsibilities under the new Coal Mine Health and Safety Act became clear, we began developing procedures by which the law can be effectively and fairly administered. Committees of experts were formed and they have been working literally around the clock to develop interpretations of the law's provisions and guidelines for their implementation. These interpre-

tations and guidelines are now undergoing intensive review prior to their publication in the Federal Register. Meanwhile, detailed instructions on new inspection procedures have been developed for all Bureau inspectors.

Procedures also have been devised for the sampling of respirable dust concentrations and a fully equipped facility for weighing and analyzing the samples has been set up.

Close liaison has been maintained with mine operators, union representatives, equipment manufacturers, mining associations, and other interested persons to assure that they are as fully informed as possible concerning the provisions of both the Coal Mine Health and Safety Act and the Metal and Nonmetallic Mine Safety Act.

Educational programs have been started to develop the required personnel competent to carry out the many technical requirements of the health and safety programs, and plans have been completed for additional and expanded educational programs.

OTHER BUREAU PROGRAMS

Because of the substantial increases in funding required by the Bureau's expanded responsibilities in health and safety, and in light of the major reordering of Federal priorities that is now in progress, we are proposing that the Bureau's many other important programs be continued at about the fiscal 1970 level. The single exception to this general rule is in the mineral research area where we are requesting an increase of $1,500,000, which would be used to design a small prototype plant for converting coal to a high-heating-value pipeline gas.

There is a pressing need to develop alternate sources of gas because of rapidly increasing demand and imminent shortages posed by the attractiveness of gas as a fuel that can help minimize environmental pollution. By providing additional supplies of gas at reasonable cost, coal gasification can help to bridge this encroaching imbalance.

Coal gasification

Design of the prototype plant, which would have a capacity equivalent to 1 percent that of a full-size commercial plant, would be based on the Bureau-developed gasification process which promises several important advantages. Among these are the direct use of coal without pretreatment; high conversion efficiency with minimal oxygen consumption; and a predicted price for the gas of 54 cents per 1,000 cubic feet, which already is attractive in some parts of the country. Design of the small prototype plant will make possible an evaluation of final design criteria for a commercial plant, including specifications for equipment and construction.

We propose to continue at the current, or a slightly reduced, level all other Bureau programs under the "Conservation and development" appropriation including those concerned with the adverse environmental effects of operations that extract, process, or utilize minerals and fuels. With the passage of the Solid Waste Disposal Act and the Appalachian Regional Development Act of 1965, much of the Bureau's environmental work was accelerated and several new programs were initiated. Objectives of this work, which we plan to pursue to successful completion, include: Separation and recovery of mineral values from urban refuse; utilization of the metals contained in junk cars; development of alternate processes in smelting and refining to alleviate air pollution effects of sulfur and nitrogen oxides; efficient and economical control of acid mine drainage; removal of pyritic sulfur during coal preparation; development of novel coal combustion systems with less pollution potential; evaluation of potential mine and ground subsidence areas; control and prevention of mine and coal refuse fires; minimizing adverse environmental effects of fuels used in vehicles for urban transportation, and those associated with underground disposal of liquid wastes and stabilization of mine and mill wastes.

In addition to environmental studies, we will continue the mineral resource evaluation programs. These include an investigation of the various impacts that changes in technology will have on the iron and steel industry. In the latter case our studies thus far indicate a possibility that direct reduction process may be the wave of the future in ironmaking technology.

Other Bureau studies will appraise the copper potential of the Western States and Alaska and will give special attention to the native copper deposits in Michigan. Such studies will seek to identify where improvements in extraction

and processing technology are needed and, if effected, how costs to domestic consumers can be minimized.

The appraisal of coal reserves will be continued. Priority will be given to determining the availability and mining costs of those coals for which demands are greatest. Included will be metallurgical-grade coals for domestic and foreign markets, and low-sulfur coals for domestic electric powerplant use.

Helium conservation effort

An anticipated decrease in helium demand, together with technological developments which can add significantly to potential supplies, has resulted in a decision to reexamine the need for the long-range helium conservation effort initiated in 1960. Therefore, we are not requesting funds for helium conservation at this time. We do, however, anticipate the necessity of requesting supplemental appropriations of $21.1 million for 1970 and $40 million for 1971.

The proposed supplemental for 1970 is to pay for helium purchased under existing long-term contracts. The $40 million request for 1971 would, of course, be contingent upon the findings of the program review that is now underway.

Dr. HAYES. Madam Chairman, may I say at the start, I have with me the people that prepared this budget and I am going to ask them to contribute heavily at the time their sections are discussed, but I am quite confident that we can present the administration budget to your satisfaction.

Mrs. HANSEN. That is fine. The extent to which you do will be the committee's determination.

SUMMARY STATEMENT

Dr. HAYES. I would like to read into the hearings a brief summary statement.

The budget estimate for 1971 totals $101,166,000. This includes increases of $30,699,000.

BUDGET FOR HEALTH AND SAFETY

A major portion of the increase, $27,811,000, is for the health and safety appropriation to provide funds for finding solutions to health problems in the mineral extractive industries and for reducing the current accident rate in those industries.

COAL MINE INSPECTION

For coal mining inspection, the estimate is $29,336,000, an increase of $16,826,000 over 1970. This increase is to implement the inspection, education, training and assistance provision of the Federal Coal Mine Health and Safety Act of 1969.

A large part of the increase is to employ 450 additional inspectors, 300 in safety and 150 in health. The additional safety inspectors are needed not only because of the increased frequency of inspection, but also because of more intensive inspection requirements, particularly in the areas of electricity, ventilation, roof control and methane control.

The act establishes for the first time a respirable dust standard applicable to all underground mines. Consequently an inspection force is needed to take atmospheric dust samples and assure that the airborne dust concentration does not exceed standards as they become effective.

HEALTH AND SAFETY RESEARCH

In regard to health and safety research, the total request is $20,620,000. This is an increase of $9,920,000 over 1970. The increases for expanding the research effort needed to effectively reduce the health and safety hazards in coal mines as provided under the new Act.

Health and research will be directed toward development of the technology required to minimize and control hazardous concentration of the respirable dusts and gases which can cause pneumoconiosis, silicosis, and lung cancer.

Other health research will be aimed at providing mining equipment and mining methods to reduce health hazards to mine workers.

Safety research will concentrate on prevention and control of fires and explosions caused by the ignition of explosive concentrations of methane gas.

A postdisaster survival and rescue system will be developed.

METAL AND NONMETALLIC MINE INSPECTION

In regard to metal and nonmetallic mine inspection, an increase of $1,065,000 is requested for continued implementation of the Federal Metal and Nonmetallic Mine Safety Act of 1966. Most of the standards required under the Act will be promulgated during fiscal year 1970. The increase will provide for the inspections necessary to assure compliance with the standards.

METHANE CONTROL

An increase of $1.3 million is requested under the "Conservation and development of mineral resources" appropriation to accelerate the Bureau's effort to reduce the number of mine disasters, by minimizing the hazards resulting from the accumulation of explosive methane in underground coal mines. These funds are in addition to those requested under the "Health and safety" appropriation.

The total requested under both appropriations for this program is $5.21 million.

COAL GASIFICATION

An increase of $1.5 million is proposed to design a small prototype plant to convert coal to high B.t.u. pipeline gas. The objective is to encourage industrial production of high-quality gas in sufficient quantity to meet increasing demands.

PETROLEUM RESEARCH

A decrease of $400,000 is reflected in the estimate for this program. This consists of termination or reduction in effort of 11 research projects primarily dealing with research on reservoir properties that govern oil recovery.

EMPLOYEE COMPENSATION PAYMENTS

An increase of $88,000 is needed to reimburse this fund for payments related to injury or death of employees. The total request is for $221,000.

HELIUM FUND

A $24 million decrease in the total amount appropriated in 1970 is reflected in the estimate for this program. A decrease in the projected demand for helium, together with technological developments which will augment the potential supply, has resulted in a decision to re-examine the need for the long-range helium program initiated in 1960.

Although no helium funds are requested in this submission, the President's budget anticipates a supplemental estimate of $40 million upon completion of the review.

That is the highlight statement, Madam Chairman.

REVIEW OF HELIUM FUND

Mrs. HANSEN. Why are you reviewing the helium fund if you already know that you are going to request a supplemental of $40 million?

Mr. HITE. The reason for a supplemental item is because the action to be taken is contingent upon the result of the review.

Mrs. HANSEN. How do you know the supplemental request should be $40 million?

Mr. HITE. We estimate that would be the cost of buying out the helium plant.

Mrs. HANSEN. Dr. Hayes, will you please introduce your staff?

INTRODUCTION OF STAFF

Dr. HAYES. Mr. Paul Zinner, Assistant Director of Planning.

Mr. Elwood Thomson, Budget Officer.

Mr. Corgan, Chief, Division of Environmental Activities.

Mr. Frank Lamb, Deputy Assistant Director, Mineral Resources.

Mr. Harold Lipper, Acting Assistant Director, Helium.

Mr. Alvin Kaufman, the Acting Assistant Director, Mineral Resources.

Mr. Henry Wheeler, the Acting Associate Director for Health and Safety.

Dr. Walter Lander, Assistant Director of Administration.

Mr. Tom Howard, Director of Mining Research.

Mr. Carl Rampacek, Acting Assistant Director, Minerals Research.

HIGHLIGHTS AND SUMMARY STATEMENTS

Mrs. HANSEN. Insert pages 1 through 3 of the justifications in the record.

(The pages follow:)

HIGHLIGHT AND SUMMARY STATEMENT

The programs and plans of the Bureau of Mines reflect its responsibility to help assure the effective utilization of natural mineral and fuel resources in the best interests of the Nation's social, economic, and security requirements. To this end, the Bureau's programs have not been static but rather have undergone change responding to national need and changing public values. Today, the mission of the Bureau of Mines is not only directed toward achieving enough minerals and fuels to meet present and future requirements at the lowest possible costs, but also, toward achieving these material needs without objectionable environmental, social, and occupational effects.

The principal emphasis in programs proposed for increase in fiscal year 1971 is on providing greater protection for the health and safety of workers in the coal mining industry of the United States, in accordance with the requirements of Public Law 91–173, the Federal Coal Mine Health and Safety Act of 1969. Other programs proposed for increase include only those of most impelling urgency in maintaining this Nation's prosperity. Major aspects of our program recommendations are summarized below.

THE 1971 PROGRAM

The fiscal year 1971 budget request for the Bureau of Mines totals $101,166,000. The request includes an increase of $27,811,000 for the health and safety appropriation to provide funds for finding solutions to health problems in the mineral extractive industries and for reducing the current accident rate in those industries. An additional increase of $2,488,000 is scheduled for the conservation and development of mineral resources. The 1971 budget request is divided into the four Bureau appropriations below:

	1970	1971	Net change
Conservation and development of mineral resources	$42,484,000	$44,972,000	+$2,488,000
Health and safety	26,584,000	54,395,000	+27,811,000
General administrative expenses	1,799,000	1,799,000	
Helium fund (borrowing authority)	24,000,000		−24,000,000
Total program	94,867,000	101,166,000	+6,299,000

PROGRAM INCREASES

The net program increase of $6,299,000 consists of a program decrease of $24 million occasioned by the absence of a request for helium borrowing authority, and program increases of $30,299,000. These increases reflect, for the most part, the administration's determination to minimize the serious health and safety hazards faced by workers in domestic mineral industries. At the same time, intensified efforts are planned to develop a technology that can utilize natural resources more efficiently and thereby substantially enhance domestic energy supplies. The requested increases will significantly augment inspection programs insuring greater mine safety and research aimed at reduction of health and safety hazards in coal mines, including the control of explosive accumulations of methane. The increases also will fund development of a small prototype coal gasification plant.

Coal mine inspection.—An increase of $16,826,000 is sought to implement the inspection, education, training, and assistance provisions of the newly enacted Public Law 91–173, the Federal Coal Mine Health and Safety Act of 1969. A major part of the increase is for additional inspectors. They are needed not only because of the increased frequency of inspections but also because of more intensive inspection requirements. For example, more complicated mandatory electrical standards will require inspections by personnel specially trained in electricity and electrical installations. Similar requirements will apply in other specialized areas, such as ventilation, roof control, and methane control. The additional funds also will provide for spot inspections in ultragassy mines every 5 working days, as well as additional random inspections.

The Act establishes for the first time a respirable dust standard applicable to all underground coal mines. Consequently, the increase includes funds for an inspection force to take atmospheric dust samples and to assure that the airborne dust concentrations in the mines do not exceed the standard's maximum allowable limit. In addition, mine operators will be assisted by the Bureau in their efforts to comply with the imposed new standards as they become effective.

The increase brings the total requested for the coal mine inspection program in fiscal year 1971 to $29,336,000.

Health and safety research.—An increase of $9,920,000 is requested for expanding the research effort needed to effectively reduce the health and safety hazards in coal mines as provided in the Federal Coal Mine Health and Safety Act of 1969. Safety research will concentrate principally on the prevention and control of fires and explosions caused by the ignition of explosive concentrations of methane and dust. A postdisaster survival and rescue system, as well as the necessary equipment and techniques for its optimization, will become a reality.

Research on the stabilization of underground working areas to prevent rock bursts and roof falls will be intensified.

Health research will be directed toward development of the technology required to minimize and control hazardous concentrations of respirable dusts and gases, which can cause pneumoconiosis, silicosis, and lung cancer. Other health research will be aimed at improving mining equipment and mining methods to reduce health hazards to mineworkers.

The total amount proposed for health and safety research in fiscal year 1971 is $20,620,000.

Metal and nonmetal mine inspections.—A $1,065,000 increase is requested for continued implementation of Public Law 89–577, the Federal Metal and Nonmetallic Mine Safety Act. Most of the health and safety standards to be administered initially under this Act will have been promulgated during the fiscal year 1970. Therefore, the increase will provide for the inspections necessary to assure compliance with these standards and for the investigation of accidents, the collection of relevant accident information, and the promotion of safe and healthful mining practices. With the requested funds, the number of annual mine inspections will be increased and new inspection personnel will be recruited and trained. The total amount requested for this program in fiscal year 1971 is $3,213,000.

Methane control.—An increase of $1,300,000 will greatly accelerate the Bureau's effort to reduce the number of mine disasters by minimizing the hazards resulting from the accumulation of explosive methane in underground coal mines. Specifically, the additional funds will speed the development of the engineering technology needed for effective control, collection, and removal of methane from underground workings. The increase brings to $3,010,000 the total amount requested for this program in fiscal year 1971.

Coal gasification.—An increase of $1,500,000 is proposed to begin preliminary work to plan for a small prototype plant necessary to demonstrate the economic feasibility of converting coal to high-B.t.u. pipeline gas. The objective is to encourage industrial production of high-quality gas in sufficient quantity to meet projected domestic demand. The proposed increase will provide for the detailed engineering design of the facility. The increase brings to $4,257,000 the total amount requested for this program in fiscal year 1971.

Petroleum research.—A decrease of $400,000 is reflected in the request for the petroleum research activity. This consists of termination or reduction in effort of research on 11 projects.

Employee compensation payments.—An increase of $88,000 is needed to reimburse the employment compensation fund for payments related to injury or death of employees.

HELIUM FUND

A supplemental appropriation for 1970 is anticipated to offset a decline in revenues derived from helium sales and services in 1968, 1969, and 1970 and thus provide necessary funding for the helium program conducted by the Bureau under the provisions of the Helium Act.

A decrease in the projected demand for helium, together with technological developments which will augment the potential supply has resulted in a decision to reexamine the need for the long-range helium program initiated in 1960. Although no funds are requested in this submission, it is anticipated that a 1971 amendment will be submitted to Congress upon completion of the current review.

ADEQUACY OF COAL AND MINERAL RESOURCES

Mrs. HANSEN. Last year when your Bureau appeared before this committee some very dire statements were made about the adequacy of our oil and mineral resources. What, if any, changes have occurred in that situation since you last appeared before this committee?

Dr. HAYES. Madam Chairman, I do not think the situation has changed at all. We view the future in somewhat gloomy tones. We are still convinced that the country is going to have a difficult time meeting the minerals requirement of the next decade.

Mrs. HANSEN. How much coal is estimated to remain in the United States?

Dr. HAYES. I would have to ask Mr. Kaufman.

Mr. KAUFMAN. We estimate about 600 billion tons of recoverable coal, Madam Chairman.

ESTIMATED LIFE OF COAL RESERVES

Mrs. HANSEN. At the current rate of use, how many years will our coal supply last?

Mr. KAUFMAN. We estimate that we are now using about 500 million tons. This would give us roughly about 1,200 years.

Mrs. HANSEN. What percentage of the world supply of coal does the United States have?

Mr. KAUFMAN. I would say we are probably equivalent with the Soviet Union and with other large countries.

Mrs. HANSEN. I am not asking you that.

Dr. HAYES. It is about a third of the world supply.

Mrs. HANSEN. Have there been any major discoveries in coal around the world?

Dr. HAYES. Madam Chairman, I am unaware of any new major discoveries in coal such as we witnessed in some of the metals the last few years.

Mrs. HANSEN. What steps are you taking to make sure that the United States has a continual supply of coal?

Dr. HAYES. I believe that we are forecasting an American production of about 800 million tons in 1985. And we look upon coal as our great energy resource for, should I say, the long haul.

Further along in our budget statement, you will see that the reserve-to-production ratio of both petroleum and natural gas has gone down markedly in just 10 or 12 years, whereas the reserves of coal are still holding up very well.

OIL RESERVES

Mrs. HANSEN. What is the U.S. oil reserve?

Dr. HAYES. I cannot speak to it in absolute terms.

Mr. KAUFMAN. May we supply that for the record? We do not have the number here.

(The information follows:)

WORLD PROVED RESERVES OF CRUDE OIL AS OF DEC. 31, 1968

Area, country	Proved reserves billion barrels [1]	Change from 1967 billion barrels [1]	Reserves percent of world total
Western Hemisphere:			
United States [2]	30.7	−0.7	6.7
Venezuela	15.5	−1.5	3.4
Canada	8.4	.2	1.9
Mexico	5.5	2.9	1.2
Other	7.8	.5	1.7
Middle East:			
Saudi Arabia	77.0	2.3	16.9
Kuwait	69.0	−1.0	15.2
Iran	54.0	10.2	11.9
Iraq	28.0	4.5	6.2
Abu Dhabi	18.0	3.0	4.0
Neutral Zone	15.0	1.5	3.3
Other	9.8	1.1	2.2
Africa:			
Libya	30.0	.8	6.6
Algeria	7.0	.1	1.5
Other	7.6	1.4	1.7
Europe:			
U.S.S.R.	40.0	5.5	8.8
Other	2.8	−.1	.6
Far East: [3]			
China, mainland	15.0	[4] 14.7	3.3
Indonesia	8.8	−.2	1.9
Other	2.4	.1	.5
Oceana	2.5	2.0	.5
Total world	454.8	47.3	100.0

[1] 1 barrel equals 42 U.S. gallons.
[2] United States also contained 8,600,000,000 barrels of natural gas liquids reserves.
[3] Includes 100,000,000 barrels of condensate.
[4] Large change apparently results mainly from an upward revision in previous reserve estimates.

Mrs. HANSEN. The committee takes a dismal view of your supplying all the information for the record. We would like the information to be provided here before the committee so that we can discuss these matters.

BUREAU CONTRIBUTIONS TOWARD ANTIPOLLUTION EFFORTS

As you are well aware considerable emphasis is now being placed on antipollution efforts. Give the committee a general description of just how the activities of your Bureau are contributing toward this objective.

Dr. HAYES. I would like to have Mr. Rampacek address himself to that question.

Mr. RAMPACEK. We have a number of activities that are related to the air pollution problem.

In the area of metallurgy, we are conducting research which is related to the removal of sulfur dioxide from smelter gases.

In petroleum, we have a comprehensive program related to the study of exhaust emissions from automobiles. This work is being conducted at Bartlesville, Okla.

Mrs. HANSEN. How much progress has been made?

Time is running out.

Mr. RAMPACEK. We are determining the relative quantities of emissions such as the hydrocarbons, olefins, nitrogen oxides, and aromatics as they relate to engine fuel composition operating conditions and engine wear.

This year we instituted a new program which was a study of the use of natural gas for powering automobiles. We have a fleet of 16 cars at Bartlesville which are representative of different size and types of automobiles. We are going to relate the use of this fuel to engine-wear emissions and economy of operation.

In addition to that work, as part of our synthetic fuel program, we are going to evaluate the use of synthetic gases produced from coal for powering automobiles. Various types of synthetic gases produced from coal will be used. Liquefied petroleum gases and liquefied natural gas also will be studied later as automotive fuels.

These will be high B.t.u. gases.

In coal research, we have a comprehensive program partly funded by HEW, which relates to the removal of particulate matter, and also sulfur dioxide and nitrogen oxide from powerplant flue gases. We have a number of projects in which we are studying the use of different types of materials and processes for reducing the pollutants.

FUNDS IN RESERVE

Mrs. HANSEN. How much of the funds of the Bureau of Mines have been placed in reserve?

Mr. HITE. We had no money held in reserve from 1970 appropriation, Madam Chairman.

MATCHING FUNDS, STATE OF PENNSYLVANIA

We have a particular appropriation in which money is held in reserve which is matched by the State.

Mr. THOMSON. That is for mine water control projects in the State of Pennsylvania.

Mrs. HANSEN. Why?

Mr. THOMSON. Because Pennsylvania has not come up with any project. That is on a 50–50 basis and the funds appropriated——

Mrs. HANSEN. Are you saying that the State of Pennsylvania is not interested in providing funds for these projects?

Mr. THOMSON. Under this fund, the State of Pennsylvania has to provide 50 percent of the project cost. Many of these projects are available under the Appalachia Act which the Federal Government pays 75 percent and the State pays 25 percent.

Mrs. HANSEN. The State of Pennsylvania has chosen to use Appalachia funds rather than Bureau of Mines funds?

Mr. THOMSON. Yes.

Mr. MCDADE. There is a little more to it. That is an amendment of the Anthracite Mine Dewatering Act that made some of those funds available for flushing projects. The anthracite coal industry had to pay the cost of maintaining and operating the pumps to keep the water level down.

Mr. THOMSON. I believe that is right.

Mr. MCDADE. I believe they found the cost prohibitive. So the industry found it too costly to operate deep well pumps.

Mr. CORGAN. That is correct.

ACCOMPLISHMENTS OF THE APPALACHIAN REGION MINING AREA RESTORATION PROGRAM

Mrs. HANSEN. Has the Appalachian region mining area restoration program accomplished the goals the Bureau of Mines established?

Mr. THOMSON. I believe so. Currently Appalachia funds are appropriated to the Commission, not to the Bureau of Mines. Funds are transferred to the Bureau of Mines to undertake projects that the Commission approves.

Mrs. HANSEN. How much have you saved by using Appalachian funds?

Mr. THOMSON. So far I believe it is about $28 million since the 1965 Act.

APPALACHIA FUNDING BY YEAR

Mrs. HANSEN. Will you insert in the record since 1965 the amount of Appalachian funds you have received and how they were used?

Mr. THOMSON. Yes, ma'am.

(The information follows:)

APPALACHIAN REGIONAL DEVELOPMENT ACT OF 1965

Appropriations:	
1965	$16,000,000
1967	7,000,000
1970 (estimated)	5,000,000
Total	28,000,000

The amounts shown for 1965 and 1967 were appropriated directly to the Bureau of Mines. The $5 million shown for 1970 represents the funds appropriated to the Appalachian Regional Commission for transfer to the Bureau of Mines.

The purpose of the funds made available is to provide for the Federal share for restoration of areas in the Appalachian Region damaged by mining and for a nationwide study of problems created by strip and surface mining activity as authorized under the Appalachian Regional Development Act. A summary of approved mine area restoration projects through December 1969 are as follows:

Control of underground fires	$22,193,000
Strip and surface mine reclamation	1,890,000
Subsidence	6,680,000
Oil and gas well sealing	218,000
Total	[1] 30,981,000

[1] Includes both Federal and State funds. Federal costs are 75 percent of project costs of $23,200,000.

AVAILABILITY OF FUNDS FOR COAL RESEARCH

Mrs. HANSEN. What are you doing to find answers on the fly ash content?

If you are going to build more coal power plants in the Northwest it is going to be necessary to supply answers to the fly ash problem.

The February 22, 1970, issue of the Washington Star had an article with the headline, "Fly Ash Mounting Problem."

Mr. RAMPACEK. Madam Chairman, we have a research program related to the use of powerplant fly ash. We have a project in West Virginia where we have been studying the use of fly ash for conditioning coal mine spoil banks so they can be revegetated.

Fly ash is an alkaline material and adding it to the acid in spoil banks neutralizes the acid. If enough fly ash is used the land can be revegetated.

In addition to that, we have a program at Morgantown where we are using fly ash in conjunction with iron oxides, red muds, and various other types of materials that will absorb sulfur dioxide from flue gases.

COAL RESEARCH WORK IN TACOMA

Mrs. HANSEN. The Office of Coal Research proposed to do a substantial amount of work on west coast coal in Tacoma. Why has there been very little progress made on that plant?

Mr. RAMPACEK. That is in the Office of Coal Research.

BUREAU COORDINATION WITH OFFICE OF COAL RESEARCH

Dr. HAYES. Madam Chairman, I should say that we are well aware of the programs of the Office of Coal Research. Within the last 6 weeks both Mr. Rampacek and I participated in a daylong review of both the Bureau of Mines coal program and the Office of Coal Research program.

Mrs. HANSEN. You had better get the Bureau of the Budget to attend your daily discussions. You cannot go very far very fast unless there is an understanding that programs do not progress without funding.

You mention in your justification actions being taken by various newly formed nations to take over American mining and oil interests. We would like your general comments on this situation, especially with regard to the possible future effect it will have on production of minerals in those countries and the necessary imports of minerals from those countries.

PRODUCTION OF MINERALS IN FOREIGN COUNTRIES

Dr. HAYES. Madam Chairman, there is a wonderful bit of writing in our statement and I would like to read two short paragraphs into the record.

Mrs. HANSEN. Good.

Mr. HAYES. [reading]:

Consumption of minerals in the United States already is outrunning domestic production, which raises serious issues and problems. Not only must we find the supplies of mineral raw materials that will be required, we must also seek to obtain them at acceptable costs and by methods that will provide adequate protection to the environment. Increasingly, it seems that the material requirements of modern civilization are on a collision course with the environmental requirements of the average American. In a competitive world the appetite of all of the developed countries for mineral raw materials is outrunning their domestic production capacity. Today virtually every industrialized country is searching the world for mineral resources to supply their consumption requirements.

Additional complications are being introduced into international mineral situations by the national aspirations of underdeveloped nations seeking to gain the maximum economic benefits from their mineral resources.

WORLD COPPER SUPPLY

I would like to return to an earlier question of yours in regard to what has happened in the years since the previous testimony. We see more, Madam Chairman, of what we call a feeling of nationalization; notably in the area of copper. Some 40 percent of the non-Communist world's copper now is administered or sold by the CIPEC group of Peru, Congo, Zambia, and Chile. There is a strong feeling of nationalization in all of these countries. We have seen this in the last year where two American companies in South America were essentially nationalized.

Mrs. HANSEN. Nationalized by which government?

Dr. HAYES. Chile.

RESULT ON AMERICAN COPPER

Mrs. HANSEN. What is the result going to be on American copper?

Dr. HAYES. The result is going to be, and this is true of all of our minerals, that we must maintain as firm and broad a base for all minerals as possible. Wherever we do not have a supply or a partial supply of minerals, we are at the mercy of the rest of the world.

Our domestic copper deposits in general are much lower grade. We are developing copper deposits as low as 0.45 percent in Arizona, and yet the waste dump of one mine I visited in Peru contained 0.35 percent.

Mrs. HANSEN. What percentage of the total world supply of copper lies in the U.S. reserves?

Dr. HAYES. I do not know the figure on reserves but I do believe we are producing about 25 percent of the free world's copper at the present time.

POTENTIAL U.S. RESERVES OF COPPER

Mrs. HANSEN. What is the potential? You certainly must have some idea of what we have in reserves?

Mr. ZINNER. I can say something about that, Madam Chairman.

Whenever we talk about reserves, we always have to give quantities at a price. The difficulty in the U.S. outlook at the moment is that even if the price were substantially higher than it is at the moment, chances are that the investment opportunity based strictly on the grade of ore are better on the outside than they are here.

In other words, if there was a sharp increase in price over a long period, domestically, it still might not be enough to provide the incentive for developing some of these extremely low-grade deposits. The opportunity might be better abroad where the grade is better.

DOMESTIC COPPER PRODUCTION

It takes a very large investment to bring a new copper deposit into being. We are talking something about $300 or $400 million of new money to bring in new production capacity of any magnitude.

Mrs. HANSEN. Does that make us noncompetitive?

Mr. ZINNER. It attracts capital abroad. But to complicate the overall picture, and, of course, copper does move in the world market, there are uncertainties that discourage investment in the rich copper areas.

An investor will be cautious in putting that kind of money into an area where the political situation is uncertain.

Mrs. HANSEN. Will that situation provide for further investment in the U.S. copper industry?

Mr. ZINNER. At the moment it seems doubtful. We are concerned when we look at the announced plans of the major domestic copper-producing companies. They really have not announced any immediate plans for very large expansion.

When I say large, I mean the tonnages that would be significant in terms of the continuous increasing demand of some 4.5 percent per year. You really have to bring in very large new sources of copper every year just to keep up with the rising demand.

We are very much concerned that something is wrong domestically in that there are so few apparent or announced intentions to significantly increase the capacity. This is very disconcerting.

Mrs. HANSEN. What are you going to do about the lack of copper?

Mr. ZINNER. As far as we are concerned, one continuing thing as we have talked about over a long period of time, and the only route I know of, is to find some way to lower the cost of treating these low-grade domestic sources. This means improving the technology which is the very heart of some of our research work in the nonferrous areas.

COPPER IMPROVEMENTS OVER PAST 20 YEARS

Mrs. HANSEN. How many improvements have we made over the past 20 years?

Mr. ZINNER. We have made substantial improvements. The problem is that we may have reached the end of our opportunities in this area. We are getting to the point now where the grades are so low, in the resources that we know about, that some very large improvement is needed, not only in mining technology but in the processing technology that is going to be required to bring these resources into the commercial reserve category.

Mrs. HANSEN. What are you doing about developing that type of technology?

Mr. RAMPACEK. We propose a large research program both in the mining and the metallurgy end.

In the case of our mining activity, the two principal areas that need to be investigated are mining of the native coppers of the Upper Michigan Peninsula and the deep porphyry copper deposits typical of those found in Arizona.

EXTENT AND QUALITY OF COPPER DEPOSITS

Mrs. HANSEN. Do you know the extent and quality of copper deposits?

Mr. RAMPACEK. In a general way based on information that is available, we do of the native coppers and similarly for the porphyry coppers.

I cannot give you the figures offhand, but I do have them. The estimates are based on available publications and work done by a number of people and companies.

In order to bring these particular deposits into production in an economically viable way, new techniques and mining approaches have

to be developed. We have gone about as far as we can in improving particular pieces of conventional equipment.

An example of that is the open pit mining in Arizona where they have gradually increased the size of their ore trucks from 60 tons to 120 tons. This has resulted in some economies in terms of mining, but these kinds of developments, although they will probably continue, will not answer the question of appreciably lowering the cost of mining our large resource of copper.

ENVIRONMENTAL CONTROL TO STOP DESTRUCTION OF LAND

Mrs. HANSEN. You also have the problem when you discover minerals of getting them out without destroying the surrounding environment.

What are you doing in that category?

Mr. RAMPACEK. This is all being considered as part of the mining system that would be used to exploit the native coppers, for example, while disposing of the rock and the mine wastes that are produced.

In the case of our porphyry coppers—there are deep deposits. Block caving used for mining these deposits is relatively costly in the development stages. Maintenance is also high. Our research here will be directed toward determining the types of development approaches that should be undertaken to reduce these costs.

GENERAL STATEMENT ON RESEARCH OPERATIONS

Mrs. HANSEN. One of our more important activities is research in the various minerals fields. You are requesting about $34.7 million for research in 1971. Give us a general statement on your research operations, including how they are performed, in-house or by contract, the general thrust of your research efforts, effective results, and how your research is coordinated with similar activities performed by private industry.

INCREASED COAL RESEARCH

Mr. RAMPACEK. We are asking for an increase of $1.5 million in coal research. This $1.5 million plus an additional amount of funding that we have made available in the synthetic fuels program will be directed toward the development of a coal gasification process. Specifically, the design of a prototype plant for gasifying coal to provide an alternate source of synthetic high British thermal unit pipeline gas, to supplement our conventional natural gas resources and supplies. The prototype plant we have in mind will probably have a capacity of about 2.5 million cubic feet of gas a day.

TOTAL COST OF COAL GASIFICATION PLANT

Mrs. HANSEN. What will be the total cost of this plant?

Mr. RAMPACEK. We are asking for $1.5 million for the design and plans for fiscal year 1971. If our plans develop, we will come forward to the committee next year and ask for additional funds. But the total cost of this particular program is about $13.8 million over a 5-year period. About half of that will be for the plant design and construction and half of it for operation.

The increase in personnel that we have asked for will be concerned with monitoring, providing engineering data, and obtaining operating information.

Mrs. HANSEN. What effective results do you expect?

Mr. RAMPACEK. We think that synthetic gas from coal, will be a very promising way of augmenting our natural gas supplies.

TOTAL NATURAL GAS SUPPLY IN U.S. AT PRESENT

Mrs. HANSEN. What is the total natural gas supply in the United States at the present time?

Mr. RAMPACEK. We have reserves of about 287 trillion cubic feet.

Mrs. HANSEN. How many people will that supply?

Dr. HAYES. It is about 32 percent of our American energy requirements.

Mrs. HANSEN. Would this percent increase with the introduction of gasification plants?

Mr. RAMPACEK. This would depend upon the number of gasification plants that would ultimately be constructed. Just as an example, a 250-million-cubic-foot per day plant—this is high B.t.u. gas—would require about 5 million tons of coal a year. Conceivably we could produce a quarter of the natural gas requirement, which we anticipate in 1980 will be about 31.8 trillion cubic feet a year, by converting 500 million tons of coal to pipeline gas. This would represent about a quarter of that gas requirement.

Dr. HAYES. Madam Chairman, as pointed out in your message, the use of natural gas has increased over 300 percent in the last 20 years.

NATURAL GAS CONSUMPTION IN PAST 20 YEARS

Mrs. HANSEN. Will you please insert in the record the amount of gas consumption during the last 20 years?

Dr. HAYES. We will do that.

CONSUMPTION OF NATURAL GAS DURING PAST 20 YEARS

[Trillion cubic feet]

Year	Annual consumption	Annual production	Year end reserves	Reserve to production ratio, R/P
1948	4.9	6.0	172.9	28.9
1953	8.0	9.2	210.3	22.9
1958	10.8	11.4	252.8	22.1
1963	14.6	14.5	274.5	18.9
1968	19.8	19.3	282.1	14.6

Mrs. HANSEN. At some point in time technology has got to meet the accelerated use of natural gas. Is that not correct?

Dr. HAYES. That is correct.

RESERVE-TO-PRODUCTION RATIO

Mr. MCDADE. Has the Geological Survey furnished almost the specific date when we will be behind in terms of needs on natural gas? There is a precise date I believe they have furnished.

Dr. HAYES. The alarming part of this is illustrated in some graphs we have in our presentation showing that from 1958 to 1968 the reserve-to-production ratio of crude oil has come down from about 12.5 to just a little over nine. And in natural gas in the same period we have come down from a figure of 21 to about 14. And last year, if I remember correctly, for the first time in many, many years we used more natural gas than we discovered.

Mrs. HANSEN. This is why the committee wants a table of natural gas consumption inserted in the record. If we keep depleting our reserve of natural gas, a major source of energy in the United States will be lost.

Dr. HAYES. I want to point out that this ratio is not as nice as it looks. We must always have a certain amount of reserve and, in fact we are approaching a dangerous situation on this figure of nine in natural gas.

Mrs. HANSEN. If the budget process had allowed sufficient funds through the years, for the acceleration of experimentation, could the technology have been produced which would lessen the hazards of the United States getting into a critical reserve status?

Dr. HAYES. Undoubtedly.

INCREASED COPPER REQUIREMENTS OF ELECTRIC UTILITIES

Mr. MCDADE. On the point I think you focused so beautifully for us, is it not true that the electrical utility industry is the major consumer of copper in the United States of America?

Dr. HAYES. That would be true.

Mr. MCDADE. And I think we have estimates from them about the tremendous increase in electrical energy that will be required over the next decade. Yet we find ourselves in a period of very thin copper reserves. So the chairman's point both with copper and gas, as far as you are concerned and technology is concerned, is extremely important.

Mrs. HANSEN. The monetary value of developments which will better utilize our reserves or develop substitutes cannot be measured against "budget expenditures." If suddenly the United States wakes up some morning without adequate sources of energy, then we are in trouble.

Dr. HAYES. Yes.

DEVELOPMENT OF NEW TECHNOLOGY

Mrs. HANSEN. We must concentrate on the technology of developing our natural resources.

Dr. HAYES. Let me repeat a statement for the record, Madam Chairman, that was so ably stated by Dr. Hibbard and continued by Mr. O'Leary.

In reviewing the past 30 years, we have used more minerals and fuels than all the earth combined for all history and yet we are talking about, in certain commodities, doubling this demand in the next 15 years.

Mrs. HANSEN. We cannot possibly meet future demand if more funding isn't provided for stepping up the technology and the rela-

tionship of that technology to either substitution of current sources or better production. Is that not correct?

Dr. HAYES. That is correct.

Let me add to that, there are two articles in Science magazine along in November and December of 1969 on the population explosion of the world. After I read those, I had the feeling we might come closer to feeding the doubled population of the world in the year 2000—they predict we will go from 3.2 to 6.4 billion people—than we will to furnishing them with the energy and the minerals that are part of the life we now enjoy.

Mrs. HANSEN. The problem increases when you add the extra dimension of preserving our environment.

Dr. HAYES. That is right.

COORDINATION WITH PRIVATE INDUSTRY

Mrs. HANSEN. How are you coordinating your research activities with private industry?

Mr. RAMPACEK. Our people in the field and in the Washington offices are constantly in contact with responsible people in industry.

Mrs. HANSEN. That is more than sitting over the table for lunch?

Mr. RAMPACEK. Yes. It is lengthy discussions in many cases, visits to the headquarters office of the various mining companies and visits to mines and processing plants.

Mrs. HANSEN. Do you have access to the experimental material they are developing?

Mr. RAMPACEK. I might say this: In many cases the companies consider some of their information as proprietary. They do not publish the information that they feel has some patentable value; patents are applied for. But in private discussions with operating people in many cases, we can get a real good understanding of what problems the industry faces and what they are doing about solving these problems.

They gave us many leads as to what needs to be done and in return for that we discuss our research with them. We tell them what we are doing and we pass on information to them.

An example of this is the work our people have done at Salt Lake City. A major copper company out there has a large copper leaching operation. In discussions with the company, the question arose as to whether there were any other valuable materials available in the leaching solutions other than copper.

As a result of joint effort between the Bureau of Mines and the company, they determined there was uranium present and research was done to develop an economic scheme. Currently, based on research that was done on the recovery of the uranium from the leach solutions, the company is building a uranium recovery plant in which they expect to recover about $2,000 worth of uranium a day.

GENERAL STATEMENT ON RESOURCE DEVELOPMENT

Mrs. HANSEN. You are requesting about $10.3 million for resource development. Give us a similar statement in this connection to the one you made about the general thrust of your research efforts.

Mr. KAUFMAN. In the mineral resources field, we are running a series of studies on the availability of some minerals such as fluorine,

lead, and zinc. We hope to finish a study soon on mercury and to initiate one on copper. These are essentially supply studies in which we make an effort to determine where copper is, what it would cost to get it out under current technology and develop a model flow sheet and calculate the cost.

This gives us some idea as to where research has to be concentrated in order to make these things economically competitive with other world supplies. We also have underway several studies dealing with the demand for particular minerals such as silver, zinc, and lead.

What we are trying to get here is some idea of where again research needs to be done in order to either develop substitutes or improve the use of the material itself.

Mrs. HANSEN. One general impression this committee has is that you are always going to do something but it never quite seems to be accomplished.

Mr. KAUFMAN. Our mineral resource program is in fact a forerunner of research. It is the group that tries to pinpoint the problem and define it.

EFFICIENCY OF BUREAU OPERATIONS

Mrs. HANSEN. During the Bureau's appearance before this committee last year, we got the impression that the Bureau was not operating as efficiently as it might. Do you have any comment in that connection?

Dr. HAYES. I have worked for the Bureau of Mines of my life. It is a wonderful organization. Like others, it could always be improved. But I do think it is doing a wonderful job.

Mrs. HANSEN. You would make no changes in the Bureau's structure?

Dr. HAYES. Oh, certainly. Each to his own, Madam Chairman.

Mrs. HANSEN. That is not a very definitive answer.

Dr. HAYES. In my role, I am not liable to make any changes, Madam Chairman.

TOTAL BUREAU OF THE BUDGET REQUEST AND AMOUNT CUT

Mr. MCDADE. How much did you ask the Bureau of the Budget for this year in your total request?

And how much did they cut you?

Mr. THOMSON. I believe the estimate was $135 million.

Mr. MCDADE. The request?

Mr. THOMSON. Yes.

Mr. MCDADE. And you were allowed $101 million?

Mr. THOMSON. That is correct.

Mr. MCDADE. What is the percentage cut?

Mr. THOMSON. About 35 percent.

ITEMS REDUCED

Mr. MCDADE. Tell us what the items cut out were for. What did you want that the Bureau of the Budget said no on this money?

Mr. THOMSON. One of the items reduced was for coal gasification.

Mrs. HANSEN. In spite of the fact that we know the reserves are decreasing.

Mr. McDade. Break it down for us. How much of the 30-odd million was to be put into that program?

Mr. Thomson. I believe we asked for $5 million for the gasification program, of which a million and one-half was allowed.

Mr. McDade. You were given 20 percent of your request?

Mr. Thomson. Yes.

Mr. McDade. You had an 80-percent cut?

Mr. Thomson. In this one item.

Mr. McDade. It is a very important one, as the Chairman said.

Mrs. Hansen. Why was this item cut? What was the reasoning?

Mr. Thomson. The reason, I assume, was not that there was opposition to the program, but that $1.5 million would be adequate at this time.

Mrs. Hansen. In spite of the fact the reserves are going down every day?

Mr. Thomson. Yes.

Mrs. Hansen. If you had been provided more funds could you have started construction on the gasification plants?

Mr. Thomson. Yes, that is correct.

Mrs. Hansen. What other programs have been cut?

Mr. Thomson. We had reductions in items for metallurgy research. Reductions for these items totaled about $4 million.

Mrs. Hansen. What did you ask for?

Mr. Thomson. Primarily for increased research on aluminum, iron, steel, and copper.

Mrs. Hansen. What was the purpose of that research?

Mr. Rampacek. We proposed to reactivate our blast furnace work and expand, in general, our iron research program.

Mrs. Hansen. Which you considered necessary?

Mr. Rampacek. Yes, ma'am.

Mrs. Hansen. Explain to the committee exactly why you considered it necessary.

Mr. Rampacek. We currently are competing against a very high level of technology overseas.

Mrs. Hansen. Which countries?

Mr. Rampacek. Germany and Japan. We think there is a real need to improve the technology of concentrating iron ores, to improve the pelletizing procedures, and to reduce the costs, in general, for concentrating iron ores or pelletizing them and getting them into the blast furnace at a lower materials cost.

Mrs. Hansen. What was the percentage cut on this project?

Mr. Thomson. On metallurgy?

I have the totals here, but I do not have them broken down. Roughly one-third.

Mrs. Hansen. What else did the Bureau of the Budget cut?

Mr. Thomson. $1 million on research on natural gas and $400,000 on petroleum research.

Mr. Rampacek. This was primarily for a study of the transportation, storage, and properties of liquefied natural gas.

Mrs. Hansen. Isn't this most important?

Mr. Rampacek. Yes, it is.

Mrs. Hansen. How much was that cut?

Mr. Rampacek. That was all cut out.

Mrs. HANSEN. Doesn't this also involve a safety factor?

Mr. RAMPACEK. I think it involves moving the natural gas more cheaply—if you could pump liquefied natural gas it would be cheaper.

Dr. HAYES. There would be a spinoff.

Mr. THOMSON. Another large amount was $6 million for utilization of municipal refuse, trying to make something out of garbage.

Mrs. HANSEN. In spite of the fact that one of the biggest problems before the United States of America today is the problem of plain old-fashioned garbage dumps.

Mr. THOMSON. Yes.

Mrs. HANSEN. How much was left?

Mr. THOMSON. $430,000.

Mrs. HANSEN. What are you going to do with $430,000?

Mr. MCDADE. Is that a research activity?

Mr. THOMSON. It is. It is being performed at College Park, Md.

Mrs. HANSEN. Don't you have to have answers quickly on the problem of waste disposal?

Mr. THOMSON. This is one of the high priorities of the Bureau of Mines. We are using the money to get a plant going to run the garbage through to see what can be recovered.

Mrs. HANSEN. That is $6 million for environment of mankind that went down the drain.

Mr. THOMSON. This is a demonstration plant.

RECOVERY OF METALS AND MINERALS FROM MUNICIPAL INCINERATOR RESIDUES

Mr. RAMPACEK. At College Park, Md., we have a small pilot plant which is operating currently to study the recovery of metals and minerals from municipal incinerator residues. The plant treats about a thousand pounds an hour of typical residues from the incinerators in this area, and by simple and straightforward types of processes which are used in the mineral industry. We are recovering the iron, the glass, and various types of nonferrous metals. We are further studying the upgrading of these materials to commercial products.

The increase in funds that we had asked for was to develop this kind of an approach further into a complete waste management system that would take, in addition to the usual municipal and household type of trash or refuse, dead animals, and it would handle the sewage disposal plant sludges. In this system we would bring refrigerators into another part of the plant—it would be, in general, a complete management system that would handle the kind of materials that are produced by the private industrial and commercial sectors.

NEED FOR IMPROVED METHODS OF WASTE DISPOSAL AND REUSE

Mrs. HANSEN. It has been said that the United States is the most wasteful nation on earth and that no other nation on earth would throw away materials without some attempt to recover them.

The problem has escalated as to what to do with the old cars, what to do with old refrigerators, and what to do with all the wornout throwaways that are landing on riverbanks all over the United States.

Mr. RAMPACEK. The situation is getting worse too.

Mrs. HANSEN. It seems to me the delay of a year in funding this activity can be disastrous.

Mr. RAMPACEK. Currently there are about——

Mrs. HANSEN. The American people are going to call this government to account for not providing some answers. Municipalities and States do not have the resources to do the job individually.

Dr. HAYES. Madam Chairman, we, like the rest of America, became aware of this a few short years ago and even as we talk about it the problem grows and we have reoriented a considerable part of the Bureau of Mines activity to this whole question of dealing with the environment, both the problems made by the civilization and that made by mining.

There is one feature not touched on in that. We do have some examples in Europe of burning garbage as a means of deriving energy. It is a fair source of energy, and this is only one part of it. We are going to have to come some day to recycling everything. We are going to have to obtain energy from the garbage, we are going to have to reclaim the metals too.

Mrs. HANSEN. Time is not going to stand still for you to catch up.

Dr. HAYES. That is right.

Mrs. HANSEN. Any more comments?

HEALTH AND SAFETY PROGRAM REDUCTIONS

Mr. THOMSON. Except we left helium out of this $135 million; $15 million in round figures was cut out of health and safety program, of which $6.6 million was for research and $8.3 million for the enforcement part of the Health and Safety Act.

Mrs. HANSEN. $8.3 million was cut out of the 1969 Coal Mine Health and Safety Act?

Mr. THOMSON. Out of the enforcement part of the Health and Safety Act; yes.

Mrs. HANSEN. How are you going to have safety without enforcement?

Mr. MCDADE. What does that mean?

Mr. THOMSON. The new Federal Coal Mine Health and Safety Act of 1969 can be divided into two parts.

One is on the research part of the act and the other is on the enforcement part, or inspections and investigations.

Mrs. HANSEN. Are you going to have inspectors?

Mr. THOMSON. We had asked for about $42 million and the allowance was $34 million, which was a reduction of $8 million. It still represents a sizable increase for 1971, but not the total amount we had in the budget.

Mr. MCDADE. When does the act take effect for the purposes of the Bureau of the Mines? When do you have to have your people on board?

Mr. THOMSON. I think the first mandatory date is March 30.

Mrs. HANSEN. There were funds in the 1970 supplemental for this.

Mr. THOMSON. That is correct.

Mrs. HANSEN. How many people do you have on board for the enforcement section of the coal mine Health and Safety Act?

ADDITIONAL COAL MINE INSPECTORS

Mr. WHEELER. We have about 300 coal mine inspectors at the present time.

Mrs. HANSEN. How many people will you need altogether?

Mr. WHEELER. In coal, we need to get up to about 1,100.

Mrs. HANSEN. Right now you have about 25 percent of the needed inspectors?

Mr. WHEELER. That is right.

Mrs. HANSEN. In view of the national interest in coal mine safety, if you are to have an explosion and some loss of life will you feel that this could have been avoided if your budget request had not been reduced?

Dr. HAYES. Madam Chairman, we are placed in that position at this time.

Mrs. HANSEN. You do not think there will be an accident?

Dr. HAYES. I hope not.

Mrs. HANSEN. We have heard that before. Two years ago there was a hope expressed to this committee that there would not be another accident and yet we had the West Virginia disaster.

Mr. MCDADE. As a matter of fact, we have figures indicating there were fewer lives lost the year preceding Farmington than any time in the history of the Bureau of Mines and everything was rosy.

Mrs. HANSEN. You are quite right. It is going to take something more than hope.

Dr. HAYES. But I think we can discuss that in greater depth when we come to the health and safety section.

Mrs. HANSEN. I ask the questions when I feel like it, not when I get to a certain point.

Mr. MCDADE. On this point, you have 350 people on board. Have you any kind of statistical breakdown on them?

How many formerly worked in the mines?

Mr. WHEELER. All of them.

Mr. MCDADE. As miners or some capacity for the Government?

Mr. WHEELER. As miners.

Mr. MCDADE. Do you hope to draw all of your 1,100 people from this pool?

Mr. WHEELER. Yes, we do.

AGE OF COAL MINE INSPECTORS

Mr. MCDADE. What is their average age?

Mr. WHEELER. It is too high, between 40 and 45 years old. I do not have the numbers with me.

Mr. MCDADE. Would you supply those so we can see the average age? And if you do have a statistical breakout on how many of them you have been able to recruit that formerly worked as miners, that would be helpful.

RECRUITMENT OF COAL MINE INSPECTORS

I think we all know another problem of the mining industry, especially the coal mining industry, is where do you get the people?

Mr. WHEELER. That is right. The older law requires that all of these

people have mining experience. So I think it is safe to say that all of these 300 people have at least 5 years in coal mining.

(The information follows:)

The average age of the 300 coal mine inspectors now employed by the Bureau of Mines is 51.

Mr. McDade. Did you have to retrain them or send them to school?

Mr. Wheeler. We retrained all of them to make inspectors out of them. We motivated them to be inspectors and trained them how to be inspectors.

Mr. McDade. How much of a problem are you going to have going from 350 to 1,100 people?

Mr. Wheeler. We expect to get about halfway by the end of 1970 and catch up in 1971.

Mr. McDade. How many do you need to do the job, the number 1,100?

Mr. Wheeler. Yes.

Mr. McDade. Thank you, Madam Chairman.

DISASTER SURVIVAL AND RESCUE

Dr. Hayes. Madam Chairman, I would like to return to the previous question of what we have done on studying procedures to be followed in case of a disaster.

I would like to have Mr. Howard talk about a study the academy has made and what we are going to do in the coming year on disaster and possible disaster survival.

Mr. Howard. We have had the Academy of Engineering make a study and they have been working for the past year—the study is just completed—to determine two things:

One, what is the best system for mine survival and rescue that could be put together within a year with presently available technology?

And two, to determine and recommend to us areas of research that should be undertaken to lead to a better second generation disaster survival and rescue system that could be produced by the end of 5 years.

We have their interim report on the first system and we have just advertised for proposals for the development of such a system. The system will include three major subsystems. The first subsystem consists of a new and improved type of self-rescue equipment, and a shelter and life support system of two types, one which would be a central rescue chamber, and the other one that would be portable, that would follow the mining.

The second subsystem would be a communications subsystem which would enable the rescuers, the people on the surface to locate, identify and communicate at least crudely with anyone trapped underground, and the third subsystem is a rescue subsystem which would include two types of high-speed drills, one a probe drill that would drill a 6- to 8-inch hole at the rate in most coal mine rocks of around a hundred feet an hour, to develop communications with trapped men, and a large hole drill that would drill at somewhat reduced rate but still could fairly quickly put down a hole large enough to rescue men.

ADVANTAGES OF NEW RESCUE SYSTEM

Mr. McDade. What is new about that? Was this not done in Pennsylvania when the two men were trapped at Sheppton? Exactly. They drilled a high-speed hole and built a bigger one, sunk a tube and pulled them out. What is new?

Mr. Howard. There is nothing new about this except that it will be a complete system that can be put into operation very quickly and can reduce considerably the time required to reach the men.

Mr. McDade. What you are saying, the technique is not new but you hope to develop machines that will do it faster?

Mr. Howard. That is right. We will have the total system integrated so there will be no lost time and lost motion in getting it to the site, locating the men and getting down and getting them.

Mr. McDade. Take Sheppton as an example.

Mr. Howard. We would hope to be able to locate the people within a few hours.

Mr. McDade. How long would it take now?

Mr. Howard. If you drill a hundred feet an hour, you could get the first hole down—it would be a drill that would be air transportable, stationed at some place and you would have a trained crew so you would arrive at a place very quickly. It depends on how deep they are and what kind of rocks, but you could say in less than a half a day you could have a hole down to the men.

Mr. McDade. I am trying to relate that to present technology.

How long would be taken, given the imponderables you mention? Any way you can relate it for me.

Mr. Howard. The individual pieces of this system, if you are going to have tested when delivered to us, have to be pretty well available now. The point is it has not been put together in an integrated system.

Mrs. Hansen. Why not?

Mr. Howard. The Bureau of Mines has not had the funds nor I guess the mandate to do this before.

Mrs. Hansen. How long has the Bureau of Mines been in existence?

Mr. Howard. Since 1910.

Mrs. Hansen. How long has coal mining been going on in the United States?

Dr. Hayes. Since the early settlers got here.

Mr. Howard. The one part of the system that has not been demonstrated yet and will take a little development, but that the Academy committee is very confident can be developed, is the communications system. Here we will be looking at two types of systems, one a seismic system and another one a radio or electromagnetic system.

Their prime function would be to make sure that the men are there and are still alive, where they are. This is one part of the system that had not been previously available and is a very critical part of the total rescue system, too. And either type has only recently become feasible because of development in other fields.

The seismic system, for example, is based on the use of instrumentation that has evolved or been developed as a result of geophysical research in earthquake prediction and nuclear explosions and other fields. There have been a lot of advances in the field of seismology in the recent years. The electromagnetic system has not been proved yet,

but there has been work in these fields too for defense application that the experts in the Academy of Engineering feel fairly confident that such a system can be developed. Whether it can be developed by the end of the year so there will be voice communication, they are not so confident, but this is one of the things we will carry on beyond this year.

I want to emphasize that the communications subsystem is the new thing that has not been previously possible, certainly not for very long, and it is the thing that makes the operation of the kind of rescue system that we are talking about now possible. This might have been developed 5 years ago, but I do not think it could have been developed earlier than that.

Mrs. HANSEN. If it had been developed 5 years ago it might have saved some lives.

Dr. HAYES. I would like to add, for example, that at the scene of the Hominy Falls, W. Va., disaster, four men drowned there about May of 1968 and even though the telephone lines were still in existence and they could almost pinpoint the location of the men, it took literally days to bring in these drills and drill the holes.

Mr. MCDADE. I am trying to get an answer as to how much you are going to speed up the process with the new technology. If you cannot do it now, could you supply it for the record sometime?

Mr. HOWARD. I would say in most cases, assume a 600-foot depth, in most coal mine rocks we should be able with the new system to get to the men and get them out in 2 days.

Mr. MCDADE. How long would it have taken?

Mr. CORGAN. At Sheppton it took about 2 weeks before they were able to get the equipment assembled and to the site and get down and get the men.

Mr. HOWARD. We did not own the equipment, you see, and we did not have the plan and did not have the team organized to actually do it. This is a new system which visualizes that we will have geophysicists responsible for the communication system stationed to operate the surface end of the system to locate the men very quickly. Procedures will be developed that they will be able to fly to the site very quickly.

The new thing about this will be in the survival chambers and the communications subsystem. These survival chambers we will be looking at will have self-contained oxygen supplies, for example. They will not depend on air trapped in the mine.

REASON FOR DELAY IN SHEPPTON MINE RESCUE

Mr. CORGAN. With respect to the job in Sheppton, Pa., the rescuing of the men by the State, an element that took considerable time was the actual design of a cage to go down the 18-inch hole. It took time because there had been no such specific cage before.

As drill holes go down a few hundred feet, most of them have a curve. The cage must be designed to make the curve. This would now be planned beforehand. A harness arrangement was required at Sheppton in lieu of the cage.

Mr. HOWARD. One other point. This system that will be developed at the end of this first year is just an interim system. It will be ex-

pensive but it is an interim system that will enable us to do much better than presently possible until we have time to do the research to develop the next generation system which will be substantially better and will include many more items than the first one.

Mrs. HANSEN. I think Congress deserves distinct praise for passing the Coal Mine Health and Safety Act, which made it mandatory that your Bureau look ahead instead of backward.

OIL DEVELOPMENT IN ALASKA

To what extent, if any, is your Bureau concerned with current oil development activity in Alaska?

Dr. HAYES. The Bureau of Mines has only a minor part in this. We do maintain a mineral resources man in Anchorage, but the greater part of the Interior responsibility falls to the Geological Survey.

Mrs. HANSEN. You are not developing any safety techniques?

Dr. HAYES. I am not aware of any on the petroleum side in Alaska. We do work with the petroleum industry out of our Dallas office, for instance.

Mr. WHEELER. I am planning to go to Alaska later this month to visit the new oil developments in Alaska and to make ourselves available to those people as far as health and safety training is concerned.

We have no responsibility yet for enforcing health and safety standards in the petroleum industry, but we do have responsibility for health and safety training in the petroleum industry.

COORDINATION OF MINERAL EXPLORATION

Mrs. HANSEN. In several places in your justifications you mention the activities of your Bureau in connection with mineral exploration. How does your work coordinate with that performed by the Geological Survey?

Mr. ZINNER. The Geological Survey work is essentially oriented—I am speaking now of the mineral aspects, not the water—to the location of geologic features that are favorable to mineralization. They are finding whether a resource in fact does exist.

Our concern is with the commercial value of such findings, taking the targets or findings or conclusions that the Survey reaches and trying to develop them into commercial significance.

Simply because sampling tools are something we are both concerned with. When it gets down to the point of a very fine definition between a reserve and a resource, the sampling techniques are very critical. So we have a mutual interest with the Geological Survey because we both use those tools.

EFFECTS OF ANTIPOLLUTION EFFORTS

Mrs. HANSEN. We have previously discussed the current emphasis being made on antipollution efforts. To what extent do you think this philosophy may curtail mineral or oil production in this country?

Dr. HAYES. I am sure on the national level pollution is second only to the Vietnam war as a source of American concern, it may even surpass it. In regard to pollution originating through mining, milling, and processing, let there be no doubt that correcting unacceptable prac-

tices is part of the cost of doing business from here on—I do not think any industry can expect better than the status quo of conditions. That is the best that can happen.

I am sure the message has reached the mineral industries. They understand that cleaning up the land and water and air is part of the way they must do business and if there are added costs, as there are bound to be, it will be reflected in the cost of the material.

Mrs. HANSEN. Is it not true that you are going to have a great responsibility in developing with industry safe techniques that will prevent pollution?

Dr. HAYES. Yes.

Mrs. HANSEN. It is going to take a little more imagination than you have exerted for the last 60 years.

Dr. HAYES. That is right.

Mr. MCDADE. I wonder about some of these things. I would like you to educate me a little bit. I can recall, for example, when HEW had a major effort and I think still does in the field of pollution. Their major effort was on automobile emission systems.

AUTOMOBILE EMISSIONS

I see the Bureau of Mines now has a program on the automobile emission system, conversely the Bureau of Mines used to have jurisdiction of all culm banks in the Nation until they started to burn, and before the Solid Waste Disposal Act. That was shifted to HEW and and they did not even know what a burning culm bank looked like.

What, for example, can be gained by having the major effort on the automobile emission systems as a pollutant in HEW, and also have the Bureau of Mines involved in researching that issue?

Why should you not deal with solid waste problems almost exclusively and let HEW concentrate its energies on the problem of the automobile, which is about 60 percent of our pollutant problem.

Dr. HAYES. We have a capability to work on both of these problems, sir.

Mr. MCDADE. Do you get a different perspective in the Bureau of Mines we do not get by having it done in HEW?

Dr. HAYES. Yes, sir.

Mr. MCDADE. Enlighten me a little bit about that, will you? How do you get different input from your research that might not occur in HEW by looking at automobile emission systems?

Dr. HAYES. This is the name of research, Congressman. We have the competence developed through the years, and while it perhaps is not as broad as that required for the mandate given HEW to work on some of these, in certain specific areas, such as automoble emission, we think we can contribute and we are contributing.

Mrs. HANSEN. Why is HEW doing this type of work?

Dr. HAYES. This is a decision made at a level above the Bureau of Mines.

Mr. MCDADE. Do you have a coordinating committee to sit down with HEW to see what they are doing, vis-a-vis what you are doing?

Mr. RAMPACEK. Yes. We discuss with the people at National Air Pollution Control Administration our program. As a matter of fact,

they fund our automobile emission study to the extent of about a half-million dollars.

Mr. McDade. How much is Bureau of Mines money?

Mr. Rampacek. We put in about $211,000. The NAPCA, of course, has the regulatory and enforcement function. We have in the Bureau of Mines and we have had for many years the capability in fuels research which we are directly applying to this particular study.

Mr. McDade. I raised the question because I want to make sure there is coordination going on and we do not have one agency not talking to the other.

Dr. Hayes. I have also participated in this and we assure you there is effective coordination.

Mr. McDade. Thank you, Madam Chairman.

FEDERAL COAL MINE HEALTH AND SAFETY ACT OF 1969

Mrs. Hansen. Your justifications indicate that health and safety will be your major activity in fiscal year 1971. Appropriations for this activity were $11.9 million in 1969, $27.5 million in 1970, and you are requesting $54.4 million for 1971.

I think it would be well for you to summarize the major provisions of the Federal Coal Mine Health and Safety Act of 1969 as they apply to your Bureau. In general terms we would like you to state for the committee how you plan to carry out your obligations under this legislation.

Mr. Wheeler. I would first like to remind the chairman that we have a responsibility for noncoal mines as well as coal mines.

Mrs. Hansen. I understand.

Mr. Wheeler. And our new authority really extends to both. We are in a position right now of trying to build up a capability of enforcing a comprehensive health and safety standard in noncoal mines that goes back to the passage of the Federal metal and nonmetallic Mine Safety Act in 1966, at the same time we are trying to build a capability to enforce the provisions of this new act.

Mrs. Hansen. Are you behind in recruiting the number of safety people you need?

Mr. Wheeler. Yes, ma'am. We have just begun to build an organization. We have had since 1966 to promulgate a set of health and safety standards for metal and nonmetallic mines, and we have just last week, February 25, promulgated 700 new health and safety standards for metal and nonmetal mines, which supplement——

Mrs. Hansen. Will you please insert in the record a list of your health and safety standards?

Mr. Wheeler. It is in the Federal Register of February 25.

Mrs. Hansen. Very good.

Mr. Wheeler. Those supplement about a thousand health and safety standards that we had promulgated for metal and nonmetal mines in July 31, 1969, and we will begin to enforce these standards in the metal and nonmetal mines on July 31, 1970.

As you said a moment ago, the safety standards in the coal law will become enforceable March 30 and the health standards in that law will become enforceable 6 months after the day of enactment, which I think is June 30. So we have all of these things coming at the same time, the metal and nonmetal health safety standards, July 31. We

have been working for the past year at least in trying to get ready to do this job.

The major provisions of the new Coal Act are the respirable dust provision, the prevention of black lung or pneumoconiosis, the treatment for a period of time of all mines as if they were gassy, whereas before we classified some mines as being gassy and other mines as not being gassy. And the inclusion of many day-to-day health and safety standards.

Under the old coal mine safety law we had the ability to enforce only those standards which created imminent dangers, where through a combination of dangers that altogether presented an imminent hazard to the mine.

INCREASED INSPECTIONS RESULTING FROM COAL MINE SAFETY ACT

In this new law there are many provisions that provide protection to the miners on a day-to-day basis in haulage, hoisting, roof falls, all of the hazards in the mines.

There is also a provision in the new law that in certain mines which are considered to be most hazardous, we shall inspect those mines at least once each 5 days, I believe. Yes.

Mrs. HANSEN. This is going to increases inspection by what percent?

Mr. WHEELER. The net effect of this will be to quadruple the number of inspections. We made less than 10,000 last year, and we will now be required under the new law to make more than 40,000 inspections in coal mines alone.

STATES AFFECTED BY MINE SAFETY LAW

Mrs. HANSEN. What areas geographically does this represent?

Mr. WHEELER. It extends all the way across the United States, but it is heavily concentrated, of course, in the Appalachian region.

Mrs. HANSEN. Will you please insert in the record the States that are affected.

Mr. WHEELER. Yes.

(The information follows:)

There are approximately 5,000 active coal mining operations in the following States:

Alabama	Kentucky	South Dakota [1]
Alaska	Maryland	Tennessee
Arizona [1]	Missouri [1]	Texas [1]
Arkansas	Montana	Utah
California [1]	New Mexico	Virginia
Colorado	North Dakota	Washington
Illinois	Ohio	West Virginia
Indiana	Oklahoma	Wyoming
Iowa	Oregon [1]	
Kansas	Pennsylvania	

Mr. MCDADE.

(Off the record.)

Mrs. HANSEN. The committee will adjourn until 1:30 p.m.

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[1] These States have small coal mining operations.

AFTERNOON SESSION

Mrs. HANSEN. The committee will come to order.

PROVISIONS OF PUBLIC LAW 91–173

Please insert in the record a tabulation of Public Law 91–173, indicating the major provisions by title of the legislation, the amount authorized for each activity, the amount already appropriated for fiscal year 1970, and your budget estimate for 1971.

(The information follows:)

MAJOR PROVISIONS OF THE FEDERAL COAL MINE HEALTH AND SAFETY ACT OF 1969 (PUBLIC LAW 91–173)

	Authorized	Appropriation 1970	Budget estimate 1971
Inspections, investigations and rescue work:			
Title I: Sec. 103—Inspections and Investigations	(1)	$8,430,000	$18,166,000
Title II: Sec. 202—Dust Standards and Respiratory Equipment	(1)	1,396,000	5,896,000
Title III: Sec. 305—Electrical Equipment—General	(1)	410,000	1,100,000
Title V:			
Sec. 502—Training and Education	(1)	1,974,000	3,274,000
Sec. 503—Assistance to States	[2] $5,000,000	300,000	900,000
Health and safety research:			
Title V: Sec. 501—Research	[3] 25,000,000	10,299,000	20,119,000
Total		22,809,000	49,455,000

[1] No limitation.
[2] There is authorized to be appropriated $3,000,000 for fiscal year 1970 and $5,000,000 annually in each succeeding fiscal year to carry out the provisions of Sec. 503 of Public Law 91–173, which shall remain available until expended.
[3] Authorizes not to exceed $20,000,000 for fiscal year ending June 30, 1970, $25,000,000 for the fiscal year ending June 30, 1971, and $30,000,000 for the fiscal year ending June 30, 1972, and for each succeeding fiscal year thereafter.

FEDERAL COAL MINE SAFETY BOARD OF REVIEW

Mrs. HANSEN. Will you explain what has happened to the Federal Coal Mine Safety Board of Review?

Mr. WHEELER. I do not know what has happened to it, but it will have no function.

Mrs. HANSEN. I will tell you what happened to it. It was abolished by the Public Law 91–173 and its activities placed under your jurisdiction.

Mr. WHEELER. I do not know what physically happened to it.

OFFICE OF MINE HEALTH AND SAFETY APPEALS

There will be an equivalent board established within the Department in the Secretary's Office to carry out the same function.

Mrs. HANSEN. When do you expect the board to be established?

Mr. WHEELER. I know it is being worked on. People are being considered for the various jobs, but I have not seen that any of them have been appointed yet.

Mrs. HANSEN. Doesn't it have to be established by a certain date?

Mr. WHEELER. I would imagine by March 30. I am not sure.

REACTION OF STATES AND PRIVATE INDUSTRY TO NEW LAW

Mrs. HANSEN. What has been the reaction of the States and private industry to the new safety legislation?

Mr. WHEELER. I think the best word to describe it is consternation.

The industry is faced with the task of doing in a very brief period of time many things that it probably should have already done.

Mrs. HANSEN. I do not know why there should be consternation, coal mines have been in existence for a great many years.

PROBLEMS RESULTING FROM CERTAIN PROVISIONS OF THE LAW

Mr. WHEELER. Madam Chairman, overall, I do not think anyone would have any question with the objectives and law itself. But there are a few provisions and I would like to cite one of them to you—there is a provision in the law that all mine cars after a year must be provided with automatic brakes and there are no automatic brakes that can be put on mine cars.

Mrs. HANSEN. Are they nonexistent?

Mr. WHEELER. There are none in existence.

Mrs. HANSEN. What are you going to do about that provision?

Mr. WHEELER. Maybe we have some consternation in our own organization. I think what we will have to do is to cite them as being in violation of the law, because they will be.

Mrs. HANSEN. Is anyone in the process of developing automatic brakes?

Mr. WHEELER. Yes, ma'am. We have met with all the car manufacturers to first find out if there are any brakes, and we found out there are none. And since then we have been talking with them as to how we can get some developed as soon as possible.

Mrs. HANSEN. Has the Department appeared on behalf of this provision before the Education and Labor Committee?

Mr. WHEELER. We have not gone back to them yet. We will have to after we study all the provisions of the law. We are now studying this law section by section to determine what the problem areas are. This is just one which is obvious on the face of it that I have decided to use. There are others.

Mrs. HANSEN. Will you please insert in the record other areas of the Coal Mine Health and Safety Act which cause similar problems?

Mr. WHEELER. Yes, ma'am.

(The information follows:)

In addition to the matter of the act requirement for car brakes which must be resolved before March 30, 1970, there are other unresolved problems. Among these are:

1. Sec. 315 of the Act provides that the Secretary may require that rescue chambers, properly sealed and ventilated, be erected at suitable locations in the mine. Such chambers to be equipped with first-aid materials, an adequate supply of air and self-contained breathing equipment, an independent communication system to the surface, and proper accommodations for the persons while awaiting rescue, and other equipment. Where shelters are required, there shall be an approved plan for the erection, maintenance, and revisions of such chambers and an approved training program for the use of the shelter.

Much of the technology involved is unclear, especially in connection with an integrated standby system. A contract for the development of a total rescue and survival system should be awarded shortly and completed within a year thereafter.

2. Section 317(e) requires the Secretary to propose standards by December 30, 1970, under which all working places in a mine shall be illuminated by permissible lighting within 18 months after promulgation of the standards.

The nature and content of these standards is being considered, in the light of practicability. Some research may be required and new permissibility standards may have to be developed. These efforts are being carried on at a rapid pace in

order to meet the deadlines. It is not certain, however, that the present uncertainties can all be resolved in the available time.

3. Section 317(j) authorizes requiring electric face equipment, including shuttle cars, be provided with canopies or cabs to protect the miners from roof falls and from rib and face rolls where the height of the coal bed permits.

Practical designs are under consideration and consideration is being given to determining the minimum height of the coal bed which will permit installation of such devices.

4. Section 317(g) provides that the Secretary shall require, when technologically feasible, that devices to prevent and suppress ignitions be installed on electric face equipment.

Research on an ignition suppression system has been carried out in the Bureau's laboratories and experimental mine for several years. We are presently concentrating on converting our basic knowledge into a commercially feasible system. Progress is being made and emphasis placed on the project; nevertheless, it is not possible to set a specific completion date.

STATE REACTION

Mrs. HANSEN. How have the States reacted to the new Coal Mine Health and Safety Act?

Mr. WHEELER. Here again I think the States have been unable to determine for themselves what their role will be in the future. As you know, this new law contemplates that the total responsibility will be in the Federal Government for enforcing the law. There is no provision in the law for cooperating with the States to the extent of allowing States to enforce for the Federal Government the standards that are in the law.

We are hopeful that some way can be found that the Federal Government and the States can continue to work together to carry out their respective responsibilities. But it will not be the way it has been in the past, where we in effect had a duplication of effort where our inspectors went along with their inspectors and vice versa.

METAL AND NONMETAL MINES SAFETY ACT

Mrs. HANSEN. There has been a general acceleration planned for 1971 in connection with your responsibilities under Public Law 89–577, the Federal Metal and Nonmetal Mines Safety Act.

Please review for the committee the general requirements of this legislation.

Mr. WHEELER. As I said this morning, we have promulgated by publication in the Federal Register about 1,700 health and safety standards that are applicable to metal and nonmetal mines, and at least some of these will become enforceable July 1 of this year.

Mrs. HANSEN. Have you spelled out in the Federal Register which safety standards are enforceable?

Mr. WHEELER. Yes, ma'am. We have built a field organization, we have established our district offices in the field, and we are now in the process of staffing our field offices.

Here we have a different situation with regard to the States. In the metal and nonmetal act, there is a provision which says that the States may enter into an agreement with the secretary which would allow the States to enforce health and safety standards which are no less stringent than the Federal standard, within their own boundary. We can expect that insofar as metal and nonmetal is concerned, some of the States will be doing part of that work for us.

Mrs. HANSEN. Do you have any diea on how many States will be doing this work?

Mr. WHEELER. I do not know, but I would think from 15 to 20. Most of them that have metal and nonmetal mines in their boundaries.

OVERALL PICTURE ON METAL AND NONMETAL MINING SAFETY

Mrs. HANSEN. Give us an overall indication of the general thrust of your 1971 activity on metal and nonmetal mining safety.

Mr. WHEELER. Across the board in metal and nonmetal, we intend to expand our activities in all three of our functional areas, the three being inspection and enforcement, making sure the operators comply with the law, education and training, and research and development. So we are going to do more in all three of these areas than we have in the past.

Mrs. HANSEN. Certain newspaper articles have alleged that there are individuals in the Department of the Interior "friendly to mining interests."

In your opinion, is there any need for concern as to whether the best interest of the Federal Government or the individual miners will be adequately protected in the formulation and administration of policies on mineral matters by your Bureau?

Mr. WHEELER. I think the Department is going to do the job that the Congress intends for the Department to do enthusiastically and without any reservation. I am not sure that answers your question, but I think it does.

I do not know anyone who is friendly to anyone to the extent that it would affect——

Mrs. HANSEN. The lives or safety of the miners?

Mr. WHEELER. Yes, ma'am. Their responsibilities.

PRICE INCREASES AND THE PRODUCTION OF COPPER

Mrs. HANSEN. Copper prices have materially increased during the past year. I notice in your justification you say you are trying to find ways to produce more copper.

First, can we have your analysis as to the reason for the recent price increases in copper; and secondly, do you think your efforts will materially increase the production of copper in this country within the next 5 years?

Mr. ZINNER. Madam Chairman, a sub-Cabinet committee of the President is looking into this very question at the present time under the chairmanship of Dr. Houthakker, of the Council of Economic Advisors. They are talking to the major producers and major consumers of copper, asking them exactly that question, and they are getting a great variety of answers. Some of the opinion suggests that during the rest of 1970 there may be a little tapering off on world demand.

Mrs. HANSEN. Due to what reason?

Mr. ZINNER. A general slowdown in the economy of the United States, and a bit of a tapering off around the world. This is opinion.

How long that carries over into the following year is also a matter of speculation.

There has been no conclusion made from this study and I do not know if one will be made. I think they are studying the effect of the

multiple price situation, that is one set of prices for copper on the world market, another set on the domestic market.

The reason for the wide fluctuation in prices and general price rises is simply due to the fact that the demand for copper has outstripped the supply. How much copper it will take to bring this back into balance is another matter that is being speculated about.

This situation in copper has gone on since 1966, this did not happen during the last year. Throughout this whole process consumer stocks and inventories have generally moved downward. It will take something to replenish those aside from meeting the increasing demand which most people agree over the long term is about 4.5 percent per year. And that is going to take a lot more copper capacity than we know about to accommodate.

SUPPLY AND PRICE OF NICKEL

Mrs. HANSEN. There was an extended strike by the nickel workers in Canada during the last half of 1969. Last year, you indicated we imported 83 percent of our nickel requirements.

What is the current situation on the supply and price of nickel?

Mr. ZINNER. The strike of course did upset the balance of supply and demand all around the world, and it is going to take a very long time before the effect of that is reflected in any kind of stability in this particular commodity.

As far as our domestic capability in nickel is concerned, I do not see much in the future that promises to increase the part of our demand that is met from domestic sources.

I think as far as we can see in the future, we are going to have to rely on foreign sources for an increasing supply. We simply do not have the kind of resources it takes to meet the projected demand on this commodity.

COUNTRIES SUPPLYING NICKEL AND THEIR PERCENTAGE

Mrs. HANSEN. Will you insert in the record the countries we secure our nickel from and the percent of our need that each country meets?

Mr. ZINNER. Yes, we will be glad to.

(The information follows:)

Major sources of nickel and percent of U.S. requirements in 1968

Country:	*Percent of U.S. requirements*
Canada	80.8
Norway	6.0
New Caledonia	1.6
South Africa	.9
United States	9.5

IMPORTS OF SELECTED METALS AND MINERALS

Mrs. HANSEN. Please insert in the record a table similar to that appearing on page 260 of the hearings last year, indicating a list of selected metals and minerals showing imports and percent requirements derived from abroad for 1960, 1965, and the latest year on which you have accurate statistics.

Mr. ZINNER. We will be happy to.

(The information follows:)

List of selected metals and minerals showing imports and percent requirements derived from abroad, 1960, 1965, 1968
(Quantity, short tons (unless indicated otherwise). Value, thousand dollars)

	1960			1965			1968		
	Imports		Percent of require-	Imports		Percent of require-	Imports		Percent of require-
	Quantity	Value	ments	Quantity	Value	ments	Quantity	Value	ments
Asbestos	669,496	$ 63,345	94	719,559	$ 70,457	91	737,909	$ 72,930	90
Aluminum	2,381,000	204,304	83	3,590,600	422,208	82	4,229,000	2,156,800	90
Cesium (pounds)	NA	NA	100	NA	NA	100	6,000	4	100
Chromium	443,626	23,970	100	469,659	26,094	100	389,000	20,656	100
Cobalt	6,085	19,715	100	7,704	24,292	100	4,534	18,488	64
Columbium	1,213	3,687	100	1,226	2,712	100	1,914	5,206	100
Fluorspar	534,020	14,393	83	816,546	19,958	88	1,050,107	28,699	84
Graphite	48,324	1,755	100	58,100	2,387	100	67,800	2,458	100
Iodine	947	1,425	49	1,424	2,476	81	2,899	5,594	100
Iridium (ounces) ...	4,253	283	81	10,839	943	100	5,503	1,018	100
Manganese	1,174,956	101,316	100	2,023,827	141,233	100	1,053,000	58,294	92
Mica, B, F & S	4,128	5,378	100	5,937	8,089	100	3,199	3,111	100
Nickel	103,000	157,590	84	163,000	255,503	86	147,950	290,722	93
Palladium (ounces) .	368,256	8,189	97	734,881	22,381	100	1,069,000	46,590	100
Platinum (ounces) ..	238,307	18,917	83	349,280	36,125	98	368,000	46,040	64
Rhodium (ounces) ...	31,722	4,126	100	39,768	6,762	100	41,026	8,868	100
Rutile (titanium) ..	18,200	3,611	100	94,000	10,116	100	103,000	12,653	100
Strontium	6,186	150	100	9,741	221	100	12,896	290	100
Tantalum	278	1,127	100	478	2,150	100	562	12,400	100
Total - dollars ..		633,281			1,054,107			2,790,821	

NA-Not Available
In some instances quantities of raw materials have been converted to the commodities listed.

NOTE: Mica, Block, film and splittings.

MINING LEASES AND PERMITS

Mrs. HANSEN. The Bureau of Land Management issues mining leases and permits on thousands of acres of publicly owned land. To what extent does your Bureau participate in appraising the mineral content of these lands?

Mr. KAUFMAN. We do not participate except on invitation.

The Bureau of Land Management and the Geological Survey have their own groups of mining engineers to perform this function.

Mrs. HANSEN. How many times are you asked for assistance?

Mr. KAUFMAN. Very rarely.

Mrs. HANSEN. Do they ever consult with you?

Mr. KAUFMAN. Oh, yes, in the field. There is quite a bit of back and forth as to work we may have done in the area which they can use and this kind of thing.

As to a formal appraisal, we do not make any for them.

WILDERNESS SURVEY

Mrs. HANSEN. How is your wilderness survey progressing?

Mr. KAUFMAN. The wilderness survey is moving along, not perhaps as fast as we would like.

Mrs. HANSEN. Why?

Mr. KAUFMAN. I think it is a matter of priority. We are attempting a cooperative effort with USGS and coordinated with the Forest Service, and we have covered I think 34 primitive areas and 54 wildernesses. Under terms of the act as of the end of fiscal year 1969, we had published reports on 55 areas. Two more were published in fiscal 1970 and we have six more reports that are being completed and in various stages of review and/or publication.

We have field work and/or report preparations underway for 11 primitive areas and two wildernesses.

Mrs. HANSEN. When do you expect to complete the wilderness area studies?

Mr. KAUFMAN. The total wilderness areas?

Mrs. HANSEN. That is right.

Mr. KAUFMAN. I really do not know. It is a long process.

Mrs. HANSEN. Don't you think you should have an idea of how long it is going to take.

Mr. KAUFMAN. I would expect it would take us at least another 10 to 15 years.

Mrs. HANSEN. Is there a deadline?

Mr. KAUFMAN. We have to finish I believe in 1983.

(Off the record.)

CONSERVATION AND DEVELOPMENT OF MINERAL RESOURCES

Mrs. HANSEN. Please insert in the record at this point pages 4 through 62 of the justifications.

(The pages follow:)

DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

Conservation and Development of Mineral Resources

Appropriation, 1969	$36,818,000	
Second Supplemental appropriation, 1969	750,000	
Total appropriation, 1969		$37,568,000
Transferred to "Operating Expenses, Public Buildings Service," General Services Administration		-4,660
Transferred from "Solid Waste Disposal"		+433,000
Total available, 1969		37,996,340
Appropriation, 1970	39,331,000	
Pay Cost Supplemental	3,164,000	
Total appropriation, 1970		42,495,000
Transferred to "Operating Expenses, Public Buildings Service," General Services Administration		-11,000
Total available, 1970		42,484,000

DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

Summary of Increases and Decreases, 1971

	Base for 1971	Increase 1971	
Research:			
Coal			
Design of a small prototype plant to convert coal to high-Btu pipeline gas	$2,757,000	+1,500,000	
Petroleum			
To decrease research effort in petroleum and natural gas	2,695,000	-400,000	
Metallurgy			
To reimburse the Employee Compensation Fund	133,000	+88,000	
Mining			
Develop technology to minimize hazards of mining in a methane environment	1,710,000	+1,300,000	
Net increase, 1971			$ 2,488,000
Budget estimate, 1971			44,972,000

CONSERVATION AND DEVELOPMENT OF MINERAL RESOURCES

Analysis by Activities

Activity	F.Y. 1969 Amount Available	Fiscal Year 1970 Total Appropriation	Pay Cost Supplemental	Transfers 1/	Amount Available
1. Research					
(a) Coal	$ 6,946,655	$ 6,406,000	$ 562,000	- -	$ 6,968,000
(b) Petroleum	2,490,263	2,494,000	201,000	- -	2,695,000
(c) Oil Shale	2,260,610	2,267,000	146,000	- -	2,413,000
(d) Metallurgy	10,563,267	11,303,000	844,000	- -	12,147,000
(e) Mining	4,733,969	5,936,000	455,000	- -	6,391,000
(f) Marine Mineral Mining	1,467,270	878,000	47,000	- -	925,000
(g) Explosives	605,574	606,000	57,000	- -	663,000
2. Resource Development					
(a) Statistics	1,913,349	1,915,000	176,000	- -	2,091,000
(b) Economic Analysis	473,859	482,000	38,000	- -	520,000
(c) Bituminous Coal	853,707	856,000	78,000	- -	934,000
(d) Anthracite	394,873	697,000	49,000	- -	746,000
(e) Petroleum	749,373	751,000	88,000	- -	839,000
(f) Minerals	3,878,879	4,135,000	370,000	-11,000	4,494,000
(g) International Activities	565,170	605,000	53,000	- -	658,000
Unobligated balance lapsing	99,522	- -	- -	- -	- -
Total	37,996,340	39,331,000	3,164,000	-11,000	42,484,000

1/ Represents transfers to General Services Administration unless otherwise footnoted.

CONSERVATION AND DEVELOPMENT OF MINERAL RESOURCES

Activity	F.Y. 1969 Amount Available	F.Y. 1970 Amount Available	F.Y. 1971 Estimate	F.Y. 1971 Increase (+) or Decrease (-)	Page Reference
1. Research					
(a) Coal	$ 6,946,655	$ 6,968,000	$ 8,468,000	+1,500,000	8
(b) Petroleum	2,490,263	2,695,000	2,295,000	-400,000	14
(c) Oil Shale	2,260,610	2,413,000	2,413,000	- -	24
(d) Metallurgy	10,563,267	12,147,000	12,235,000	+88,000	29
(e) Mining	4,733,969	6,391,000	7,691,000	+1,300,000	36
(f) Marine Mineral Mining	1,467,270	925,000	925,000	- -	40
(g) Explosives	605,574	663,000	663,000	- -	42
2. Resource Development					
(a) Statistics	1,913,349	2,091,000	2,091,000	- -	46
(b) Economic Analysis	473,859	520,000	520,000	- -	48
(c) Bituminous Coal	853,707	934,000	934,000	- -	50
(d) Anthracite	394,873	746,000	746,000	- -	51
(e) Petroleum	749,373	839,000	839,000	- -	53
(f) Minerals	3,878,879	4,494,000	4,494,000	- -	55
(g) International Activities	565,170	658,000	658,000	- -	59
Unobligated balance lapsing	99,522	- -	- -	- -	
Total	37,996,340	42,484,000	44,972,000	+2,488,000	

1. RESEARCH

(a) Coal: Fiscal year 1970, $6,968,000; fiscal year 1971, $8,468,000; increase, $1,500,000.

Increase (+) or Decrease (-)		Total	Total	
Amount	Positions	Program	Positions	Explanation
$+1,500,000	+14	$4,415,000	124	Design and specifications of a coal gasification plant.

COST FACTORS INVOLVED IN INCREASES

10 professional and 4 nonprofessional employees, $168,000; personnel benefits, $12,000; travel and transportation, $10,000; supplies and equipment, $30,000; contract engineering and design, $1,280,000.

NEED FOR INCREASE

Coal gasification: Increased funds will be used to design a small prototype plant to convert coal to high-Btu pipeline gas. There is a pressing need to develop alternate sources of gas because of rapidly increasing demand and imminent shortages of it. While total energy consumption from fossil fuels grew 82 percent from 1946 to 1966, gas consumption grew 324 percent, or almost four times as fast. A continuation of this growth pattern can be anticipated for the next several decades, especially in light of growing requirements for fuels which, like natural gas, cause relatively little air pollution. For example, although about 19 trillion cubic feet were used in 1968, consumption in 1985 has been estimated recently at 31.6 trillion cubic feet. While natural gas resources are large, proved reserves (now at 287 trillion cubic feet) have not kept pace with production in recent years. The Nation's abundant coal resources represent a potential means of supplementing natural gas, provided that economic processes for converting coal to pipeline gas can be devised. In addition, conversion of coal's energy to gaseous form would alleviate air pollution, since the pollutants associated with coal would be absent from the gas.

A new coal gasification process developed by the Bureau of Mines has several advantageous features. In this process, coals including those that cake on heating can be used directly without expensive pretreatment. Also, the process operates at high efficiency so that a minimum amount of oxygen is used. Moreover, an added improvement is achieved by the effective operation of a catalytic tube-wall methanator which can have wide application in all coal gasification processes. The Bureau process has been extensively tested in a laboratory pilot plant. A detailed economic evaluation predicts a manufacturing cost of 43 cents and sale price of 54 cents per thousand cubic feet already attractive in certain areas of the country. It is therefore recommended that this process be scaled-up in a test plant one percent the size of a commercial plant. This scale would permit development of final design features and data necessary for economic evaluation of a full-sized plant.

The whole program, including plant construction, operation and evaluation, could be accomplished by fiscal year 1975 with a total expenditure of $13.8 million. The major part of the expenditures for engineering design and construction would be contracted out.

PROGRAM STATEMENT

Our Nation's continued economic vitality depends in large measure on the availability of energy. Since coal accounts for about 80 percent of the total energy stored in fossil fuel reserves, the economic use of coal is an obvious way to help insure that availability. Already, constraints on energy consumption have assumed critical proportions. Key factors are the tremendously increased demands which will be made on our energy resources in the years ahead, the need for an assured supply at low cost, growing need for interconversion of energy forms, increased concern with environmental quality, and health and safety considerations in the coal industry. The following table illustrates the relationship between energy demands, and coal production and reserves.

	Year	Millions of Tons of Coal Equivalent
Total energy needs	1968	2,400
	1980	3,300
	1985	4,400
	Year	**Millions of Tons**
U. S. coal production	1968	545
(Median projection)	1980	800
do	1985	1,800
Known recoverable coal resources *	....	219,500
Probable total recoverable coal reserves	....	1,400,000

* Includes only coals of bed thickness of 3.5 feet and over for bituminous and higher rank coals, and 10 feet and over for sub-bituminous and lower rank coals. In addition, there is a considerable volume of coal of lesser thicknesses recoverable at or near current prices.

Thus, although coal's potential as an energy source is great, its performance will depend on the rate and degree to which technology can provide more efficient methods of utilization. Specially important are new capabilities for the conversion of coal to electricity, and to liquid and gaseous fuels. Also, meeting proposed air pollution standards is an important challenge. Because these considerations affect all Americans, the Bureau conducts a comprehensive program of research and development on coal and its uses.

The dollar and percentage of budget apportionment for fiscal year 1971 are indicated in the following areas:

1. Develop economic methods for making synthetic fuels from coal to substitute for petroleum products and natural gas—$4,415,000 (52.1 percent).

2. Develop more efficient methods of converting the energy in coal to electricity while at the same time maintaining or improving the quality of environment—$2,315,000 (27.3 percent).

3. Provide basic information on coal structure as a means of promoting more efficient utilization of this complex chemical compound, and of facilitating development of new analytical tools to give more rapid and effective determinations—$1,039,000 (12.3 percent).

4. Develop knowledge which can be applied in creating new uses for coal and thereby extending the service it can provide to the public—$462,000 (5.5 percent).

5. Improve coal preparation methods and techniques—$237,000 (2.8 percent).

In addition to the proposed budget increase, an adjustment of funds is proposed in fiscal year 1971 compared to fiscal year 1970. Funds will be reprogramed to accelerate programs on making pipeline gas from coal, solving the sulfur-related air pollution problem encountered in generating electricity from coal, and in providing more efficient generation of electricity by magnetohydrodynamics. These funds will come from completion or reduction of other programs, particularly coal-to-oil conversion involving conventional processing methods, and low energy gas production from coal.

Guarding against duplication of work: To avoid duplication of research effort by the Bureau of Mines and the Department's Office of Coal Research (OCR), research proposals considered by OCR for funding are reviewed by the Bureau. In addition, through an exchange of progress reports, the work of each group is programmed to complement that of the other, permitting accelerated progress in such fields as magnetohydrodynamic (MHD) power generation, boiler tube corrosion, fly ash utilization, and synthetic fuels from coal. By means of direct exchange of information between scientists, the Bureau similarly is able to coordinate its coal research with work underway in industrial and educational organizations. A substantial amount of the Bureau's research and development efforts in air pollution abatement is conducted in cooperation with the National Air Pollution Control Administration (NAPCA) of the Public Health Service. Exchanges of reports, frequent conferences, and services by Bureau officials on NAPCA advisory committees eliminate any unnecessary duplication of efforts.

PROGRAM OF WORK

Synthetic fuels from coal: $4,415,000 (increase, $1,500,000).

Development of economic ways to convert coal to gaseous fuels would benefit consumers in two outstanding ways. First, it would help make gaseous fuels more accessible to consumers, whose supplies are becoming limited by such factors as decreasing discovery rates and price increases. Second, it would help reduce the air pollution associated with sulfur compounds in coal—compounds that can be removed during the conversion process.

The Bureau's program on gasification of coal is directed chiefly to the development and demonstration of a process which shows promise of producing synthetic gas at prices competitive with natural gas. The process has been tested in a pilot plant, and a prototype plant operation is now envisaged. The major part of funds allotted to the coal-to-gas conversion program is for the enlarged operation ($2,300,000) concerned with the steam-oxygen process for making pipeline gas. Meanwhile, research will continue on improving key steps of the process.

Underground gasification will be reexamined and critically evaluated as a means of recovering coal's energy without exposure of men to hazards involved in mining. Gasification of thick seams will be considered, rather than the thin seams investigated in previous, unsuccessful work in this field.

Work on liquefaction of coal will emphasize novel concepts and the development of efficient new catalysts tailored specifically for the hydrogenation of coal. Three novel processes, recently discovered by the Bureau, are the solvation of coal into a clean, ash-free oil at ambient temperatures and pressures, hydrogenation of coal with active hydrogen produced by the reaction of steam with carbon monoxide in the hydrogenation reactor, and production of hydrogen using an external heat carrier for coal gasification.

Coal conversion to electricity: $2,315,000.

Coal's low cost and abundance have made it the dominant fuel in electric power generation. In 1968, over 1,300 billion kilowatt-hours of electric power were generated, and 63.5 percent of it was produced from coal—a one percent increase over 1967. Electric power demands by 1980 are forecast to be over twice the present production. It is obvious that the continuing availability of coal, at acceptable costs, is vital if that demand is to be met.

However, in order to meet it, with due care for the integrity of the environment, it is necessary to find more efficient methods of converting coal to electricity. Today's conventional methods cause air and water pollution, and waste much of coal's energy potential.

In the Bureau, research is underway to reduce the amount of noxious gases and particulate matter discharged to the atmosphere in the conventional combustion process, and to develop new, more efficient processes which will cause less pollution, and also extract more power from a ton of coal. Research projects designed to achieve these goals include (1) increased emphasis on the development of effective and economic methods for removing noxious contaminants from stack gases before discharge to the atmosphere; (2) development of an improved magnetohydrodynamic (MHD) generator to reduce capital costs and lower ionizing agent (seed) requirements for the system, and techniques for more complete seed recovery and regeneration which will permit recovery of the sulfur from the MHD effluent gases; (3) development of facilities and techniques for more efficiently burning coals and chars in power boilers (success in this project will improve materially the economic attractiveness of a number of processes currently under investigation for coal conversion and will reduce the cost of generating electric power; (4) development of waste collectors and uses for the waste materials produced during the processing and utilization of coal; and (5) development and application of new knowledge on the physical and chemical properties of coals which, in the combustion process, cause deposition and corrosion on boiler heat transfer surfaces, resulting in costly shutdowns of power-generating units. Research will continue on the development of improved methods for transporting coal from the working face in the mine to the surface.

Coal science and analysis: $1,039,000.

To provide new approaches to the processing and utilization of coal, the Bureau conducts programs of basic research on the structure of coal and coal-derived products, on the mineral constituents of coal which interfere with, or produce objectionable byproducts during, coal's utilization, and on new analytical tools and techniques for coal and its products.

Fundamental studies on the chemical and physical properties of coal provide support data for the Bureau's applied research and development programs. Spectroscopic, X-ray, microscopic, and petrographic studies are to be conducted to gain additional information about the nature of coal and coal products--information that may lead to new or more efficient uses of coal.

To promote more efficient burning of coal in power generation, some newly developed Bureau techniques will be used to study the minerals contained in coal and the transformations these minerals undergo during the combustion process. For instance, a unique spectrometer employing a cryogenic magnet will be used to provide new information or the mode of occurrence of sulfur in coal.

In the field of coal processing, a nuclear device employing the rare manmade element, Californium-252, will be further developed to monitor the sulfur content in a moving stream of coal leaving the preparation plant. A successful sulfur meter would play a significant role in efforts to curb environmental pollution caused by burning high-sulfur coals.

Special uses of coal: $462,000.

In addition to its primary uses as a fuel, coal is an important industrial source of carbon for the metallurgical industries--especially in the production of iron--and a potential source of other chemicals as well. In 1968, the Nation's requirements for coking coal were 90 million tons, or 16 percent of total coal usage. Another 40 million tons of high-grade metallurgical coal were exported. However, two of the qualities most sought in coking coals--low ash and sulfur content--are also important to the electric utility industry, due to the increasing emphasis on air pollution abatement. Thus, competition for such coals gives added importance to the Bureau's studies on coal carbonization, particularly work on the use of coals not presently considered suitable for coking, use of coals of marginal coking quality and use of Western coals in coking blends. Success in such efforts would increase the availability of metallurgical-grade coals for ironmaking, export, and power generation as well.

In another, very different area of coal-utilization research, preliminary field tests carried out in 1968 indicated yields of potatoes and soybeans could be increased significantly by the addition of leonardite (an oxidized form of lignite) to test plots. More definitive tests are currently in progress in a cooperative effort with the North Dakota State University.

Coal preparation: $237,000.

The mechanical cleaning of coal involves the removal of coal-bearing impurities that reduce the effectiveness of coal in many consumer markets. More than 400 million tons of "raw" coal are cleaned annually to yield a marketable material in the 340-350 million ton range, more than 60 percent of the total U. S. production. Coal preparation technology in the past has been concerned almost entirely with ash reduction; and unless the cleaned product was destined for metallurgical use, the effect of treatment on sulfur reduction was frequently left undetermined.

Today however, the growing awareness that the combustion of coal emits large tonnages of sulfur oxides into the atmosphere, coupled with the imposition of stringent regulations to improve air quality, has forced the coal industry to review the possibilities of more effective sulfur removal by cleaning. It was soon discovered that significant reduction in sulfur content for many of

the Nation's coals that are presently the prime source for power generation would require the treatment of a much finer particle than has been contemplated in the development of conventional coal preparation equipment. This requires the development of new technology.

The Bureau's coal preparation program is oriented toward the treatment of very fine coal particles, emphasizing the removal of iron sulfide (pyrite), using centrifugation and dry methods. Novel approaches will also be used on lignites to remove deleterious mineral matter that has retarded its use for power generation.

EXAMPLES OF RECENT ACCOMPLISHMENTS

Probably the most important accomplishment is the development of a process on a laboratory pilot plant scale for the production of synthetic pipeline gas from coal. The process is technically feasible, and economic evaluations show promise for commercial production of the gas. Salient features of this new process related to the favorable cost estimates are the production of more than half the methane directly in the gasifier, major reductions in oxygen requirements, the ability to process both caking and non-caking coals at high rates, and use of a unique methanator that permits money-saving reductions in plant size and operating requirements. This laboratory-developed process is now ready for scale-up.

Other examples of technical advances made recently in the synthetic fuels program are:

> Progress in the development of a pilot plant to produce hydrogen by gasifying coal with an inert heat carrier which eliminates the need for costly purified oxygen;
>
> The first successful test of the Bureau of Mines fixed-bed pressurized gas producer was made using strongly caking coal. Pittsburgh seam coal was converted to a gas rich in hydrogen and carbon monoxide at rates up to 1000 pounds an hour during a 50 hour test. Successful development of the fixed-bed producer would provide a method for converting coal to a low-cost sulfur-free fuel for gas turbines, and a variety of industrial uses;
>
> Studies on the mechanism of coal solubilization with carbon monoxide and water, showing that cellulose (a precursor of coal) is readily converted to oil by this hydrogenation technique. This discovery led to a highly encouraging test in treatment of urban refuse, which has a high cellulose content. In preliminary tests with garbage, essentially all of the organic portion was converted to a crude oil.

Combustion tests with coal confirmed experimentally that the magnetohydrodynamic (MHD) system for generation of electric power can produce a sulfurdioxide-free effluent. Using potassium carbonate "seed," 99 percent of the sulfur dioxide in the gaseous effluent was removed, lowering the sulfur dioxide concentration in the exit gas to 35 parts per million.

In high-temperature combustion necessary for MHD power generation, a large amount of nitrogen oxides, which can act as air pollutants, are produced. Recent Bureau tests have shown a possible way to reduce nitrogen oxide emissions. When 90 percent of the air required for burning was added in the combustion chamber, with the remainder added downstream at a lower temperature,

nitrogen oxide production dropped by two-thirds. Additional tests will be conducted to determine whether further reduction is possible.

In work on air pollution control by removal of sulfur oxides from stack gases, tests showed that alumina spheres impregnated with copper oxide show merit for use as a possible SO_2 sorbent in regenerable SO_2 removal systems.

The Bureau completed development of a nuclear analytical device for determining continuously the moisture content of coal. A successful test was conducted at a commercial coal preparation plant measuring moisture in a continuously moving stream of coal. This instrument will provide the means for controlling operation of thermal dryers in coal preparation plants, making operation less hazardous by preventing overheating, and insuring the meeting of desired moisture specifications on delivered coal.

Addition of fly ash to mine spoils, normally too acidic to support vegetation, neutralized the soil and increased the availability of water to assist plant growth. Reclamation of mine spoils areas with fly ash appears promising as a means of effectively utilizing tonnage quantities of this powerplant waste to restore barren areas to productive use.

Tests with the pilot plant electrostatic precipitator showed collection efficiencies of 98-99 percent under all test conditions when testing the lower rank coals of the West. A number of both public and private utilities have expressed considerable interest in the operation of this precipitator for use on lignite and other Western coals.

A new approach to studying gases held in the coal matrix was developed that may provide useful information on the coal-forming process especially with regard to the formation of hazardous methane gas in coal mines. The technique involves freezing the gases liberated from the coal particle during grinding and later identifying these gases.

The utility of test equipment for studying the carbonization properties of coal was extended to the destructive distillation of worn-out automobile tires. Tests showed that the carbonization techniques provided an air-pollution free method for obtaining useful products from scrap tires.

Coal was successfully oxidized in a small continuous pilot plant to produce up to 40 weight percent of coal acids. Further tests with the coal acid mixture will show whether these valuable industrial chemicals can be produced economically from coal.

Coal preparation research using a Humphrey spiral showed that this device could significantly reduce the pyritic content of fine sizes of coal when used in conjunction with conventional froth flotation equipment.

(b) Petroleum: Fiscal year 1970, $2,695,000; fiscal year 1971, $2,295,000; decrease, $400,000.

EXPLANATION OF DECREASE

The decrease consists of termination or reduction in effort of research on fluid injection ($85,000, three projects), oil and gas reservoir properties ($162,000, five projects), crude oil properties ($23,000, one project), and basic petroleum research ($130,000, two projects). Reductions will take place at the following research centers and laboratories.

Location	Amount	Projects Terminated or Reduced	Personnel Affected
Bartlesville, Oklahoma	$300,000	Crude oil properties; analytical methods; thermodynamics; surface chemistry; thermal-chemical treatment of reservoir rock; additives on phase diagrams; thermal recovery methods; and low-permeability reservoirs.	17
Morgantown, West Virginia	37,000	Thermal recovery.	1
Laramie, Wyoming	35,000	Variation in reservoir oil characteristics.	2
San Francisco, California	28,000	Steam flooding	1
	400,000	11 projects	21

Three of the projects scheduled for termination or reduction are funded cooperatively by other Government agencies and industry organizations. The cooperating agencies, fund reductions, and personnel that will be affected are as follows: American Petroleum Institute, $97,500, 3; Air Force, $70,000, 3; and Navy, $ 10,000, 1.

PROGRAM STATEMENT

The demand for energy is growing exponentially. By 1985, energy consumption in this country will be about 110 quadrillion Btu's; a 77 percent increase over that actually consumed in 1968. The requirements predicted for petroleum and natural gas over this 17-year interval are enormous, amounting for each commodity to more than the Nation consumed during the past century.

There is a growing concern over industry's ability to meet future demands for energy, and to do so in a manner that will enhance or prevent damage to the quality of our environment. The basis of the concern over supply lies in the relationship between reserves and production.

Between 1959 and 1968, proved reserves of crude oil remained essentially constant at 30.7 to 31.8 billion barrels, while production increased 27 percent, from 2.6 to 3.3 billion barrels per year. Because of constant reserves and increasing production, the reserves-production (R/P) ratio decreased consistently from 12.3 in 1959 to the uncomfortably low value of 9.2 at the end of 1968 (fig. 1).

Proved reserves of natural gas increased nearly every year over the same 10-year period, but production increased even faster. Thus, the R/P situation for natural gas nearly parallels that of petroleum, decreasing from 21.1 in 1959 to 14.6 at the end of 1968 (fig. 2). This decline is actually the extension of a consistent and broad decline that began in 1946 at an R/P ratio of 32.5

Fig. 1 Crude-Oil Reserve-Production Ratio

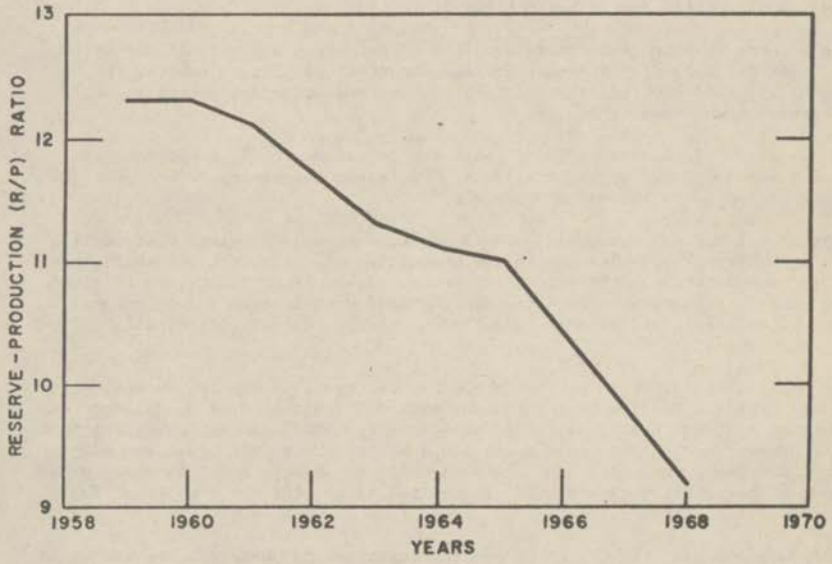
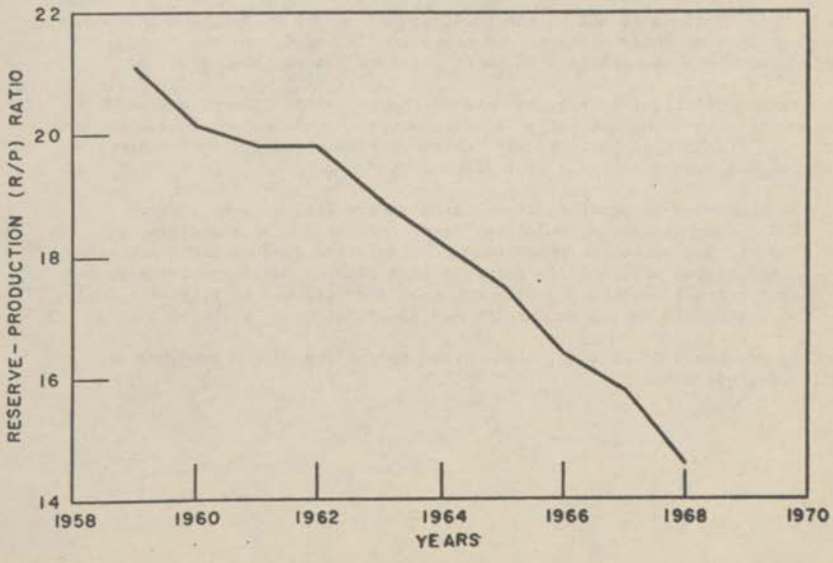


Fig. 2 Natural-Gas Reserve-Production Ratio



The demands for oil and gas in the immediate future are expected to grow faster than reserve additions, leading to further declines in the R/P ratios. Alaskan oil will help arrest, or may temporarily reverse, the declining trend of the oil R/P ratio, but further efforts will be required if both the oil and gas R/P ratios are to be stabilized.

The methods by which our future supplies of petroleum and natural gas might be augmented are: (1) Increase foreign imports; (2) utilize substitute fuels; (3) find new reserves; and (4) convert resources into recoverable reserves through new technology.

The question of imports is under intensive investigation by a cabinet-level task force appointed by the President. Decisions concerning future policy are expected to be announced very soon.

Substitutes for petroleum and natural gas are now only marginally attractive, but technologic breakthroughs in the production of fuels from oil shale, coal, or tar sands, or price increases for crude oil and its products, could alter the current situation. The Nation in the 1980's will require supplemental sources of liquid and gaseous fuels if we continue to rely principally on domestic supplies.

Conventional supplies of petroleum and natural gas will be used through most of the 1970's. It is becoming increasingly difficult to find and produce new reserves of these fuels, as evidenced by the technical and environmental problems encountered on the Artic North Slope and offshore California and Gulf Coast developments. Although technology will be able to overcome these problems, a concentrated effort will be required to provide the amounts of fuels needed at reasonable costs.

Technology is also the key to preventing environmental damage or to restoring environmental quality. The application of technology to the automobile, the principal source of air pollution in this country, has substantially reduced undesirable emissions from the 9 million new vehicles manufactured each year, and further progress can be expected on future vehicles. Little has been done, however, to reduce the pollution caused by the nearly 100 million vehicles now in use in this country, although fuel modification shows great promise in substantially reducing pollution from these vehicles.

Waste oils continue to add to the pollution of oceans, lakes, and streams. The magnitude of these problems is not well delineated, and the technology needed to cope economically with these problems has not been developed.

The Nation will require large amounts of energy in the future, but will demand that its needs are satisfied in a way that will enhance environmental quality. Within this contemporary framework. the mission of petroleum research has been formulated as follows:

> To conduct such programs of research as are necessary to inform the Government on technological developments, and to stimulate the private sector in production of liquid and gaseous fuels and chemical raw materials in a manner that reduces waste and insures that petroleum-based products are used and disposed of without objectionable social and environmental costs.

To help achieve this mission, three broad objectives of the programs of petroleum research are:

1. Achieve an adequate, dependable, and timely supply of liquid and gaseous fuels at the lowest possible material cost to the consumer and the economy by research that will increase the efficiency and reduce the costs of finding, developing, producing, transporting, and utilizing these fuels.

2. Achieve material needs without objectionable environment and social costs by research to reduce pollution resulting from the production and use of liquid and gaseous fuels.

3. Through research and information dissemination, keep the Government and the public informed on improved technologic developments.

PROGRAM OF WORK

Natural gas research: $217,000.

Nearly 300 trillion cubic feet of natural gas has been discovered in the U. S. that cannot now be profitably produced. Development of the technology necessary to utilize this vast resource, which totals more than our present proved reserve of natural gas, would be a significant accomplishments. Two approaches are being taken toward this end, both of which involve underground fracturing of reservoir rock to enable faster delivery and greater ultimate recovery of the gas than would be normally possible.

Initial field tests using both chemical and nuclear explosives have been conducted, and the data necessary for evaluation of the results are now being obtained. Based on the available data, both techniques show promise of commercial application, but the technologic risk at this time is high. Development of these programs will continue in cooperation with both the Atomic Energy Commission and private industry.

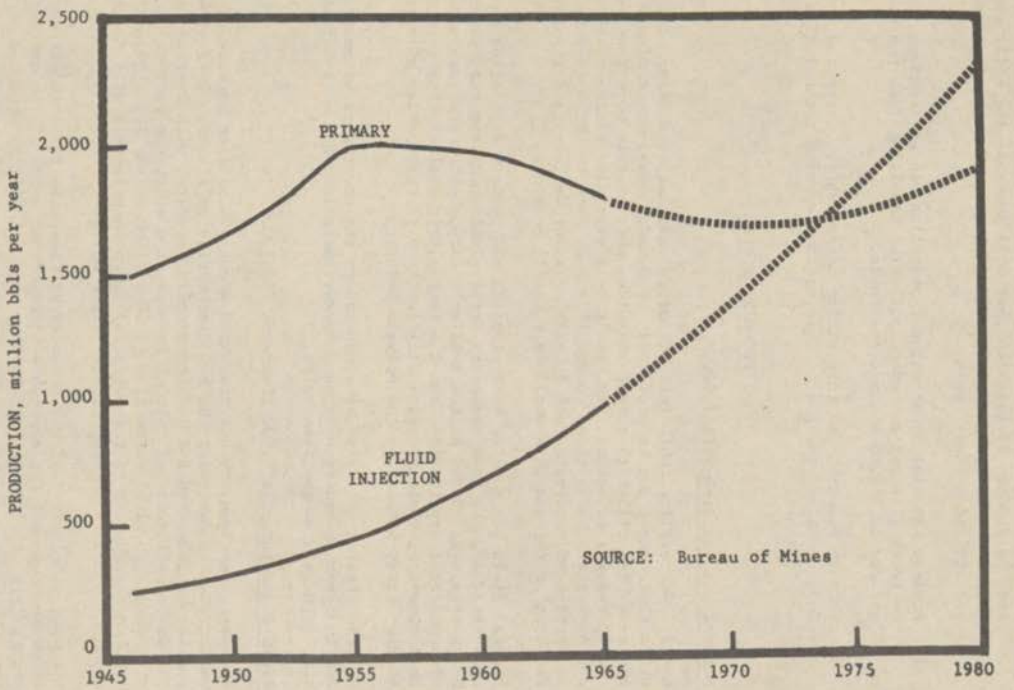
Related studies will also be conducted on the properties of natural gas for use in planning underground gas-storage operations and more efficient production from natural-gas reservoirs.

Fluid injection: $656,000 (Decrease, $85,000).

The petroleum industry has disovered about 400 billion barrels of oil in the United States, excluding the new discoveries in Alaska. Over one-half, 260 billion barrels, can not be economically recovered with current technology. The full application of thermal recovery and other new recovery techniques will enable physical extraction of 60 billion of the 260 billion barrels, but, in the absence of technological improvements, this will not be attempted without increases in the price of crude oil.

The most widely used of the recovery processes is fluid injection, the method which now accounts for about one-third of the total oil produced in the United States (fig. 3). By the mid-1970's, more oil will be produced by this means than by primary production. The application of this technology has enabled the ultimate recovery from a field to be increased at a rate of about 0.5 percent per year and has tended to hold down the prices of crude oil and its products. The types of oilfields now being discovered are not as susceptible to stimulated recovery as are those found in the past. Development of new or improved technology is necessary to maintain through the 1970's the increasing rate of recovery efficiency in order to avoid unnecessary price increases. This oil, together with oil from Alaska's North Slope, and, ultimately, oil from supplemental sources, will all be needed to fill the increasing demands for petroleum.

FIG. 3 SOURCE OF U. S. DOMESTIC OIL PRODUCTION



The Bureau of Mines will continue to help develop recovery technology, monitor the progress of industry, and through publications and presentations, make this technology available for all to use in economically improving recovery efficiency. Emphasis in both laboratory and field studies will be directed to increasing recovery from low-productivity or partly depleted oil reservoirs in the Appalachian and Mid-Continent areas. The use of fluids, such as hot oil, will be evaluated for their applicability to specific field situations, and the overall efficiency of continuous steam injection will be determined in laboratory tests.

Reservoir properties that govern oil and gas recovery: $444,000 (Decrease, $162,000).

The flow of oil, water, and gas in a petroleum or natural gas reservoir is controlled by the attraction of these fluids to each other and to the in situ rock material. Many of the interactions that occur are not understood, although intensive research has been conducted by industry, universities, and Government for many years. Small errors in estimating these parameters will cause the predicted performance of a secondary recovery operation to be greatly in error and have proven to be the difference between an economic success or a dismal failure, with consequent economic impact on prices to the consumer.

Reservoir rock-fluid characteristics that determine the success or failure of fluid injection projects will be studied in laboratory investigations, and computer programs will be developed to describe the expected field performance. A technique newly developed by the Bureau, fracture orientation, will be further tested in the laboratory with the expectation of continued field testing. If successful, this technique will have a wide application of uses that range from oilfield development and the storage of natural gas to degasifying coal mines for control of unintentional explosions and pattern design for the development of all types of underground mines.

Characteristics of crude oils and petroleum products: $329,000 (Decrease, $23,000).

Annual consumption of petroleum now exceeds 5.0 billion barrels. The major use of petroleum products will continue to be in the energy field, but non-energy products, such as asphalt, synthetic rubber, and petrochemicals will require nearly one-half billion barrels each year. Bureau research in this area is directed toward providing the data needed to characterize petroleum and its products.

These results help guide the efforts by others in designing more efficient methods of processing crude petroleum. Data of these types have many other applications. For example, the reservoir source of the oil surfacing in the Santa Barbara channel of California from formation leaks was identified by the Bureau. This information has greatly assisted the efforts to halt this unwanted oil production.

Efforts to characterize crude oils for pollution abatement will be continued but at a reduced level of about 15 percent. A new and simplified procedure will be developed for crude-oil analysis. Related research, in cooperation with the Bureau of Public Roads, will also be continued, and compositional data on asphalt will be obtained. These data can be used for correlation with the performance of asphalt in highway and other uses. Cooperative efforts with various groups within the Department of Defense will continue, and methods will be developed to predict storage stability of motor gasolines that are in military storage throughout the world. The focus of this work will be lead precipitation and gum formation.

Basic research: $421,000 (Decrease, $130,000).

Basic research is conducted to determine the fundamental properties of hydrocarbons and other materials found in petroleum and natural gas. The data developed in these studies are usually preserved for permanent use in handbooks that detail basic properties that are required in designing more efficient refineries or chemical plants and promoting savings in the cost of products to the consumer. The results are also used to support and guide the Bureau's applied petroleum research.

Because of its complexity, basic research requires the use of extremely costly, hand-crafted equipment and employment of highly trained scientists. Over the years, the Bureau has developed these capabilities and is internationally recognized as performing the best research in its field in the United States.

The ongoing program will continue to develop low-temperature thermal data on the condensed phase of selected hydrocarbons, particularly those organic compounds containing sulfur, nitrogen, fluorine, and metals. Work will also continue on a new separation scheme for use in characterizing high-boiling fractions of petroleum. In related basic research radioactive and chemical techniques will continue to be developed for tracing fluid flow in oil and gas reservoirs. Research will also continue on rock properties and, in cooperation with other Federal, industry, and university groups, on the chemistry of oilfield brines as related to water pollution and geochemistry.

Fuel combustion and automotive exhaust emissions: $228,000.

This Bureau of Mines program is part of a cooperative effort aimed at pollution control. Its focus is the fuel used to power vehicles, and how the fuel, engine, and exhaust system can be modified for optimum results. To a large degree, the program is financed by the Department of Health, Education, and Welfare and industry groups, such as the American Petroleum Institute and Coordinating Research Council, Inc. Funding of this program from other sources in fiscal year 1971 is estimated at $700,000.

The ongoing research in this area is based on the now well established principle that the type and amount of pollutants that escape from an automobile are controlled by the interaction between the fuel, engine, and exhaust. This total system will be studied under environmentally controlled conditions using current production vehicles. Technology exists to control exhaust pollutants to extremely low levels, but sufficient lead time is needed to engineer and install these systems on the millions of new vehicles sold each year in this country. More rapid progress in control of emissions from existing car populations may be possible by altering the properties of gasoline. Bureau research, which demonstrated that the smog forming potential from such vehicles could be significantly reduced by suitable changes in gasoline composition, will be continued and expanded to evaluate the effect on exhaust emissions of changes in types of additives used in gasoline.

Fundamental studies of the smog-formation process will be continued using large reaction chambers and simulated sunlight to trace the manner by which auto exhaust reacts with sunlight to form smog. This work is of long-range significance and will provide a scientific base upon which to develop future emission standards.

The diesel program is one of the most comprehensive of its type and is carefully coordinated with the objectives of similar programs. Emission characteristics and smog-formation processes of diesel emissions are not as well understood as are those of automobile emissions; therefore, research will continue to be directed toward the complete "mapping" of emission characteristics and reaction studies to delineate the smog-potential from diesel exhausts. The results obtained by a human panel trained to recognize and classify diesel exhaust odors, will be correlated with exhaust gas composition and its reactivity in a continued effort to determine the cause of odor.

Current research on internal combustion engines is primarily concerned with: (1) Reducing undesirable (reactive and toxic) exhaust emissions; (2) extending engine life, and (3) increasing economy of operations. Recent, but incomplete, information on the performance of vehicles powered with natural gas indicates that advantages in all three of the above categories may accrue by using compressed or liquefied natural gas as a fuel for urban driving.

Conventional vehicles can be adapted, with relative ease, to operate with either natural gas or gasoline. The advantages of natural gas over gasoline are claimed to be significant reductions in pollution output and in operating costs. In addition, the engine may be able to operate satisfactorily on synthetic gases which ultimately will be needed to supplement declining natural-gas reserves. A dual-fuel system seems to be ideal for immediate application to existing fleets of taxis and mail delivery vehicles that operate in metropolitan areas. However, present operating data and emission characteristics on a number of represenative vehicles are not adequate to test the claims made for the systems.

To help fill this information gap, the Bureau in fiscal year 1970 initiated a program to systematically obtain pertinent information on the exhaust characteristics and smog-forming potential of vehicles that use natural gas as a fuel for urban driving. Eight vehicles selected to represent the power and weight distribution significant in fleet operations are being suitably modified and tested. This program will be continued and will be expanded to evaluate gas produced from coal as a suitable fuel for vehicular power.

EXAMPLES OF RECENT ACCOMPLISHMENTS

The nuclear device for Project Rulison was successfully detonated in September 1969. Reentry of the nuclear chimney is planned for March 1970. Rulison is the first test in a potentially commercial gasfield to determine if nuclear devices can be used commercially to develop 300 trillion cubic feet of natural gas resources, in the Rocky Mountain area, that cannot be produced economically by present production methods. A six-month flow test was completed on Project Gasbuggy, and the results are now being evaluated. More than 200 million cubic feet of gas have now been produced during flow tests from this project. Project Gasbuggy was the first experiment in which a nuclear device was used to stimulate gas production in tight formations.

Two non-nuclear explosive fracturing tests in a shallow gas-producing formation in Oklahoma were successfully completed in cooperation with Sun Oil Company. In the second of these tests, the largest charge of desensitized nitroglycerine yet so used (1,000 quarts) was displaced into hydraulically formed fractures and was detonated. Gas flow rates were improved by about 40 percent. This research is aimed at making economically available those gas resources in tight formations too shallow for nuclear stimulation.

Work was completed and a publication was prepared on computerized methods of obtaining data for making an economic analysis of potential waterflooding operations in an oilfield. The report includes methods for predicting the highest constant rate of water injection that is possible without fracturing the reservoir rock at the wellbore, and for predicting quickly the relationship between well performance and the ultimate life of a flood with a constant rate of injection.

A rapid, inexpensive technique for application of information on surface-joint and fracture orientations to petroleum exploration was developed. Surface-fracture patterns of a petroleum producing area in southeastern Ohio were obtained by using low-angle illuminated photographs of a plastic relief model of the area. By plotting the locations of completed oil and gas wells on a map with the fracture patterns, it was found that the better wells are located at the intersection of several surface-fracture zones. It was further shown that well-bore fracture orientations correlated with surface-fracture orientations. The new technique of map preparation required seven working days at an estimated cost of $330, compared to the normally used technique which requires months of study of aerial photographsat a cost of several thousand dollars.

A supplement to the decks of crude oil analysis ADP cards was prepared and released to make available in coded form the analytical data accumulated through 1967. Three offices of the Federal Water Pollution Control Administration have now obtained sets of the Bureau's ADP cards to aid them in identifying sources of pollution due to oil spills.

Results of the research on asphalt led to an expanded program to include cooperative research supported by the Bureau of Public Roads, U. S. Department of Transportation. The expanded program is to include a study of the interaction between paving asphalts and the types of rock aggregate commonly used in paving mixes. A new technique, developed during the past year, led to substantial progress in understanding the chemistry of asphalt interactions found while using InverseGas Liquid Chromatography (IGLC). The IGLC method was previously developed by the Bureau to obtain empirical correlations between certain asphalts and their durability in use.

Seventy-five out of a total of one hundred sixty oilfield brine samples from various oil-productive basins of the United States were anlayzed as part of a cooperative water pollution study for the Oklahoma Corporation Commission. The remainder of the samples were studied to determine if they contained minerals which might be economically recovered.

Significant findings from the past year's study of photochemical reactions associated with automotive exhausts' contribution to smog formation included: (1) Aldehydes in some respects act as inhibitors to photooxidation of olefins; (2) in nitrogen oxides-sensitized photooxidation of olefins, carbon monoxide originates both from formaldehyde and from an intermediately formed compound; and (3) the extent to which carbon monoxide participates in lower atmosphere chemical reactions is negligible. A study on the effects of tetraethyl lead (TEL) on exhaust emissions showed that TEL has little effect on the reactivity of emissions, although it does influence engine deposits.

The study of odorant composition of diesel exhaust confirmed that light aldehydes were negligible contributors to exhaust ordor, and resulted in development of a method for isolation and analysis of heavier carbonyl compounds. Aging of exhaustgas did not change odor intensity but changed odor quality, making it more pungent.

Results of research on fuel volatility effects on automotive emissions showed that volatility reduction significantly lowered evaporative losses, and total exhaust, with an equal reduction in the overall photochemical effect. An equal or greater reduction of the photochemical effect of the emissions was accomplished by replacing the unsaturated hydrocarbon (olefin) in the lighter component of the fuel with saturated hydrocarbon; however, the substitution did not reduce the quantity of hydrocarbon emissions.

(c) Oil shale: Fiscal year 1970, $2,413,000; fiscal year 1971, $2,413,000; no change.

PROGRAM STATEMENT

Situation: The oil-shale deposits of Colorado, Utah, and Wyoming potentially constitute the world's largest known hydrocarbon reserve. Although these deposits, in the absence of commercial development, must presently be classed as a latent source of energy they hold great promise in regard to the Nation's future economic growth and security. The Department of the Interior has a prime responsibility and a noteworthy opportunity to insure that the promise of this resource is realized in an efficient and orderly manner, particularly since almost 80 percent of the potential fuel value is in the public domain under the jurisdiction of this Department.

The current domestic situation in regard to supply and demand for oil is not critical. It is generally accepted, however, that meeting future needs, even as early as 10 years hence, is a problem that demands action today, both in terms of technical effort and policy making. The present domestic demand for crude oil and natural gas liquids approximates 4.7 billion barrels per year; by 1980, the annual demand is estimated at 6.7 billion barrels. To keep pace with this projected increase in demand will require, despite the promise of recent Alaskan oil discoveries, an unprecedented effort in developing domestic sources of oil, including supplemental sources such as oil shale. The alternative is sharply increasing reliance on foreign sources with some attendant measure of sacrifice in regard to national security. In all probability some combination of approaches will be required, with energy policy decisions now and in the near future having a major impact on how effectively and securely the Nation's long-term needs are met.

Although they are not considered the panacea, out latent oil-shale resources can provide an important supplement for our future energy needs. They can insure a measure of domestic self-sufficiency, can help to keep the future cost of energy at reasonable levels, can support a domestic industry of considerable magnitude and national economic implication, and can even provide certain byproduct values of major concern, such as alumina. The inevitable time lag between research and development and commercial realization clearly indicates the need to carry through with today's R and D phase as rapidly and effectively as possible if we are to meet the anticipated schedule of tomorrow's needs.

Objectives: The large amount of oil-shale research and development now in progress, and that completed in the past few years by petroleum, chemical, and metal companies, is indicative of the intense interest in the possible development of an oil-shale and associated minerals industry, and of the future need for such an industry. Because most of the oil shale occurs on public lands, the Bureau of Mines is pursuing a research program with the objective of providing engineering and scientific information needed by Government to define and administer a logical oil-shale policy as part of the Departmental program to insure orderly oil-shale development and conservation consistent with current environmental considerations. The program has the further goal of providing scientific and factual knowledge that will

help stimulate industry in developing commercial production of oil and minerals from oil shale.

PROGRAM OF WORK

Characteristics of oil shale: $177,000.

The objective of this element is to obtain basic data on the composition and characteristics of oil shales throughout the country, with emphasis on the Green River Formation in Colorado, Utah, and Wyoming, and to apply these data in characterizing the overall deposits on geographic and stratigraphic bases. Such information is vital for appraising the potential significance of deposits and for encouraging their developing as commercial sources of oil and other products. This study includes procurement of representative oil-shale samples; analysis of these samples, including development of necessary analytical techniques; and use of these analytical results to determine genesis, mineralogy, geography, stratigraphy, and possible value of the deposits. Results of these studies will provide information required as a guide to policy decisions.

Oil-shale conversion and waste disposal: $370,000.

The technical feasibility of producing shale oil by conventional mining and retorting operations is well established. The economic position is not as well defined, despite generally accepted estimates that indicate a modest, although not entirely attractive, profit could be realized today. One major question mark in the latter regard, and a particularly important one from the policy standpoint, is in regard to appropriate precautions in handling of wastes from an oil-shale industry--how to cope with the tremendous quantities of retorted shale, the waste waters, and the gases that may well pose difficult pollutional problems. A major thrust of this element is to study these problems. One largely undefined area of interest to be investigated is identification of particular waste components that are of pollutional concern and that, alternatively, may have byproduct value if properly processed. Efforts will be continued toward establishing effective means of revegetating and stabilizing spent shale dumps and toward preventing leaching and wind erosion. Research also will be conducted to determine the packing and stability characteristics of spent shales differing in particle size and physical properties. The information can be used as a guide to possible disposition of spent shale as mine fill, a disposal method that would minimize pollutional dangers.

Of importance to either aboveground or in situ methods of retorting oil shale are the physical, thermal, electrical, and deformation properties of oil shale under various conditions of heating and loading. Experiments will be conducted to determine retorting heat requirements for various grades of shales and to define the course of physical and chemical changes that occur progressively during pyrolysis under varying conditions. Experimentation will be continued with the use of electrically formed passages through oil shale as one means of increasing permeability, a necessary preparatory step for in situ retorting. Field work employing this technique and other subsurface fracturing methods will be continued with emphasis on application at greater depths and over areas larger than were previously investigated.

Associated minerals: $54,000.

Dawsonite and nahcolite, rather recently recognized as possible sources in shale of alumina, soda ash, and other soda-type chemical products, may aid economically, via the byproduct route, in development of an oil-shale industry. At present, however, little is known of the realistic potential, although it

is known that very large total quantities of these unusual minerals are associated in low concentration with certain deeply buried shales on Federal lands in Colorado, and that it is technically possible to convert them to valuable products. The extent of occurrence even in the immediate area is poorly defined, occurrences elsewhere are almost entirely conjectural, and very little is known with assurance about the economics of processing. The Bureau's work on associated minerals although modest in extent, is directed toward providing at least a framework of knowledge that will help to define such unknowns in the interests of assisting Government in administering its pertinent land holdings and of encouraging industry to further the technology.

Scheduled work includes: Inspection of cores and other samples obtained, earlier and currently, from various localities to determine more about the extent of occurrence of dawsonite and nahcolite; laboratory experimentation directed, if promising, toward subsequent process design and testing on a pilot or engineering scale; and investigation of the interrelationships between conditions of retorting of such shales and extractability of their mineral product values.

Field in situ studies: $1,316,000.

Oil from the deeply buried, thick section of the Green River Formation, typical of deposits on much of the Federally administered lands, is not amenable to recovery economically by presently known conventional mining and retorting methods. New techniques should be developed that will allow in-place retorting of this shale. Beyond offering promise in the technical sense, such methods also would obviate the disposal of vast quantities of spent shale.

To this end, work now underway with the 150-ton retort constructed in fiscal year 1970 (Fig. 4) will be continued with the view of retorting ungraded shale under conditions similar to those expected to exist in a chimney formed by a nuclear explosion. The properties of products from the retort will be related to retort operating variables. A small scale retort will also be operated to expedite assessment of variables, such as temperature and pressure, wide ranges of heat flux rates and particle sizes, and use of various gases for retorting. Assuming that firm agreement is reached soon between Government and potential industry participants in Project Bronco, technical assistance will be provided by the Bureau in the active conduct of this nuclear experiment.

Other in situ retorting efforts will include completion of site evaluation work in connection with the successful in situ retorting experiment near Rock Springs, Wyoming, in late fiscal year 1969, and continued investigation of fracturing techniques in deeper lying shales in the same general area. Depending on developments in Project Bronco and the resulting call on Bureau resources, actual in situ retorting work in the deeper shales at the Rock Springs site may be initiated.

Constitution and reactions of kerogen and shale oil: $327,000.

In situ retorting research will be supported by analyzing shale crude-oils from the 150-ton retort and from other in situ experimental facilities, to determine the effect of retorting parameters on crude oil composition. An ongoing analysis project on the composition of the water formed in retorting will be continued, with emphasis on relating type of shale and of retorting process to pollutional characteristics of the water produced. Characterization of additional components of the heavy-ends of shale oil will be conducted, and thermodynamic properties of individual compounds will be determined. Geochemical studies on kerogen/shale relationships will be continued, as will

investigation of kerogen decomposition reactions involved in the formation of shale oil. In refining research, the effectiveness of hydrocracking and other modern hydrogenation techniques as steps in possible integrated refining schemes suited to shale oil will be investigated with bench-scale facilities.

Basic research: $169,000.

Basic research designed to provide advanced analytical and theoretical guidance to all elements of the oil-shale program will be continued. Typically, emphasis will be placed on such practical operational problems as monitoring the thermal history of in situ retorting through application of knowledge concerning the kinetics of reactions of specific components of oil shale and shale oil. Also typical of work under this element of the program, the Bureau is providing important leadership to industry through participation with the American Society for testing and Materials task group on development of mass spectrometric methods for determining compound types in shale oil.

EXAMPLES OF RECENT ACCOMPLISHMENTS

An experimental test of in situ retorting of oil shale was completed at a field site near Rock Springs, Wyoming. In a six-week test, approximately 190 barrels of shale oil was recovered from a 20-foot-thick measure starting at a depth of 68 feet. Fracturing to establish permeability in the measure was accomplished by application of high potential electric current, hydraulic pressure, and chemical explosives, fracturing techniques previously studied by the Bureau. The retorting work itself progressed with encouragingly little difficulty, and the oil recovered was notably superior in characteristics to typical shale oil. However, development of means for adequately controlling the direction and exent of the underground combustion front, which supplies the necessary heat, requires additional effort. Similar work, but at greater depths to determine the effects of natural overburden pressure, is continuing.

A 150-ton retort for studying retorting characteristics of random-sized oil shale, such as is anticipated from an underground nuclear detonation, was placed in operation October 29, 1969. This initial run proceeded smoothly and was terminated on November 22. The charge consisted of 25-gallon per ton mine-run shale containing pieces as large as 3 feet on a side and weighing approximately 2 tons each, plus one block measuring 3- by 4- by 6-feet and weighing 7,500 pounds. Excellent material balances were obtained, and an oil yield of 60.4 percent of Fischer assay was achieved—a value that is considered encouraging in view of the preliminary nature of the experimentation and the massive size of some of the material included in the charge. Oil content of the spent shale averaged only 0.4 gallon per ton, lending encouragementto the belief that good retorting efficiency can be obtained despite the inherent problems of effectively processing random-sized masses of shale.

The laboratory phase of a study on revegetation of spent shale dumps showed that germination of a wide variety of grass seeds is inhibited by most retorted and burned shales and by some raw shales. It was further shown that the inhibition was due largely to the presence of soluble salts and high alkalinity of the shales. Removing the soluble salts by leaching, with attendent reduction of alkalinity, greatly improved seed germination, and the addition of plant nutrients to leached shales enabled them to support plant growth. Revegetation is one method by which wind and water erosion of spent shale dumps can be minimized.

In Report of Investigations 7303 (November 1969), the Bureau evaluated and documented the initial phase of the retorting research recently completed at the Anvil Points Research Facility by an industry group under a lease agreement. A companion report, covering the balance of this cooperative program, is scheduled for release in 1970. The most noteworthy accomplishment of the initial phase of work was demonstration that oil shale could be processed by the Bureau's gas combustion retorting process at unit throughput rates approximately double those demonstrated previously without significantly lowering the oil recovery.

Published results of research concerning the Bureau of Mines Wyoming Corehole No. 1 shows that rich oil shales occur at this site, 40 miles northwest of Rock Springs, but not in thick continuous beds typical of those in Colorado. Instead, the Wyoming shale investigated consists predominately of alternating thin beds of tough, rich oil shale and brittle, lean oil shale at depths less than 700 feet. Although such shales probably are not well suited for conventional mining/aboveground retroting operations, they may be very well suited to in situ retorting. From the present reconnaissance work, it is estimated that some 100,000 acres in the vicinity of Wyoming Corehole No. 1 may have a potential recoverable oil content of about 100,000 barrels per acre.

As a part of its research on the potential of mineral byproducts in an oil shale industry, the Bureau has developed what is considered the first reliable method for determination of dawsonite, other recoverable forms of alumina-bearing material, and nahcolite, minerals that are known to occur in various combinations in certain massive oil shale deposits of Western Colorado. The new method, detailed in Report on Investigations 7286, represents a valuable contribution in the area of "associated minerals." It is highly precise, and the results are reproducible; other available analytical methods have been notably deficient in these regards.

(d) Metallurgy: Fiscal year 1970, $12,147,000; fiscal year 1971, $12,235,000; increase, $88,000. The increase consists of:

Increase (+) or Decrease (-)		Total	Total	
Amount	Positions	Program	Positions	Explanation
$+88,000	--	$221,000	--	To reimburse the employment compensation fund for payments related to injury or death of employees.

NEED FOR INCREASE

Employee compensation payments: An $88,000 increase is needed to reimburse a fund for compensating Bureau employees or their families when death or injury strikes on the job. These compensation payments are required by Section 209 of Public Law 86-767.

PROGRAM STATEMENT

The mission of the Bureau's metallurgical activities is geared to continuing the needs of the American people: The production of adequate amounts of mineral raw materials as cheaply as possible; the production of mineral raw materials with the least possible damage to the environment and with the least possible danger to the health and safety of minerals industry employees;

and a continued technologic assurance that mineral raw material requirements can be met in the future.

To accomplish this mission, the Bureau orients its metallurgical program toward: Making technologic innovations to improve the availability, processing, and use of mineral raw materials; developing new kinds of materials from new sources; and demonstrating that more abundant materials can be substituted for less abundant materials.

PROGRAM OF WORK

Iron and ferroalloy metals: $3,189,000

Iron and steel technology in the United States has not been improved at the same rates that it has been in other nations. One serious result of this lag is the unnecessarily high price domestic consumers must pay for steel products.

Bureau research on iron ore processing and iron and steelmaking processes promise to close this "technologic gap" and lead to more efficient and cheaper steel production. This important portion of the Bureau's research is directed to better use of U. S. iron resources and more efficient use of available metal resources including nickel, manganese, molybdenum, chromium, vanadium and cobalt. A major thrust of this program is continued research on nonmagnetic taconites. The Nation has immense reserves of nonmagnetic taconites, and research developments could lead to additional, new supplies of iron raw material from these reserves. For example, Bureau work to improve techniques for pelletizing--an essential step in iron production--could provide blast furnace feed materials superior to those now available. Similarly lower production costs, and ultimately lower steel product prices for the consumer, would be the prime benefit of Bureau work to produce "metallized" pellets with very low silica contents. The payoff that such a pellet affords in reducing steel product cost results from using the pellet to bypass processing in a blast furnace.

More efficient operation of electric furnaces can be achieved if Bureau research leads to the successful development of continuous electric-furnace steel-making. Presently, these furnaces can only be fed on a cumberson, relatively inefficient "batch" basis.

The ferrous metals we discard by the millions of tons each year in junked automobiles and other bulky items such as refrigerators and stoves are of vital importance in iron and steel production processes. At the same time these unsightly, noxious wastes are becoming an enormous burden on a society now committed to the pursuit of environmental quality.

For some time now, about half of our annual iron and steel production has been dependent on "recycled" ferrous scrap. But as technologic improvements in the ferrous metals industry increase, so do the problems of recycling scrap which is of sufficient quality and quantity to meet the needs of new processes and products. The problem of recycling scrap is further compounded by the lack of economic scrap processing procedures, a lack we can now ill afford because it results in the loss of enormous quantities of metals now accumulating in junkyards and wastepiles.

Drawing from more than a half century of metallurgical experience, the Bureau is searching for ways which promise to separate, recover, and utilize ferrous materials now recklessly discarded as waste. As part of their research effort, Bureau metallurgists will continue to attack the "junked auto" problem that now bedevils scrap processors. Similarly, other metallurgists will hunt for

ways to use the enormous quantities of dusts, mill scale, and residues now lost in the steel-making process

Copper and other base metals: $3,028,000.

Efforts of industry and Government to extend the availability of copper for traditional consumer uses and to guard against environmental damage are directing the attention of mine operators toward economic development of deeper and lower grade ores and toward minimization of waste in all forms. Consequently, the development of low-cost methods for chemically extracting copper from low-grade ores, concentrates, and mine wastes will constitute a major part of our program. Research will also be undertaken for increasing the efficiency of the concentrating process and for the complete recovery of valuable coproducts, specifically sulfur, gold, silver, molybdenum, and alumina, which can economically offset the depletion of value in copper as the ore grade declines. These efforts not only will include recovery of the metal values, but will also be aligned to achieve waste disposal through utilization or stabilization to avoid environmental pollution.

Better recovery methods for the base metals—zinc, lead, cadmium, bismuth, antimony, and arsenic—will receive research consideration primarily as they are recovered as coproducts from copper operations. A significant research effort is intended for developing or improving processes for the recovery of base metals from industrial wastes and secondary sources.

Aluminum and other light metals: $914,000.

The United States currently imports high-grade bauxite to meet 85 percent of its aluminum ore requirements. To improve this imbalance between supply and demand, the Bureau is embarking on an intense search for ways to "reduce" cheaper domestic aluminum-bearing ores such as clay and low-grade bauxite to aluminum metal and useful alloys or compounds. A successful search for such techniques could pay off in greater price stability for aluminum and aluminum product prices as well as in an improved balance of payments position.

For example, one research approach will be directed toward producing crude aluminum-silicon alloys from cheap ores and in turn chemically treating these alloys to yield a high-purity aluminum metal product at a possible savings of about two cents per pound. Another area of investigation is to develop an improved electrochemical refining method to convert low-grade alumina to an acceptable metal product.

Another thrust of the Bureau's light metals program is to increase the supplies of materials that are suitable for use in products that now require aluminum. Magnesium is ideally suited for some of these uses. Refinements will be made in the Bureau-developed process for desulfating Great Salt Lake brine. The brine, a source of magnesium chloride as well as coproduct potassium chloride, soda ash, and sulfuric acid, promises to provide a bountiful supply of magnesium if the Bureau can successfully complete its research.

Less common metals: $2,570,000.

Many of the high-value, low-tonnage metals in this group have become indispensable in making many consumer products.

Because of titanium's growing role in aerospace, transportation, and desalination applications, the Bureau is expanding its studies on titanium

41-447 O - 70 - pt. 1 -- 54

and marshalling its efforts to reduce the costs of winning the metal from domestic raw materials.

Public demand for products containing silver and gold is on the upswing, while supplies and processable resources of these metals are diminishing. To bridge the imbalance between supply and demand, the Bureau will step up its studies on recovering silver from ores, concentrates, and wastes through investigations of new chemical techniques and of ways to improve current processes. The program--successful thus far--to develop techniques for recovering gold and silver from military and electronic scrap products will be continued. The search for improved chemical methods for extracting gold from its ores will continue at a decreased rate.

Research on devising and developing a more economic method for processing lean uranium ore and uranium-bearing solutions will be continued by the Bureau to help meet the steadily-increasing uranium demand required by nuclear power generation.

Research to provide better techniques for processing rare earths will be continued in order to supply raw materials for reducing the costs of certain chemical processes requiring catalysts, and the cost of manufacturing consumer products such as electric motors and self-cleaning ovens. Improved techniques for recovering and recycling strategic metals such as nickel, cobalt, chromium, titanium, tungsten, and tin from a variety of metal and mineral waste sources will be continued. Dual benefits can accrue from this work: The winning of extra resource values and the reduction of the social costs involved in eliminating environmental degradation brought about by the waste piles.

Nonmetals: $1,883,000.

Research on nonmetals is concerned with the nonmetallic, nonfuel minerals that provide the raw materials base for the chemical industry (including fertilizers) and for construction, ceramics, and refractories industries. The beneficiation of phosphate will be improved to reduce mining costs. The phosphate lost in the United States in present beneficiation techniques is equivalent to about 20 percent of the World's production. Phosphate rock also containing about 2 percent fluorine, most of which is lost when the rock is processed to fertilizer. The loss is equivalent to U. S. imports of this increasingly important element, and part of the program concerning nonmetals is aimed at improving phosphate rock processing by recovering the flourine now lost forever. Fluorine is now also a dangerous air pollutant generated by phosphate processing operations and successful completion of the Bureau's research should contribute significantly in abating the fluorine pollutant. An added benefit will be a clean gypsum residue. By recovering gypsum during fertilizer production, the United States will be able to replace quantities of gypsum ore now imported for industrial use. Similarly, other research will be directed toward lowering processing costs for another fertilizer, potash. Success in this work would help the United States maintain a viable potash industry.

Another segment of the program is concerned with rutile. Today, we must import out entire requirements for rutile. One approach is aimed at developing an economic method to produce rutile from ilmenite, an abundant domestic mineral containing the oxides of both iron and titanium. The other approach is aimed at recovering rutile and other valuable heavy minerals as a byproduct from the wastes of sand and gravel operations.

Studies will be continued on characterization and utilization of nonmetallic mine and mill wastes. Research will be conducted in areas that have shown promising results such as the use of these wastes for making structural products. Methods to utilize the more than 15 million tons of waste glass presently discarded will be studied. Production of glass wool, marketable cullet, and structural bricks is under development and will be an adjunct to research on the preparation and processing of nonmetallics for improved building materials.

Minerals and metals from urban wastes: $430,000.

The program for fiscal year 1971 will continue, at the same rate, the research already underway. Main emphasis will be on upgrading the metal values recovered from municipal incinerator residues and on refining continuous pilot plant operation for recovering the values from these residues. Studies will also be initiated on recovery of metal and mineral values from raw refuse.

EXAMPLES OF RECENT ACCOMPLISHMENTS

The Bureau of Mines patented process for using low-grade iron and steel scrap as a reductant for the conversion of the iron minerals in nonmagnetic taconites to magnetite, which allows commercial-grade iron concentrates to be produced by methods in current use, has been further developed to allow the use of other, and possibly cheaper, waste materials. Tests have been made in which shredded municipal refuse and dried sewage sludge were substituted for scrap steel. In all cases, excellent reduction was obtained, and high-quality iron concentrates were produced with good iron recovery.

As a result of a process developed in Bureau laboratories for recovering gold from carbonaceous ores, one firm in Nevada is now constructing a 600 ton-a-day plant to process ores which were previously uneconomical to treat and therefore discarded. Bureau researchers found that the carbon content of the ore, which normally interfered with standard cyanidation processing, could be removed by prior treatment with gaseous chlorine or by an electrochemical process. After such treatment the ore responded satisfactorily to standard processing.

A Bureau of Mines-developed chemical process for removing sulfate ions from Great Salt Lake Brines has resulted in advancements being made in two separate areas. The Office of Saline Water constructed a 75,000 gallons-per-day pilot plant in which the process was adapted to the removal of sulfate contaminants from sea water prior to its desalination and conversion to drinking water. Removal of the sulfate ions reduced the corrosive nature of the salt water, thereby permitting operation of the desalination plant at higher temperatures and greater throughputs. The Bureau's desulfating process also has been proposed as an integral step in production of magnesium and magnesium salts from brines of Great Salt Lake.

Incinerating junked autos to rid them of combustible materials is one of the early steps taken in dismantling a car for its scrap metal values. A low-cost, smokeless incinerator, burning 50 cars every 8 hours, was developed by Bureau of Mines personnel and successfully operated at a commercial scrap yard. The principal attraction of the new incinerator is its construction cost, quoted by the Bureau at about $22,000. This is roughly one-tenth the cost of smokeless models now commercially available and should stimulate interest among scrap processors whose open-air burning practices are being increasingly restricted by new regulations aimed at curbing air pollution. A photograph of the incinerator is on the following page

A 1,000 pounds-per-hour processing plant, capable of continuously and automatically separating and recovering the metal and mineral values in municipal incinerator residues, has been placed in operation and has received widespread attention from the incinerator and aluminum industries. Methods and equipment have been developed for separating ferrous and nonferrous components, including such values as aluminum, copper, zinc, lead, and tin. A clean glass fraction suitable for use in glass manufacturing process has been separated into its colorless and colored components automatically. This is the first plant of this type ever designed and successfully operated.

A new method was developed for soldering copper and brass that allows the joint to be made with a much higher smelting point than that of the tin-lead solders, but avoids the disadvantages of high cost and high temperature associated with the silver-brazing alloys. The new solders are zinc alloys and extend the operating temperatures of soldered copper and brass products upwards by 100° to 200° F. An increase in the efficiency of heat exchanges, such as automobile radiators, would lead to better utilization of feed at a savings to the consumer. A major benefit that can be expected from this innovation is a cost-reducing increasing in the efficiency of heat exchanges, such as automobile radiators.

Aluminum of commercial quality was produced in an electrolytic cell from feed material consisting of an aluminum-silicon-iron alloy. The alloy had been produced by the Bureau through the reduction of clay in an electric-arc furnace. This process also has significant implications for the recovery of aluminum from scrap.

A major copper firm has started construction of a prototype production plant to extract uranium from copper leach liquors obtained in their copper ore processing. The ion-exchange technique being tested was developed at a Bureau of Mines research center, first in the laboratory and then as a cooperative pilot-plant effort. The new plant will process 3 million gallons of leach solution per day, recovering U_3O_8 valued at $2,000.

Pilot-plant demonstration of using heavy liquids for the sink/float separation of minerals of differing specific gravities has resulted in an unusual commercial application. The technique is being installed by at least one U. S. manufacturer of industrial diamonds for the final separation and concentration of the diamonds from the matrix in which they are synthesized.

In the Western phosphate fields, unaltered rock cannot be used as ore because it contains excessive calcium and magnesium carbonates that have not been separated from the phosphate by geologic processes. Concentration of the phosphate by froth flotation has long been considered feasible because the minerals involved all react similarly. However, a new flotation technique, using low-cost reagents, has been applied successfully in the laboratory to remove the barren carbonate minerals. The method could significantly reduce production costs.

(e) Mining: Fiscal year 1970, $6,391,000; fiscal year 1971, $7,691,000; increase, $1,300,000.

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
$+1,300,000	+35	$3,010,000	105	For research to develop the technology necessary to minimize the hazards of mining in a methane environment.

COST FACTORS INVOLVED IN INCREASE

35 permanent positions at an average rate of $12,150, $425,000; personnel benefits, $32,000; travel and transportation, $70,000; supplies, materials, and special equipment, $200,000; and contracting research, $573,000.

NEED FOR INCREASE

The increase of $1,300,000 is required to accelerate the Methane Control program. We started this program immediately after the Mannington disaster, recognizing that disasters of this type would never be wholly precluded until methane emission could be effectively controlled or eliminated. Our objective is to develop in the shortest possible time, and to demonstrate through full scale field experiments, the technology necessary for safe and economic recovery of methane laden mineral deposits.

We intend to develop methods for measuring and predicting in advance of mining the occurrence, accumulation, and migration of methane in coalbeds; for controlling gas migration through formations; for removing large portions of methane before mining and safely removing the remainder during mining; and for economic collection and beneficial use as a fuel of the methane now wasted. Improved and newly developed recording instruments to monitor methane emissions will be used in all the test sites where the research is conducted to familiarize the entire industry with the instrumentation.

In addition to marked improvement in mine safety, significant economic benefits should accrue to the Nation's energy consumers from the proposed technological development. Methane seepage, by conservative estimate, causes production losses of 5 percent in moderate gassy mines and up to 40 percent in ultragassy mines. Each ton of coal extracted from a gassy mine will on the average release 1,000 cubic feet of relatively pure methane valued at 25 cents. Unless successful methods are developed for removing methane prior to mining, further advances in mechanization and productivity will be constrained and a valuable fuel resource that could help meet growing consumer demand will continue to be wasted.

Reliance upon industry to provide the necessary technology to overcome the problem has been suggested. However, in the highly fragmented coal industry, individual producers are financially unable to support an effective research program on the problem.

PROGRAM STATEMENT

The primary task of the Bureau's research and development in mining is to assure that an adequate base is maintained to provide the new mining technology required. A parallel responsibility is to have the knowledge and

capabilities to meet urgent immediate problems of national scope where the solution is beyond the capabilities or immediate interest of the industry. These frequently fall in the category of clearing up past mistakes as currently evidenced by the problems of acid mine water, subsidence, and surface damage.

The industry's ability to meet escalating mineral needs in a highly competitive world market has depended heavily on new technology originated in other fields or other countries, on the availability of cheaper energy, and on the use of increasingly larger and more efficient equipment. Moreover, much of the extractive technology now applied is predicated on use of our air, water, and land as "sinks" for the disposal of mineral wastes, a specious cost-avoidance concept in the context of today's environment-conscious society. With the constraints imposed by public demand for pollution control, and with continued depletion of the higher grade, near-surface ores, the ability to supply our increasing mineral requirements from domestic sources with present technology is rapidly approaching its limit. If we are to maintain an adequate domestic source of minerals and fuels, totally new concepts and dramatic innovations in mining are essential. This, in essence, is the justification for Bureau research and development in mining.

Objectives: Our basic objective is to develop improved extractive systems through technological advancement of the mining process. The health and safety of industry workers and the preservation of environmental values are integral parts of this objective. The program is also designed to maintain a competence for conducting essential fundamental studies and for concentrating effort on special research and development that become essential in the light of immediate or anticipated national needs. This competence also enables us to properly program, monitor, evaluate, and correlate research that can be more expeditiously accomplished by contract with universities and with those elements of industry that are suitably equipped.

PROGRAM OF WORK

Our program for fiscal year 1971 proposes concentrated efforts on elements of the mining system for which background research has indicated an urgent need, an opportunity, and a high probability of success. We also are proposing sustained, mission-oriented, fundamental and technological research on those essential parts of the mining system on which continually improved mining technology can be based.

Methane control: $3,010,000 ($1,300,000 increase).

To achieve, as soon as possible, maximum protection for coal mine workers against methane explosion hazards, the entire research effort to achieve efficient control of methane will be accelerated. Development of technology that can be applied to most coal seams of commercial importance will proceed simultaneously.

Intensified studies will be continued to develop practical methods for removing large volumes of methane from coalbeds before mining begins and on means for controlling drainage of methane from the solid coal ahead of the mining face during mining.

Research will be intensified to relate specific physical properties of coal and the structural features of coalbeds to the presence, movement, and emission of methane; to develop equipment, instruments, and engineering criteria needed for measuring and predicting, in advance of mining, the amount of methane in a block of coal, the pressure under which it occurs, and characteristics the coalbed that govern its movement; and to determine how stresses in the solid coal around a mine working combine with other

factors to affect the amount and rate of entry of methane into the workings. The ultimate aim of the stress studies is to determine the extent that methane migration in the coalbed can be controlled by deliberate change in loading of the solid coal ahead of the face from overburden pressure. To provide a basis for predicting gassy mining conditions, research will be continued on the formation of methane and other hydrocarbons during coalification, and other geologic processes, and on the modes of methane formation in various ranks of coal and carbonaceous rocks. The coal mining industry will be kept informed of our progress so that new technology can be put into practice as it is developed.

Increasing domestic copper production capability: $1,819,000.

The Bureau's effort in 1971 will be aimed toward developing the improved underground mining technologies necessary to make economically attractive production of copper from two major potential domestic sources that now contribute only a minor portion of domestic copper production--the native copper deposits of upper Michigan and the deep porphyry-type copper deposits not amenable to surface mining because of uneconomic stripping ratios.

A persistent imbalance in world copper supply-demand relationships, currently attracting national concern because of the multiple copper pricing system that has resulted and the attendant unfavorable consequences to the domestic economy, can be remedied through improvements in technology. Such improvements will add to the reserve of low-cost copper that can be mined commercially in ways that are compatible with the growing public insistence on environmental quality and will encourage investment in new plant capacity. In this way the period over which copper can continue to serve traditional consumer needs at acceptable costs will be significantly extended. Toward this end our work will be directed to:

Produce the components of low-cost underground mining systems uniquely applicable to native copper deposits. Included will be research on fragmentation and comminution of native copper ores, a key element in any mining system applied to these deposits because of the unique physical character of the ore. We will also work toward development of new techniques for deposit delineation and sampling and grade control, which also are critical components of any new native copper mining system;

Enhance the economics of deep porphyry copper mining by improving induced caving methods. About half the cost of producing a ton of ore by caving methods is spent on development. The main thrust of the research therefore will be on rock mechanics studies to develop techniques for structural analysis of induced caving mines. These studies will make possible designs that minimize the number of development openings required and optimize their placement so as to reduce the amount of repair and maintenance required;

Development of new systems for supporting the openings. At present, because of the need for massive concrete supports, ground control costs for induced caving operations in a high-grade deposit represent more than half of the total development cost. Improved mine opening designs will offer distinct opportunities for the application of new concepts of ground support such as chemical treatment of in situ rock and air emplacement of special concrete with fast setting properties. Preliminary research has already indicated significant potential for these concepts of underground support. A successful system, incorporating a continuous process for establishing support, would greatly reduce interference with production and open up new possibilities for improving other phases of the mining operations.

Improved extraction systems: $2,862,000.

Improved extraction systems must be developed if we are to meet the demands for greater quantities and varieties of minerals from dwindling resources at reasonable consumer prices, at minimum hazard to miners and the public, and in ways that assure environmental quality. Research in fiscal year 1971 will continue to advance technology in the essential elements of mining on which improved extractive systems can be based.

Ground support around mine openings is fundamental to any mining operation and is critical in its influence on surface damage, environmental contamination, and total recovery of minerals as well as on safety and productivity. Use of mine wastes to refill and prevent collapse of mine workings shows considerable promise as a way to minimize subsidence and also dispose of mine waste economically. Research will continue to determine optimum means for accomplishing this process. Studies will also continue to relate design of underground excavations to geologic structure and also to rock deformation and ground changes associated with mining.

The methods used to break rock from its place influence the damage to nearby surface and structure and directly affect choices and efficiency in other phases of the mining operation. Along with basic studies on the mechanics of rock failure, research will be continued on methods for predicting rock breakage mathematically, for relating variations in blasting techniques to the degree of fragmentation obtained, and for further determining the seismic effects of underground blasting. The search will also continue for faster, more efficient methods of breaking rock by chemical weakening of intercrystalline bonds and by applying thermal shock.

In all mining operations, the loading and transfer of ore, waste, materials, and supplies are major factors in safety and efficiency. Until recently, practically no research has been done on the properties of fragmented rocks as they relate to basic and applied physical principles governing particulate and bulk flow. Bureau research in this area will contribute significantly to the design of safer and more efficient loading and haulage equipment.

In the total design of a mining system, accurate evaluation and characterization of mineral deposits, accurate evaluation of the projected performance of the designed system, and operation of a mine at maximum efficiency are areas in which far too little is known. Declining ore grades, greater mining depth, and the need for maximum conservation of minerals as well as environmental quality have made precise mining engineering a top priority national need. Therefore, the key element in research to develop improved extractive systems is the capability to evaluate a mineral deposit accurately and to design a system on sound engineering bases. Our primary objectives are: Improved deposit sampling techniques; development of geophysical techniques for controlling deposit sampling and for characterizing mineral deposits and host rocks; and development of improved methods for mathematical modeling of mineral deposits, and for designing and evaluating mineral extractive systems. This latter work includes the acquisition of basic data on cost and performance, along with analysis and evaluation studies to develop more accurate mine design criteria. Work will also be continued on the application of operations research techniques in the development of mathematical models for designing the most feasible extractive system for a given mineral deposit and physical and economic situation.

EXAMPLES OF RECENT ACCOMPLISHMENTS

Sealing abandoned coal workings so as to exclude air has been shown to have promise in some areas as a means of reducing water pollution caused by acid mine drainage. In a sealing experiment conducted by the Bureau, the sulfuric acid in the discharge from a small abandoned mine was reduced by the equivalent of 15 tons a year.

Important progress has been made in research to minimize the hazard of explosive methane in coal mines. Techniques have been developed for simulating in the laboratory the underground conditions that govern methane desorption from coal, and studies of methane emission during mining in two different coalbeds yielded a wealth of information needed for designing effective methane-control techniques. In an experiment in which boreholes were drilled vertically from the surface to remove large volumes of methane from gob areas formed by an advancing longwall face, concentrations of the explosive gas in the mine atmosphere were reduced sufficiently to permit an additional daily operating shift.

The pollution potential of mine-waste embankments can be significantly reduced as a result of knowledge gained in Bureau laboratory tests. The tests showed that electro-osmotic techniques already available can be used to increase the density of the material in these waste banks nearly 30 percent while reducing its moisture content almost 25 percent. As a result the stability and strength of the banks would be significantly increased and the possibility of their failure, with attendant pollution of surface areas, substantially lessened.

Greater safety for mine workers and more efficient mining with improved ore recovery are possible as a result of new techniques devised by the Bureau for measuring stresses in supporting mine pillars. The Bureau procedure, based on use of a device it developed for direct measurement of such stresses, will enable a mine operator to change his mining plan so as to avoid excessive loading and spalling of supporting pillars. As a result the pillars can be designed and located for greater safety and improved ore recovery.

Extended life for mineral resources recovered by open pit mining should ultimately be achieved with the aid of a computerized method for open pit mine planning and production scheduling now being developed by the Bureau. Already established is the theoretical basis for such a method which promises greater speed and accuracy in determining the economical ultimate limits for an open pit mine.

(f) Marine mineral mining: Fiscal year 1970, $925,000; fiscal year 1971, $925,000; no change.

PROGRAM STATEMENT

The Bureau of Mines marine mining research program is directed toward two major and related objectives. The first is to assure that the marine mining systems ultimately developed will minimize damage to the marine environment and that they will not interfere with development of other marine resources. The second is to provide the necessary tools and techniques for accurate delineation of marine mineral deposits as a basis for proper engineering evaluation of their economic potential, since the technology presently available is only rudimentary. The Bureau's overall objective is to encourage the development, ultimately, of privately-owned-and-operated marine mining industries.

With rich, accessible, dry land deposits becoming scarcer, industry's interest in unconventional sources is accelerating. This year nickel, cobalt, copper, and manganese are scheduled for commercial production from ocean-floor nodules. Other valuable metals and nonmetals are known to be under the ocean in potentially recoverable deposits. The list includes gold, tin, platinum, iron, titanium, chromium, phosphorite, lime, glauconite, and barite.

Today's offshore extractive operations have become important mineral suppliers using technology adapted from dry-land techniques. Annual offshore mineral output is approaching a value of $2½ billion. This is mainly from oil, gas, and sulfur wells, but includes the dredging of sand, gravel, and oyster shells and the extraction of metals, chemicals, and salts directly from sea water. Unfortunately, some of these activities can have detrimental environmental consequences. One, oil spills, has become notorious in the public mind.

There is a major public interest at stake in assuring marine mining will not pose an environmental threat by the time it approaches the size of today's offshore operations.

Because ocean mining technology is still in its infancy, it is possible, and therefore imperative, we believe, to design and build environmental safeguards into the technology as it developes, so that environmental control will be an integral and indispensible element of the total system. Although large-scale marine mining may still be decades away, we believe the public interest is immediate. We believe planning for environmental protection is vital, in the earliest phases of development, and that a relatively modest investment now can lead to maximum public benefits in the future.

In view of experience on land, and of the known complexity of the ocean environment, we believe the potential ecological impact of marine mining is critical. Large scale ocean mining can alter the contour of the sea floor. Currents can transport fine-grained sediments long distances. Increased turbidity could absorb enough solar energy to interrupt photosynthesis and break the ocean food chain. Mining and processing wastes could damage marine life by altering critical chemical characteristics of the sea. Our view is that a serious effort must be made now to anticipate the impact of marine mining on the environment, and to prevent detrimental effects.

PROGRAM OF WORK

The Bureau of Mines research effort will require the development of adequate tools and techniques for evaluating marine mineral deposits; establishing mining system requirements; research and development in areas of technological deficiencies; and encouraging private development of total mining systems compatible with the marine environment.

In fiscal year 1971, evaluation of sample drilling equipment in the test tank, partly through cooperative arrangements with industry, will be continued. Because of the often severe problem of holding position when drilling from a ship, feasibility studies will be made on two alternative drilling techniques. One is a drill platform above the ocean surface supported by legs extending upward from a buoyance vessel submerged below the zone of ocean surface disturbance. (This concept evolves from the controlled-tension drill undergoing component parts testing during fiscal year 1970 and scheduled shipboard testing in fiscal year 1971.) The other is an advanced bottom-setting drill designed to operate while loosely connected to a mother ship.

An investigation will be made of the potential usefulness, and limitations, of geophysical tools for characterizing marine mineral deposits. Emphasis will be given to the ability to detect variations within an orebody that bear directly on the character of the rock and mining system requirements.

A study on potential impact of marine mining on other marine resources will be expanded in fiscal year 1970. Analysis of historical information on environmental disturbances caused by activities similar to marine mining will be completed in fiscal year 1971. Studies will be initiated on the development of operational criteria for avoiding serious offshore environmental damage from mining.

Performance evaluation of marine mining subsystems will continue, with increased attention on transportation, materials handling, penetration, and seafloor engineering.

EXAMPLES OF RECENT ACCOMPLISHMENTS

A system was designed for feeding data obtained from radio position-fixing equipment into a calculator. This allows automatic plotting of longitudes and latitudes, and constitutes a significant improvement over the standard manual conversion technique. The system could prove valuable in delineating offshore deposits of oil, as well as hard minerals. When fully developed, it should prove easier to use and more precise than standard devices, at no increase in cost.

Significant results were achieved in improving components of a high-resolution acoustic profiling system for characterizing marine mineral deposits. The most important modification was of the directional multiple-electrode seismic sound source. Field tests showed greatly improved resolution, and better penetration than with conventional sources.

Analysis and correlation of data from a 1968 survey of the Coronado Bank phosphorite deposits was completed. Its purpose was to develop and evaluate techniques for characterizing and sampling such deposits. Although the final drilling phase of this project was not initiated (because the drilling system could not cope with local ocean conditions) a high degree of correlation was found between high mineral values and specific physical characteristics within a deposit. This correlation could prove to be valuable in delineating similar phosphorite deposits.

The work of defining potential environmental impact of marine mining was given increased emphasis. Although a cooperative arrangement with the Bureau of Commercial Fisheries could not be carried out, a definite understanding was reached with the Bureau of Sport Fisheries and Wildlife on starting a basic study on the effects of suspended sediments on marine life.

(g) Explosives: Fiscal year 1970, $663,000; fiscal year 1971, $663,000; no change.

PROGRAM STATEMENT

The Bureau of Mines research efforts on explosives and explosions are generally directed toward preventing the loss of life and natural resources through unwanted fires and explosions. There is little or no overlap or conflict with work supported by industry. The highly specialized nature of our work requires facilities and competence in personnel which is not generally available to industry and other Governmental installations. Additionally, the

results of all Bureau safety investigations are made available to the general public and small business organizations who could not afford to perform such specialized research.

The increasing demand for minerals and mineral fuels, combined with a decreasing supply of many of the high-grade ores, has resulted in an unusual demand for commerical explosives and related articles of commerce. Over the last 10 years, consumption of commercial explosives agents has approximately doubled. Accompanying this change in utilization, there has been a virtual revolution in explosives technology. During this period of time, industry has shifted from the general utilization of dynamite-type explosives to over 75 percent utilization of blasting agents, based on the sensitization of ammonium nitrate.

The enormous change in the technology of the manufacture and use of commercial explosives and blasting agents has materially added to the Bureau's responsibility to provide objective information pertaining to the safety of these newly developed explosives agents. Insofar as practical, the Bureau has adjusted its research program to provide answers to problems for which there is little or no background of previous information.

The chemical, petrochemical, and petroleum industries are developing new and potentially hazardous materials more rapidly than information on their safe utilization can be developed. This situation has contributed to placing the United States in the highly undesirable position of having the highest per capita fire loss in the world. Industrial operations alone suffer losses from unwanted fires and explosions far in excess of a quarter billion dollars per year.

The rapidly increasing safety problems involving explosives and explosions phenomena has caused both Government and industry to turn increasingly to the Bureau of Mines, the only Federal agency authorized by Congress to investigate commercial explosives, for authoritative information on the safe handling and utilization of these potentially hazardous materials. While the Bureau's primary emphasis in this field is to supply the needs of the mining and mineral fuel industries, the program is providing much needed information applicable to the solution of problems vital to the protection of industrial workers and the public from fire and explosion hazards.

Objectives: The primary objectives of the explosives and explosions research program of the Bureau of Mines are to provide technologic information and guidance to Federal, state, and local governmental agencies having problems involving: The safe handling and use of commercial explosives and blasting agents; safety characteristics of explosives certified by the Bureau for use in underground bituminous coal mines; hazards of gas and vapor explosions from flammable liquids and/or gases; the hazards from potentially explosive chemicals of commerce; and the means of controlling unwanted fires and explosions in minerals, mineral fuels and their products.

PROGRAM OF WORK

Funds requested for explosives and explosions investigations will be used at the Safety Research Center, Pittsburgh, Pennsylvania, for a continuing program of fundamental and applied research involving: (1) The development of safer explosives for use in underground coal mines and other underground operations where gas and/or dust explosion hazards may exist; (2) approval, testing, certification, and monitoring of a class of explosives known as "permissible" and related items to determine their performance to safety standards prescribed in published schedules; (3) determine the safety

performance characteristics of commercial explosives and blasting agents; and (4) investigation of the causes and means of preventing the multimillion dollar loss of natural resources resulting from unwanted fires and explosions in the mining, chemical, petrochemical and petroleum industries. The program will be closely coordinated with related research supported by other governmental agencies and industry.

While the loss of life from gas and/or dust explosions in underground coal mines has been dramatically reduced since the Bureau of Mines was organized, disasters resulting from such explosions still occur. Ignitions during blasting operations in underground coal mines are periodically reported and all such occurrences are potential disasters. Present explosives approved by the Bureau of Mines are believed to be the safest in the history of American coal mining, but research will be continued to more adequately determine the factors controlling the initiation and propagation of gas and coal dust explosions under simulated mine atmosphere conditions.

Presently approved explosives will continue to be monitored to determine if they are being manufactured to the specifications originally approved by the Bureau and continue to meet the minimum standards specified in schedules. The continued rapid expansion of blasting agents based on the sensitization of ammonium nitrate continues to present many unsolved problems. Some information has been developed on the utilization of slurry explosives in underground operations, but research to develop safety information under these conditions will be continued.

The increasing loss of natural resources through unwanted fires and explosions emphasizes the need for research on the causes and methods of preventing such disasters. Particular emphasis will be placed on the development of more efficient extinguishing agents and/or the development of more practical means for inerting areas of high fire potential.

Cooperation with other Government agencies and industries having problems involving explosives and explosions hazards will be continued. The broad experience of the scientific staff of the Bureau will be available as needed for consultation regarding potentially hazardous situations.

EXAMPLES OF RECENT ACCOMPLISHMENTS

The role of radiation in the ignition of coal dust particles has long been a subject of Bureau research. More recently laser beams have been used as ignition sources. These monochromatic, high-intensity beams offer the coherency important in optical studies. Moreover, significant evidence has been obtained that laser beams of very low intensity can consume very fine coal particles without igniting a methane-air atmosphere that would normally be considered flammable.

The Bureau's long-standing responsibility for the safety of blasting systems used in coal mines led to the systematic evaluation of a variety of electric blasting caps. The incendivity was found to be substantially greater than in a similar study conducted many years ago. This is attributed to changes in composition of the base charge. In connection with this study, a method was developed for the safe initiation of nonincendive detonating cord.

Previous Bureau investigations on ammonium nitrate slurry explosives had established the possibility of using such formulations in underground non-coal mines where an explosion hazard exists due to the presence of hazardous quantities of methane. In particular it was shown that the need to maintain the basic characteristics of the explosives over relatively long storage

periods could be met by adding a suitable stabilizer. Four slurry formulations have now been developed which meet the safety standards required for permissible explosives with respect to gassy mines and can be stored for several months. They offer a range of performance from 77 to 104 percent of the strength of TNT. Two of the slurries can be pumped into boreholes. The other two are sufficiently rigid to permit packaging. No more than 4 percent of the aluminum need be leafing-grade. This makes it possible to maintain the low production cost which is one of the attractive features of these explosives.

An underwater firing facility was developed at Bruceton, Pennsylvania, for use in evaluating explosives and hazardous chemicals. The facility is a man-made pond about 200 feet in diameter and 25 feet deep at the mid-point. It provides a reproducible and homogeneous medium in which explosives can be fired to determine their shock and gas-producing energy near the charge. The new facility will be used to evaluate the relative energy of explosives which cannot be determined with smaller laboratory devices, such as slurry explosives with large critical diameters. It can also be used to select explosives required for specific purposes, such as fracturing rock where shock energy may be the controlling characteristic, or heaving overburden where the gas-producing energy must be high.

Earlier Bureau work in support of manned space flight programs had shown Halon 1301 (bromotrifluoromethane) to be exceptionally suited as an inerting agent and fire extinguishant in space vehicle compartments. In an effort to exploit this new agent for coal mine safety, Halon 1301 was tried in a variety of experiments involving burning coal. Although its effectiveness against smoldering combustion was of about the same order as that of nitrogen, Halon 1301 did effectively inhibit afterburning of gaseous intermediates, in particular the reaction of CO to CO_2, making it an attractive candidate extinguishant for methane combustion and a possible alternative to powered agents for explosion suppression at the coal face.

The Bureau has continued to provide industry and other Government agencies with information on the potential fire and explosion hazards of industrial gases and vapors. A major advance in this area was the development of a semi-automated apparatus to determine the limits of flammability of liquid and gaseous fuels.

Assistance was given the Department of the Air Force in establishing the cause of an explosion in a jet fuel pump house, an in-flight fire and subsequent crash of an F-4 aircraft, and a hanger fire that destroyed two F-4 aircraft and killed three men. At the request of the Commonwealth of Puerto Rico, the Bureau conducted a field survey of a number of Puerto Rican gas and liquefied gas industries and provided training and recommendations on related safe practices. Assistance was also given the Indiana Public Service Commission taking necessary measures to prevent accidents such as the gas explosion at Richmond in April 1968.

2. RESOURCE DEVELOPMENT

(a) Statistics: Fiscal year 1970, $2,091,000; fiscal year 1971, $2,091,000; no change.

PROGRAM STATEMENT

The Bureau's statsitics program is directed toward the development of a Bureau-wide coordinated statistical system. A comprehensive body of accurate and timely minerals-related facts and figures are essential for national planning and decision-making, evaluating the economic activity of states and local areas and providing for minerals-related data to meet legislative, industry, labor and public needs. Such information is made available through publication of a series of timely releases and special summaries for internal analyses.

Our Nation's complex and ever expanding economic activity, challenged by an increasing and growing world demand for minerals, requires intensive and continuing appraisal of our mineral resources, use, and reserves. The Bureau's statistical program attempts to provide the basic facts to meet such needs. These facts, to be of the greatest value, must be accurate, timely, and relate to the broadest possible minerals information base. A changed and modernized statistical program which could fully provide the necessary minerals data to meet the growing demands for minerals information would require additional resources.

PROGRAM OF WORK

The objective of the Bureau's nationwide mineral statistics program is the assembly, analyses, and early presentation of data on domestic production, consumption, and distribution patterns of the minerals needed in our expanding and everchanging economy. Some 200 statistical survey forms, each specially designed to obtain specific data, are used to secure the basic mineral information from mineral producers, processors, and consumers throughout the Nation. Information requests are on a monthly, quarterly, or annual basis, depending on the need for such data. The statistical surveys are conducted from Washington and eight field offices. The compiled and analyzed results are published regularly in monthly, quarterly, and annual commodity-type releases and in the Minerals Yearbook, the most complete and comprehensive body of minerals-related data.

The current statistical program will be carried forward within the stringent limitations of budget, and attempts made, in selected areas, to introduce greater efficiency of operation, improve the quality and timeliness of the statistics, and to make the minerals statistics more directly comparable with other related governmental statistics. This will be attempted as follows.

1. Continued emphasis on standardizing survey forms requesting similar types of information for different mineral commodities. Benefits of such standardization are: a Bureau-wide integrated approach to the minerals sector, more comparable and comprehensive statistics, reduction of the burden on respondents for preparing the desired information; improved comparability of data collected within broad sectors of the minerals economy; and more timely release of data.

2. Reevaluation of the coverage and detail of the commodity data requested from respondents so as to make collected data more responsive to the needs of users. Advice and recommendations from Government, industry, and users will continue to be sought to gain the perspective needed to produce essential and meaningful data.

3. Implementation of systems analysis procedures to enable processing more surveys through the use of standard procedures and repetitive types of clerical work by electronic computers. Such processing will result in more accurate data and will speed up the publication of data. A pilot test of a standardized consumption system will be conducted. This system test will process 6 different surveys with a single process in a standard manner. The goal of this system is to eventually incorporate 20-30 currently different surveys into a single procedure.

4. Establishing more effective and consistent control of the statistical program by standardizing procedural and editing manuals for use in field and Washington offices, and by developing better estimating procedures. Emphasis will be placed on more training sessions for the field staff.

5. Achieving greater compatibility with other Federal statistics in the minerals sector through liaison and discussion with officials in the Bureau of the Budget, Bureau of Census, Tariff Commission, Federal Power Commission, and with industrial firms and professional and industry associations.

6. Exploring the possibility of using state mineral industry data. This could reduce the burden on respondents who in many cases are now furnishing essentially the same information to more than one Government agency.

7. Beginning recompilation of basic minerals data on the government-wide used SIC manual to augment the Federal Government's overall statistical program.

EXAMPLES OF RECENT ACCOMPLISHMENTS

The Statistics program resulted in the publication of Mineral Industry Survey releases presenting production, consumption and related data for some 80 mineral commodities, for the Nation, by State and by area; in the publication of a set of Minerals Yearbooks, a comprehensive source of statistical, technological, and economic data for the minerals sector in the United States, for the individual States, and for foreign countries; and in answering special requests for minerals-related data received from Government, the public, and private industry.

One of the largest monthly surveys, ferroalloy consumption statistics, computerized during the past year, is now being analyzed and tested to determine whether acceptable preliminary estimates can be developed that would make data available about one month earlier.

Checks on the reasonableness and acceptability of reports have been introduced into several surveys (Mine and Quarry, Petroleum, Stone) conducted in the central or field offices. This has improved the accuracy of our data.

Ten independently field-conducted stone surveys were integrated into a single survey plan and processed in a central location. Computer based checks on the completeness of reporting and the acceptability of the results were included. The system is being analyzed to determine whether two more surveys can be incorporated or should follow the same general plan.

Standardized survey forms for use in a number of monthly statistical surveys have been introduced. Uniform procedures and techniques for processing surveys are being developed for incorporation into an integrated computer processing system.

This will result in greater processing efficiency and in more accurate and comparable data for the group of surveys. A pilot test for uniformly processing 6 surveys has been designed and is in progress.

Survey reviews were continued to determine the appropriateness, accuracy, completeness, and comprehensiveness of statistical reports submitted by respondents. Schedules used to collect the data have been modified to include more detailed instructions designed to improve the quality of the basic statistical data being reported.

A computerized industrial directory of respondents to Bureau of Mines surveys was started and now includes some 10,000 entries. The directory employs a coding structure which permits identification of establishments (mine, mills, etc.) and companies across all Bureau of Mines surveys, and enables computer processing of statistical information on a Bureau-wide basis.

An in-depth review of the content and scope of the cement statistics survey resulted in a modified cement statistics survey for the current year. The current survey presents more accurate and meaningful data with less reporting burden on industry.

For the first time in several years, development and training sessions were held for our field staff to acquaint them with the direction, scope and coverage of the future statistics program. Such sessions are necessary for an efficient statistics program.

(b) Economic Analysis: Fiscal year 1970, $520,000; fiscal year 1971, $520,000; no change.

PROGRAM STATEMENT

The Bureau's program of Economic Analysis focuses on the economic forces at work within the mineral industry, and on the economic relationships between the industry and the national economy. Since the Bureau is a Federal agency, such analysis is directed primarily to public policy issues and related problems. The purpose of the activity is to provide Government decisionmakers with appropriate information and up-to-date analysis of: (1) the existing situation, (2) trends into the future, (3) alternative courses of action, and (4) the impact of choosing any one of the alternatives. The Economic Analysis program seeks to provide the general methodology needed for such analyses, as well as information relevant to problem-solving in the field of mineral economics.

PROGRAM OF WORK

In fiscal year 1971 the Economic Analysis activity will carry on the continuing broad-based and long-range economic research projects begun in the past, which include construction and revision of general models of the economy and its mining sector. These provide a framework for such studies as: the historical and projected interaction of supply and demand of mineral and energy commodities; impacts of growth or decline in production; commodity flows from source to consumption; and cost-benefit analyses of various programs. Basic methodology for such studies are also revised and extended as needed. Input-output studies are being up-dated and expanded to develop regional tables and detailed national income and employment information. A special effort is underway to review existing and to develop improved methods for measuring mineral reserves and resources.

Such work provides an overview of the present and future mineral economy. It does not, however, provide sufficient detail about particular sectors, nor can it

41-447 O - 70 - pt. 1 -- 55

answer specific questions about certain short-run contingency situations. To fill this gap special studies have been designed, and new work and interim studies will be initiated. Among the former are quantitative analyses of the demand for copper, gold, aluminum, iron-ore, steel and sulfur. These studies will provide models of commodity supply and demand that will permit consistent projections of future situations. Supply studies of byproducts and of scrap metal are also being made in order to make better estimates of the response of these commodities to price and other production incentives. These studies will be buttressed by others that show how production technologies and productivity have changed in response to economic and policy changes.

Most new work will extend the Economic Analysis program in two other directions, toward improved ability to determine the regional impact of minerals production and toward studies of the environmental impacts of mineral activities. Regional impact studies are being initiated so that public bodies will be able to predict quantitatively the general economic effects of a rise or a fall in minerals production; both broad comparisons and fairly detailed case studies will be made. The environmental program will focus mainly on the social costs resulting from neglect of health and safety, or from neglect of less tangible surface values. Both directions represent attempts to provide better guidance in critical policy areas.

EXAMPLES OF RECENT ACCOMPLISHMENTS

Four research contracts on the non-fuel minerals industry have been essentially completed. All will eventually be entered in the Clearinghouse for Federal Scientific and Technical Information. Three of these studies--on price patterns, balance of payments impacts, and sources of investment--provide both immediately useful results and a source book of data for further analysis of non-fuel minerals. The fourth study--a model of exploration for non-fuels minerals--is methodological and will be of use to the growing number of individuals looking for more efficient ways for modern industry to program its exploration efforts.

In addition to these studies, other grants and contract with universities bore important fruit. One report focused on the commercial demand for gold in the United States and provided quantitative support for the position that there is no immediate shortage of gold for non-monetary purposes. Another developed a computer program that can indicate to urban planners how great an increase in the delivered cost of construction materials would result from any zoning regulation that is proposed.

Several important methodological studies were published by the Bureau. One provides a manual for estimating the net returns from various applied research projects and for comparing them with one another. Another outlines a method for making relatively rapid estimates of mineral resource values; previously the only well-known methods required detailed cost evaluations.

Also, the final results of the energy balance work initiated several years ago were published. The last of these provided a computer program to facilitate the calculation of energy balances for all states and regions by any other group.

Apart from the study of zoning mentioned above, the environmental program resulted in the production of two manuscripts, one--about to be published--focusing on the potential for use of mineral-based materials in combatting noise in dwelling units and the other on a comparative cost analysis for coal workers' pneumoconiosis ("black lung"). The latter represents a new direction for the Division but one that will expand in the future. Related work included studies of the adverse environmental impacts of surface and underground mining, and a case study demonstrating that a decline in coal production would have a severe economic impact in Southeastern Ohio. Several of these studies have already been published as

articles in professional journals. Also, the final reports on the impact of changing technology on coal miners, the first such studies that provide quantitative information, were received and made available through the Clearinghouse.

The programs of the Division on demand, interindustry analysis, and cost-benefit analysis continued. Among the products were information circulars on the demand for steel and on the demand for fertilizer minerals. Final work is being done on the 1963 input-output tables, which represent a significant advance over the 1958 tables and which provide an opportunity for comparisons over time. A study comparing copper mining technology in the two periods has been completed.

(c) Bituminous Coal: Fiscal year 1970, $934,000; fiscal year 1971, $934,000; no change.

PROGRAM OF WORK

With current concern as to delays and increased costs of bringing nuclear power on stream, natural gas and petroleum availabilities, and limitations being placed on fuels by air pollution regulations, the need for better and more timely information on availability of all fuels is apparent. In recent years, coal production has been affected adversely by manpower shortages; labor unrest, the high cost of developing new mines; and uncertainties with respect to nuclear power developments, environmental controls, and, more recently, health and safety legislation.

Accordingly, the Bureau's bituminous coal resource program will be modified to give emphasis to studies of the potentials for the development of productive capacities and of costs of mining of reserves of selected coals, particularly of those coals which will meet air pollution standards and of those in heavy demand in export markets.

The Bureau's bituminous coal resource program includes technical-economic studies patterned to aid the Government in evaluating and making policy decisions with respect to coal supply and demand, and to encourage improvement in coal recovery and utilization methods.

The following studies are included in the 1971 program:

The appraisal of coal reserves will be continued. Priority will be given to determinations of productive capacity potentials and mining costs of reserves of these coals for which demand is greatest. Included will be metallurgical-grade coals for domestic and foreign markets, and low-sulfur coals for electric power plant use. Also included will be other grades of coal occurring in sufficiently large contiguous blocks to support large-scale conventional or new synthetic fuel plants.

New methodology now being developed to determine coal reserves and mining costs in two important coal-producing areas will be used to make similar determinations in major coal-producing areas.

The underground haulage project will be continued.

A new coal export expansion program will be developed.

The program also includes several continuing functions, including surveillance of air pollution regulations as they affect coal, staff support to other governmental agencies, evaluation and publication of coal resource information, and technical assistance to the public, industry, and state and Federal governmental departments.

EXAMPLES OF RECENT ACCOMPLISHMENTS

A recent upward trend in U. S. coal exports, indicating potentials for further increases, and the development of a tight supply stiuation prompted several special studies for the Export Strategy Committee, the Secretary, and others. A report on U. S. coking coal availabilities was prepared for the European Economic Committee, and the coal supply and demand situation was reviewed with all principal coal exporters. As a result of government efforts and growing demand for coal, import duties on non-metallurgical coal were removed completely by Canada, and non-tariff barriers were relaxed by several other countries. Plans for a new coal export expansion program were initiated.

In cooperation with the Department of Health, Education and Welfare, a preliminary canvass of Appalachian Coal reserves and production with respect to sulfur content neared completion. Results of this and subsequent studies will serve as important guides to government and industry in determining the availability of low-sulfur coals to meet air pollution requirements and the demands of metallurgical markets at home and abroad. Studies were made or initiated on (1) the end-use of fuels in two metropolitan areas to determine fuel convertibility and costs that would result from air pollution controls, and on (2) the impact of air pollution regulations on two areas producing high-sulfur coals.

A report was published on coal reserves in northwestern Alaska, and two reports were placed on open file (coal reserves in Bibbs County, Alabama, and in Greenup County, Kentucky).

Technical assistance to numerous Federal agencies was continued, and a number of special engineering and economic studies and investigations were made pertaining to coal production, distribution, and utilization for guidance to the Government, industry, and the public.

(d) Anthracite: Fiscal Year 1970, $746,000; Fiscal Year 1971, $746,000; no change.

PROGRAM STATEMENT

Most of the work being done on environmental problems in the highly populated northeastern part of Pennsylvania is attributable to the past mining of anthracite. Large quantities of noxious gases emanate from burning refuse banks, acid mine waters contaminate streams, and hazardous deep and surface mine openings pose a serious threat to public safety and economic growth. The Bureau of Mines anthracite program seeks to assemble the basic data to prevent and correct the adverse effects of past anthracite mining practices, to create an environment conducive to economic growth, and to preserve a substantial energy source. In working toward these objectives in FY 1971, the Bureau will provide technical, economic, and statistical data on mine related problems to Federal, State, and local authorities, and the general public.

PROGRAM OF WORK

Surveillance and Impact Investigations

Major emphasis in FY 1971 will be placed on a Mine Fire Evaluation Study to acquire data on, and evaluate such factors as: socio-economic impact of fires in abandoned mines and communities; the Nation-wide tonnage of coal reserves being destroyed and their indicated effect on the future national economy; present fire control techniques; their cost efficiency, and adaptability; fire

detection techniques, particularly in the field of airborne and satellite technology; and cost-benefit relationship of controlling or extinguishing present fires; methods of preventing future ignitions.

The Bureau will continue its responsibilities to administer, manage, and monitor the hydrological pool characteristics of abandoned mine workings and identify mine water discharges. Pertinent data on the technological, economical and sociologic conditions will be assembled to up-date previous publications.

Major mining induced surface hazards pose a threat to the health and safety of the general public. The Bureau will identify, study, and classify major hazards (shafts, excavations, abandoned structures, etc.) according to various geologic attitudes related to population centers. Reports on specific mining induced hazards in various fields will be published to aid the public and Government agencies interested in environmental protection work.

The Bureau will continue to compile map folios composed of correlated maps in stratigraphic sequence of every mined bed, overlying rock structure and the surface. Completed folios are recorded or microfilmed to permanently preserve irreplaceable information now in danger of becoming lost. Microfilmed subsurface data are invaluable for future mining of sizable reserves, determining the stability of building sites and efforts to minimize subsidence, mine drainage, mine fires, and other environmental problems detrimental to the general public.

The Bureau will continue to assemble data and up-date previous publications on methods, costs, procedures and effectiveness of Bureau projects. The data will be secured from various support activities.

Although production and consumption of anthracite coal continue to decline, the Bureau is continually asked to supply information on the structure of the industry and the resource supply picture. Emphasis will be placed on the undertaking of a technological-economic study on the state of anthracite industry, including production, employment number, and kinds of productive operations, as it affects the productive capacity of the industry. The Bureau will continue to appraise the anthracite reserves and the prepraration of resource atlases.

Culm Bank Program

Efforts will be directed toward evaluation of data gathered at the Bureau's refuse bank extinguishment project. A report describing this technique and its cost effectiveness will be published. The Bureau's continuing effort includes obtaining and evaluating basic data and monitoring of other coal refuse demonstration and abatement projects. In addition, to assist in environmental protection, the Bureau will inventory and develop data relative to burning and nonburning banks, including location, volumes, compositions and proximity to population centers.

Of major concern to the Bureau's culm bank program is the development of technology that will enable the establishment of criteria or operating guidelines that will enable the disposal of coal refuse underground which will prevent subsidence and eliminate the existing banks which present the possibility of spontaneous combustion. The estimate includes $300,000 for this work.

Program Support Activities

Pursuant to Section 205 Public Law 89-4, as amended, the Bureau of Mines continues to engineer, manage, and administer projects, approved by the Appalachian Regional Commission and designed to resolve environmental problems associated with mining and mineral processing industry. Funds for contracts, grants to States, and administration, are provided by the Commission for control of

underground mine fires, reclamation of surface mined lands, subsidence control by filling underground voids, removal of burning and non-burning mine refuse banks and sealing of abandoned oil well sites for water pollution control.

Pursuant to Public Law 84-162, the Federal-State Anthracite Mine Water Control Program, as amended by Public Law 87-818, the Bureau of Mines continues to administer and manage projects funded on a matching basis. The Bureau furnishes technological, economic, and sociologic evaluations and grants funds for projects submitted by the Commonwealth of Pennsylvania for the control of acid-water drainage in anthracite formations.

EXAMPLES OF RECENT ACCOMPLISHMENTS

During recent years, the Bureau was engaged in five deepwell pump installations and one surface drainage control project which were designed to secure the safety and livelihood of about 1,600 mine personnel. Three of the five pumping projects involved the loan of Federal-State owned pumps, motors, and component equipment. The work of installing, operating, and maintaining the equipment was done at no expense to the Federal Government. Two pumping projects and one surface improvement project involved a total expenditure of $410,600, one-half of which was paid by the Federal Government. These activities saved more than 42,000,000 tons of anthracite reserves from the hazards of adjoining abandoned mine pools and possible inundation by surface flood waters.

A manuscript describing the techniques and their cost effectiveness employed at a demonstration project to extinguish a bruning coal refuse bank has been completed. The Bureau continued to maintain close surveillance of the on-going Federal-State culm bank extinguishment demonstration project in northeastern Pennsylvania. This burning culm bank is located within the confines of a highly urbanized area. Regular meetings are being held with project personnel who are gathering pertinent information with regard to the temperature profiles within and the ambient air quality around the burning refuse pile. Ten burning and non-burning coal refuse banks throughout the anthracite Region were selected for investigation to determine the possible interrelationship of the physical and chemical characteristics causing coal refuse bank ignition. Necessary releases for conduct of study are presently being secured from the land owners. A study was initiated to review existing methods of municipal waste disposal with emphasis directed toward identifying the potential environmental problems associated with sanitary landfill operations and the impact of the problems on surrounding natural and cultural resources. A report will be prepared discussing present practices and appropriate guidelines or criteria for landfill disposal will be developed.

A survey was made of 1,000 major mine sites in the Anthracite Region of Pennsylvania of which 350 were considered hazardous. These include breakers and other buildings at abandoned plant sites and abandoned and unprotected mine openings.

(e) Petroleum: Fiscal Year 1970, $839,000; Fiscal Year 1971, $839,000; no change.

PROGRAM OF WORK

The national requirements for petroleum and natural gas, which provide the majority of our energy fuels needs, are of massive public interest in terms of supply and cost. Although there are adequate domestic petroleum resources in the ground to supply anticipated demand levels through the remainder of this century, the United States has obtained more than one-fifth of its petroleum supply from

foreign sources in recent years. The volume of imports is controlled because our domestic resources largely are not producible at low enough costs to compete in world markets. There is a substantial difference between the price of domestic and foreign crude oil supplies; therefore, in view of the large volumes consumed, oil import levels have an enormous economic impact on both producer and consumer. Government is increasingly involved in petroleum supply in implementing policies to assure that energy supplies be provided at lowest possible costs consistent with other national economic, social, and security objectives. With increasing governmental involvement in petroleum and natural gas supply problems, there is a corresponding increase in responsibility for providing adequate information with which to guide and to assess the consequences of policies, existing and potential.

The Bureau's petroleum resource program includes selected technical and economic petroleum and natural gas studies that are required to obtain information to aid Government in evaluating the adequacy of domestic supplies, aid in policy determinations relating to current and future supplies, and encourage improvement in the recovery and utilization of such supplies.

Included in the 1971 program are the following studies:

Studies of costs related to the development and utilization of petroleum resources will continue. The studies are designed to obtain information of specific costs resulting after the discovery of petroleum reserves through the production cycle to the point of marketing. Included are costs related to drilling, completions, lease facilities, and production. Costs of producing by different production methods in different geographical areas and in different environments will be determined.

An evaluation will be made of domestic petroleum productive capacity to determine areas in which excess exists and to estimate the amounts of crude oil that could be made available to meet increased requirements. The inability of some producing states to meet demand and apparent declines in reported productive capacity in other states indicates that domestic producing capabilities are below reported estimates.

Surveillance of petroleum and natural gas developments in Alaska will be continued, oil and gas samples and pertinent data concerning new producing areas will be collected, and special investigations made to provide information for planning and policy decisions.

The program also includes several continuing functions which are required to fulfill Bureau responsibilities with regard to the development and utilization of petroleum and natural gas resources. Among them are the following:

Providing staff support concerning these resources to departmental agencies.

Developing, analyzing, and publishing data on the production, processing, and transportation of petroleum, natural gas, and natural gas liquids.

Basic information and fact gathering and evaluations required to fill requests from the public, commercial firms and other governmental agencies for information and technical assistance.

EXAMPLES OF RECENT ACCOMPLISHMENTS

An evaluation of the petroleum productive capacity of Texas and Louisiana oilfields was made to determine the location and amounts of excess capacity to meet increased demand. Those fields having excess producing capacity were identified and factual information pertaining to the productive capability of Texas and Louisiana oilfields during the period January--June 1969 was obtained. The bulk of idle productive capacity of the U. S. is in 159 restricted major oilfields in these states. During the past two years, the productivity of these fields has declined by about 300,000 barrels per day, a loss of approximately 10 percent in the total reserve productive capacity of the U. S.

A study was completed of the location and reserves of potentially significant oil-productive reservoirs that have characteristics considered to be amenable to production stimulation by water injection recovery methods. Nationally, 3,209 reservoirs in the principal oil producing states were selected as potential water-flood prospects. Increased recovery from these reservoirs constitutes a large and potentially low-cost supply since only about one-third of known oil in place is recovered under present producing practices.

Studies were continued on the development of petroleum and natural gas in Alaska. An economic study of petroleum recovery methods was started. The study will determine representative costs of developing and recovering crude oil in each principal producing area of the Nation and provide a comprehensive assessment of domestic petroleum supply.

Special staff support on petroleum and natural gas resources evaluation was provided to the Secretariat, the Office of Oil and Gas, and the Oil Import Administration.

(f) Minerals: Fiscal year 1970, $4,494,000; fiscal year 1971 $4,494,000; no change.

PROGRAM STATEMENT

Recent Congressional hearings have directed attention to the increasingly serious problem of the supply-demand imbalance with respect to minerals. The hearings have clearly demonstrated the need to foster and encourage a sound and stable mining and minerals industry. The orderly development of mineral resources and reserves requires that government agencies, industry, and the public be provided basic mineral commodity information on a timely basis.

Consumption of minerals in the United States already is outrunning domestic production, which raises serious issues and problems. Not only must we find the supplies of mineral raw materials that will be required, we must also seek to obtain them at acceptable costs and by methods that will provide adequate protection to the environment. Increasingly, it seems that the material requirements of modern civilization are on a collision course with the environmental requirements of the average American. Urgent warnings of problems that threaten the very basis of our industrial civilization are appearing.

In a competitive world the appetite of all the developed countries for mineral raw materials is outrunning their domestic production capacities. Today, virtually every industrialized country is searching the world for mineral resources to supply their consumption requirements. Additional complications are being introduced into international mineral situations by the national aspirations of underdeveloped nations seeking to gain the maximum economic benefits from their mineral resources.

In order to cope with the enormous demands that now are foreseeable, the United States will need information and analysis of the best possible quality on the alternatives available to it. Experience has shown that serious deficiencies now exist in the quantitative and cost data available, and these deficiencies must be reduced as rapidly as possible.

Even with unprecendented demands the multiple hazards that are being encountered can be overcome. With adequate fact-finding and the best possible methods of appraising problems, research and investigation can be effectively directed to the subjects requiring priority attention. The purpose of this program is to appraise mineral supply problems, delineate the technical and economic options, and provide timely fact-finding guidance to the Executive Branch and the Congress.

In this fiscal year the program will encompass fact-finding and analysis of the availability and requirements for mineral in the various technological and economic circumstances that affect the production, distribution, and end-use. Emphasis will be given commodity situations in which the prospects for development of major new production capacity at advantageous prices to the consumer are most promising. In the environmental portion of the program problems of air and stream pollution, mine subsidence, and solid waste will be studied with a view to the development of action programs designed to progressively solve this very complex range of problems. Special efforts also will continue to be directed toward the evaluation of mineral resource potential in wilderness and primitive areas.

PROGRAM OF WORK

Mineral Commodity Appraisal: $1,719,000

Analytical and interpretive operations of the Bureau with respect to nonfuel minerals are included in this element. Basic fact-finding studies are conducted on commercial mineral commodities to provide understanding of world availability and flow of mineral raw materials. These studies accumulate the information and understanding that is essential to the conduct of the Bureau's research programs.

Periodic publications such as Minerals Yearbook, Mineral Facts and Problems, and Mineral Market Reports as well as special reports and advisory services make this information on the current and future mineral position of the United States available for the use of policymakers and the public.

To establish a repository of authoritative maps that show data on past and current mining operations, the Bureau of Mines will temporarily borrow available maps and other pertinent information and photograph them on microfilm. The original microfilm will be used to make aperture cards for retrieval purposes and working files. High priority is to be given to maps of mines where the adverse impacts to the environment are the most severe. A system of indexing and data retrieval is to be developed that is compatible with computer technology.

Supply and Demand Studies: $2,200,000

The supply studies conducted under this element usually provide information and analysis of the problems of a specific mineral commodity or group of related mineral commodities. For example, in this fiscal year, the potential for maintenance and expansion of copper production in the United States will be studied. This nationwide study will include the potential of deposits in the Western States and Alaska, and special attention will be given to the appraisal of currently submarginal native copper deposits in Michigan. Although primary copper from mineral deposits will receive the major share of attention, the important and growing field of copper supply from secondary (scrap) sources will also be included in the study.

To assess the short and long-run outlook of individual commodities, information will be obtained through engineering examinations of mineral deposits, and through appraisal of the availability of reserves at various price levels, the effect of byproduct and coproduct relationships, the processing and specification problems that must be met, and the effects of transportation methods and costs on the competitive positions of domestic minerals.

In addition to commodity-oriented studies, projects designed to improve understanding of the affects of technologic and economic forces on mineral supply also are included in the program. The development of computer models that will facilitate rapid and accurate appraisals of mineral supply potential is an example of such studies.

Under the Solid Waste Problem Appraisal program, the Bureau of Mines will continue to evaluate present disposal methods and delineate the environmental problems resulting from mineral waste disposal. In fiscal year 1971, two studies that were initiated in fiscal year 1970 will be continued. These involve: (a) development of guidlines and expertise for waste disposal practices with particular attention given to mined land reclamation practices which start with the opening of a mining operation and (b) investigation into the technical and economical feasibility of utilizing abandoned surface mines as potential municipal waste disposal sites. Additional emphasis will be directed in fiscal year 1971 to the identification of, and recovery of potential secondary resources from discarded solid mineral and metal wastes.

Wilderness Studies: $575,000.

In accordance with the requirements of the schedule set forth in the Wilderness Act, the Bureau of Mines will continue to search mining claim records and appraise mineral development and mineral resource potential during fiscal year 1971 in the following areas: Chiricahua, Arizona; Gila and White Mountain, New Mexico; Cloud Peak, Glacier, and Popo Agie, Wyoming; Gore Range-Eagle Nest and Rawah, Colorado; Aqua Tibia, High Sierra, Trinity Alps, Marble Mountain and South Warner, California; Eagle Cap, Oregon; Absaroka, Beartooth, and Bob Marshall, Montana; and Idaho and Salmon River Breaks, Idaho.

EXAMPLES OF RECENT ACCOMPLISHMENTS

The Bureau's popular mineral commodity series, Mineral Facts and Problems, of which more than 17,000 copies of the 1965 edition were issued, was revised and updated for the 1970 edition. The new edition will not only reflect the changing positions of the individual commodities in relation to national demands, but will indicate significant shifts in the world's supply-demand position and in the production-consumption patterns during the last 5 years. This year's edition also will take the place of the annual individual commodity profiles which were instituted in 1966 to provide guidance for the Bureau's action programs and enhance the formulation of mineral policy. The expanded volume emphasizes domestic end-use demand and presents analyses of the mineral supplies available to meet these demands. Forecast ranges of demand in the year 2000 are made for 84 commodities.

Progress in the Bureau's mineral deposits investigations to stimulate production of gold and silver by disseminating information on the location, potential, and technological and economic factors of low-grade deposits that could be mined by current large-volume, low-cost methods advanced substantially as shown by the publication of 4 technical progress reports. One described a cooperative drilling and sampling program on the Golden Sunlight property near Whitehall, Montana. The others described work in the sedimentary beds of northeastern Nevada, tertiary gravels of California, and the Mother Lode Gold Belt of California. In addition to the technical progress reports, the areas in Nevada and California

were discussed in 11 manuscripts, 4 situation reports, and 3 supplemental situation reports. Requests were received for more than 700 copies of the technical progress reports.

A publication was released in which the productive potential of the Nation's principal active and inactive silver mining districts was evaluated. Potential resources or unmined silver in the United States, minable at a price of $3 per ounce were estimated to be 4.9 billion ounces. These resources are in active and formerly active mining districts as well as in extensions of such districts. Nevada, Idaho, Montana, Utah, and California contain an estimated 85 percent of the Nation's silver resources. It was stated that production of silver from precious metal and base metal ores at currently operating mines is expected to increase only slightly during the short term. However, the long-term outlook is good for increased production from operating silver mines as capacities are expanded.

One phase of the program to increase domestic copper supplies included investigation of the cupriferous "red bed" of Permian age that crop out in Kansas, Oklahoma, and Texas. These beds are a potential source of copper, as well as silver, gold, and other minerals that are in short supply. Field reconnaissance and sampling were completed in copper-bearing strata in the three States. A core drilling program in four Texas counties and a cost analysis for recovering copper from the "red bed" deposits also were completed. The drilling program pinpointed target areas for copper exploration. In addition, at least one area was found to offer opportunities for research in mining and recovering copper by leaching in situ. Iron ore deposits in California and Nevada were described and evaluated for future use in a study designed to widen the Nation's mineral base and encourage use of local resources.

A study was made of the current over-supply situation in the potash industry, including an analysis of prices and costs of both American and Canadian production. These data were related to the international competition in potash markets, the impact of large quantities of imported potash upon the domestic industry, and the social and economic well being of the major potash mining areas.

A publication on transportation of mineral products in the southcentral inland waterways describes current practices, significant trends, the roles of the various agencies involved, and the future outlook. Increased traffic of mineral products is forecast for the 1970's on the Mississippi, Arkansas, Missouri, Ouachita, and Pearl Rivers and the Intracoastal Waterway. Basic commodities, including sulfur, crushed stone, sand, gravel, aluminum minerals, coal, petroleum, and salt are expected to account for most of the growth. The publication also reports on innovations in water-borne freight, such as giant barges and towboats, and examines the effect such developments might have on barge traffic.

The growing importance of secondary metals as a source of raw materials for the Nation and the need to recycle scrap materials to minimize the problems of solid waste disposal, led to a study of the secondary aluminum industry. As a result of the study a publication was prepared in which discarded aluminum scrap was traced from generating sources to ultimate consumers. Technological advances that have contributed to the growth of the secondary industry were also evaluated. A study also was made to ascertain the effects of technologic changes on iron and steel scrap generation, flow, consumption, and prospects for the future of scrap in the domestic mineral resource base. An appraisal of the quantity of furnace flue dust generated by the steel producing industry is currently underway. The possibility of reclaiming and recycling the contained mineral resources of iron, zinc, lead, manganese, and copper will be investigated. Two reports developing costs of solid waste disposal at selected mineral and fossil fuel mining and processing plants were released. Three similar reports are presently being printed for public distribution. An on-site

inventory of all known burning coal refuse banks throughout the Nation's coal producing regions was completed. A manuscript describing their location, nature, and environmental impact is in the final stage of preparation.

During the first half of FY 70, field parties were operating in the following primitive areas: Glacier and Popo Agie, Wyoming; Gore Range and Wilson Mountains, Colorado; Gila, New Mexico; Salmon Trinity Alps, California; Idaho and Salmon River Breaks, Idaho; and Beartooth and Absarokee, Montana. Two mineral resource reports were published: (a) Mineral Resources of the Blue Range Primitive Area, New Mexico, and (b) Mineral Resources of the San Juan Primitive Area, Colorado.

(g) International Activities: Fiscal year 1970, $658,000; fiscal year 1971, $658,000; no change.

PROGRAM STATEMENT

The degree to which United States mineral supply is being drawn from foreign sources continued to rise as the country's mineral consumption increases in quantity and diversity. Simultaneously, foreign countries, both industrialized and developing, are increasing their demands on world mineral supply. Therefore, to a larger degree than before, the United States must compete on a global basis for access to the total available supply.

To enable the United States to compete in the world mineral market as an importer and an exporter, to assist U. S. industry in identifying potential mineral resources and in evaluating investment opportunities in these resources and to benefit from worldwide research in the mineral industry, it is essential that the U. S. Government and industry be accurately informed at all times on world mineral developments--resources, investments, production, consumption, trade, government policies, anticipated problems and crises. This must be a continuing program because of the dynamic nature of the global mineral industry.

PROGRAM OF WORK

The Bureau is restructuring its international activities to maintain intact the core of its activities on the worlwide surveillance of mineral developments, their analysis and publication. The restructuring was necessitated by the elimination of a large part of transferred funds and a resulting, significant staff reduction. Priority, although with some reduction in scope, will be given to:

1. Preparation and publication of the international volume of the Bureau of Mines Minerals Yearbook;

2. Continued compilation and publication, on a country and commodity basis, of mineral production and mineral trade;

3. Consulting service to the U. S. public and private sector;

4. Contribution to the activities of UN Regional Organizations and the Organization for Economic Cooperation and Development. No other unit within the Bureau has the direct personal contacts and experience of continuous background of the activities and policies of these organizations and U. S. participation in them during the last decade;

5. Contribution to U. S. bilateral technical cooperation through established programs such as those with Australia, Canada, Brazil, France, Federal Republic of Germany, and Japan;

6. Program guidance to the Department of State in selection of personnel and functions of mineral and petroleum attachés;

7. Planning for the expansion of operations research and systems analysis bearing on minerals policy issues likely to confront the United States over the next decade;

8. Management of technical assistance programs given by the Bureau of Mines in cooperation with the Agency for International Development, the United Nations, and bilaterally--these activities to be financed by the requesting agency.

EXAMPLES OF RECENT ACCOMPLISHMENTS

The international activities program produces each year a brief but useful in depth analyses of minerals and energy developments in some 130 countries and regions of the world. These annual reports provide background information for staff studies to meet specific staff requirements. Examples include, support studies for the activities of the Cabinet Task Force on Oil Import Countries; mineral activities of U. S. companies operating outside "territorial seas"; survey of Russian literature on pipeline construction through permafrost; safety regulations on Russian coal mines; impact of natural gas on the consumption of the other forms of energy in the OECD in West Europe; and continued review and updating of Mining and Petroleum Laws of the World.

ITEMIZATION OF ESTIMATE

Department of the Interior
Appropriation Title: Conservation and Development of Mineral Resources

Bureau of Mines

	Actual 1969	Estimate 1970	Estimate 1971	Increase (+) or Decrease (-)
Program and Financing				
Total Obligations	$37,896,818	$42,484,000	$44,972,000	$+2,488,000
Unobligated balance lapsing	99,522	- -	- -	- -
Budget authority	37,996,340	42,484,000	44,972,000	+2,488,000
Budget authority				
Appropriation	37,568,000	39,331,000	44,972,000	+5,641,000
Transferred to other accounts	-4,660	-11,000	- -	+11,000
Transferred from other accounts	433,000	- -	- -	- -
Appropriation (adjusted)	37,996,340	39,320,000	44,972,000	+5,652,000
Proposed supplemental for wage board increases	- -	399,000	- -	-399,000
Proposed supplemental for pay act increases	- -	2,765,000	- -	-2,765,000

		Actual 1969	Estimate 1970	Estimate 1971	Increase (+) or Decrease (-)
Obligations by Objects					
11	Personnel compensation	$27,779,000	$31,735,000	$32,351,000	$ +616,000
12	Personnel benefits	2,242,000	2,537,000	2,668,000	+131,000
13	Benefits for former personnel	58,000	- -	- -	- -
21	Travel and transportation of persons	861,000	968,000	1,025,000	+57,000
22	Transportation of things	169,000	173,000	190,000	+17,000
23	Rent, communications, and utilities	1,339,000	1,350,000	1,373,000	+23,000
24	Printing and reproduction	255,000	275,000	288,000	+13,000
25	Other services	1,267,000	1,385,000	2,978,000	+1,593,000
26	Supplies and materials	1,977,000	1,955,000	1,994,000	+39,000
31	Equipment	1,741,000	1,835,000	1,914,000	+79,000
32	Lands and structures	88,000	90,000	90,000	- -
41	Grants, subsidies, and contributions	120,000	180,000	100,000	-80,000
42	Insurance claims and indemnities	1,000	1,000	1,000	- -
	Deduct adjustment for rounding	-182	- -	- -	- -
	Total obligations	37,896,818	42,484,000	44,972,000	2,488,000

Personnel Summary	Actual 1969	Estimate 1970	Estimate 1971
Total number of permanent positions	2,552	2,595	2,623
Full-time equivalent of other positions	109	112	112
Average number of all employees	2,634	2,695	2,723
Average GS grade	9.1	9.2	9.2
Average GS salary	$11,162	$12,351	$12,465
Average salary of ungraded positions	$7,751	$8,255	$8,793

COAL GASIFICATION

Mrs. HANSEN. You have budgeted $2.3 million, an increase of $1.5 million, for design and specifications of a coal gasification plant. Why should the committee approve this request?

Mr. RAMPACEK. Yes, I think the study to determine and obtain information on the production of synthetic pipline gas from coal is a very important program because, if it can be done competitively and economically, we will avail ourselves of a vast fuel resource, specifically coal. We will also augment a dwindling supply of natural gas.

Mrs. HANSEN. Where is this principal research being done?

Mr. RAMPACEK. The laboratory phases of the work and the small pilot plant we have operating are at Bruceton, Pa., just outside of Pittsburgh.

Mrs. HANSEN. In what other areas are you participating in research work?

Mr. RAMPACEK. We have research work in coal going on at Morgantown, W. Va.; Grand Forks, N. Dak.

Mrs. HANSEN. Will the design and specification work be done in-house or will you contract this?

Mr. RAMPACEK. This will be contracted.

Mrs. HANSEN. Whom are you going to contract with?

Mr. RAMPACEK. We have not chosen yet.

Mrs. HANSEN. Will it be competitive or negotiated?

Mr. RAMPACEK. It will probably be competitive. We have not determined that as yet.

Mrs. HANSEN. How many bids do you usually receive?

Mr. RAMPACEK. I would guess at the maximum we would get about 10 bids.

Mrs. HANSEN. How do you arrive at the amount of funding to be required?

Mr. RAMPACEK. The amount of funding for——

Mrs. HANSEN. Is this what the Bureau of the Budget allowed you?

Mr. RAMPACEK. The $1.5 million was the figure that we determined was needed for the design and the engineering.

Mrs. HANSEN. Based upon your experience in similar projects?

Mr. RAMPACEK. That is right.

COAL CONVERSION TO ELECTRICITY

Mrs. HANSEN. $2.3 million is requested for coal conversion to electricity.

Insert in the record a listing by fiscal year of the amount of funds you have spent on this activity for the last 10 years.

(The information follows:)

FUNDS ALLOTED TO COAL CONVERSION TO ELECTRICITY FROM COAL RESEARCH APPROPRIATION, 1962–71

	Coal conversion to electricity	Total funding		Coal conversion to electricity	Total funding
1962	1,392,000	4,867,000	1967	1,861,000	6,358,000
1963	1,566,700	5,478,000	1968	2,532,000	7,135,000
1964	1,633,600	5,712,000	1969	1,931,000	6,963,000
1965	1,853,000	6,478,000	1970	1,858,000	6,968,000
1966	1,610,000	6,464,000	1971	2,315,000	8,468,000

MAGNETOHYDRODYNAMIC GENERATOR

Mrs. HANSEN. I notice as one of your projects of research in this connection you include development of an improved MHD generator. There is a request of $400,000 in the Office of Coal Research budget for this same purpose.

What is the correlation?

Mr. RAMPACEK. We are working on one small phase, MHD, and that is concerned with the recovery of seeding material required to make the MHD process operable. The seeding material, in our case we are using potassium carbonate is added to the hot combustion gases as they pass through the MHD unit.

The seeding material also removes the sulfur dioxide. We are studying the recovery of this material so it can be recycled economically within the system.

COAL SCIENCE AND ANALYSIS

Mrs. HANSEN. $1 million is requested for coal science and analysis. Please insert in the record the amounts expended for the last 10 fiscal years for this activity.

(The information follows:)

FUNDS ALLOTTED TO COAL SCIENCE AND ANALYSIS FROM COAL RESEARCH APPROPRIATION, 1962-71

	Coal science and analysis	Total funding		Coal science and analysis	Total funding
1962	710,600	4,867,000	1967	869,000	6,358,000
1963	799,800	5,478,000	1968	1,044,000	7,135,000
1964	834,000	5,712,000	1969	1,302,000	6,963,000
1965	945,800	6,478,000	1970	1,093,000	6,968,000
1966	829,000	6,464,000	1971	1,039,000	8,468,000

COAL BURNING AND AIR POLLUTION

Mrs. HANSEN. With the complaints on air pollution we are getting in connection with the burning of coal, it does not seem you have been very successful in eliminating the objectionable byproducts associated with coal utilization. What progress have you made?

Mr. RAMPACEK. We have a number of programs in the area of removing sulfur from coal before i t is burned and also in removing sulfur dioxide from the flue gases after combustion.

Mrs. HANSEN. What success have you had?

Mr. RAMPACEK. We have developed a method using a stationary concentrating unit to process finely ground coal to remove the pyrite.

Mrs. HANSEN. Are any industrial firms using this method?

Mr. RAMPACEK. Not currently. This development has been in the past year.

Mrs. HANSEN. Have any commercial firms come to you and asked for the details so they could utilize this method?

Mr. RAMPACEK. I do not think so because to date the information has not been published.

Mrs. HANSEN. When the information is published will it be available to commercial firms?

Mr. RAMPACEK. It certainly will.

FUEL COMBUSTION AND AUTOMOTIVE EXHAUST EMISSIONS

Mrs. HANSEN. $228,000 is requested for fuel combustion and automotive exhaust emissions. We discussed that at some length this morning. You have been working on this project for several years. What have you accomplished to date that is being utilized by industry?

Mr. RAMPACEK. Certain information developed at our Bartlesville research center with regard to the type of emissions from automobiles of different types and makes was used by the State of California in setting up some of their air pollution standards with respect to automotive emission. I think this is one of the principal fallouts of our research at Bartlesville.

Mrs. HANSEN. I noted a news item the other night which indicated that the exhaust systems of cars going into the State of California differ from those going into other States.

Would you tell me why if this is good for the State of California, is it not good for the rest of the Nation?

Mr. RAMPACEK. It is good for the rest of the Nation. It is just the fact that they have moved ahead more rapidly in establishing air pollution standards.

Mrs. HANSEN. Does this indicate to you that certain States either are under pressure not to adopt standards or does it indicate that they are less interested in pollution?

Mr. RAMPACEK. I think it is rather a matter of the number of cars that are on the road in the State of California now, and they see the problem in a much more critical light at this particular time.

Mrs. HANSEN. Would you explain why other States, even though no laws have been enacted, are not requesting the same type of vehicle that is available to California?

Mr. RAMPACEK. I cannot answer that question.

Dr. HAYES. I do not think it will be long, Madam Chairman, before more will require it.

ADDITIONAL COST TO CONSUMERS

Dr. HAYES. I think it is the matter of money and dollars added to the cost of the new car.

Mrs. HANSEN. This brings us to an important point because pollution control is going to cost a lot of money.

What would you guess, judging from your activities, it is going to cost each consumer for pollution control? Is it going to be 1 percent, 2 percent, 3 percent, or 5 percent?

Mr. THOMSON. I understand the exhaust system used on California cars cost about $40.

Mrs. HANSEN. What is $40 in proportion to the cost of a car?

Dr. HAYES. One percent.

Mrs. HANSEN. Looking at this experience, what is pollution control going to cost the consumer?

Is it going to be in the vicinity of 1 percent, 2 percent, 3 percent, or 5 percent?

Dr. HAYES. It will not be less than 1 percent, Madam Chairman, but in addition, so many of these automotive systems have catalysts in them that will have to be renewed or cleaned periodically, meaning

once a year, and that will be a higher upkeep than changing oil or mufflers.

Mrs. HANSEN. Is this typical of a wide range of other activities?

Dr. HAYES. Yes.

Mrs. HANSEN. I think it is well to make this information public because I think most people will be willing to pay 1 percent to protect their lives, their rivers, and their natural resources. I think it is well the public understand that pollution control is not free.

Dr. HAYES. That is right.

Mr. ZINNER. I do not think you can let it rest with that, Madam Chairman.

Mrs. HANSEN. Good for you.

Mr. ZINNER. The cost is going to be somewhat higher. You have to look at the whole system.

First of all, you start making some steel for this automobile, along with a lot of other commodities that go into it. Each one of these have a pollution problem. You read, I am sure, about what everybody's opinion is as they pass through the steelmaking areas at the south end of Lake Michigan. So there is an added cost there unless somebody can overcome this environmental problem by some improvement in technology.

Mrs. HANSEN. Have you been making improvements in technology?

Mr. ZINNER. I think there can be. What you are seeing, that is objectionable around the steel mill as waste, is also an economic loss in the steelmaking process.

Mrs. HANSEN. The Bureau of the Budget cut $6 million from an activity that might have given some basic answers.

COPPER SMELTER STACK EMISSIONS

Mr. ZINNER. I mentioned only one commodity. Copper goes into automobiles too, and all the copper smelters in Arizona are under considerable pressure to do something to limit their stack emissions and their objectionable effluents.

In every single commodity that goes into this car, there is going to be an added cost unless somebody can come up with whole new processes or something that gives us a whole new concept of material costs.

AUTOMOBILE EMISSIONS

Let's turn to the gasoline that goes into the car. You have dramatic instances such as the Santa Barbara episode and a few of these things which somebody is going to have to pay to avoid.

TRANS-ALASKA PIPELINE

Similarly, there are the environmental costs involved in what appears to be a simple process of bringing a pipeline down from northern Alaska. All of these things are going to add costs all along the line before you ever get to that final cost of purchasing and operating a vehicle. I would think that it is simply misleading to say this is going to be 1 percent. It is going to be substantially greater unless technology can be substantially improved along the way to offset the added costs.

We in the Bureau of Mines feel very strongly this can be accomplished, these material wastes you see now as environmental hazards should be turned to our advantage and not to our disadvantage. The values are there.

RESEARCH TECHNOLOGY TO ELIMINATE WASTE

Mrs. HANSEN. This has been partially your trust and part of your justification for your research in providing some of the technology to eliminate waste, is that correct?

Mr. ZINNER. That is correct.

Of course our budget is structured along functional or commodity lines, but there is an environmental or social aspect in every single project in there.

Mrs. HANSEN. I think you are right.

It must be spelled out plainly that there are going to be substantial pollution costs unless we provide funds for increased research. It is going to cost the taxpayer either way. Isn't that correct?

Mr. ZINNER. That is correct.

Mrs. HANSEN. It would be better and less costly in the committee's opinion to make the investment in the beginning.

Mr. ZINNER. It is going to have to be done utlimately in that way at a much higher cost. Unless somebody starts doing it quickly, we are in real trouble.

OIL SHALE RESEARCH

Mrs. HANSEN. $2.4 million is requested for oil shale research. This is another activity where you have been conducting rather extensive research and yet we have apparently not achieved any exciting results that would encourage the private oil companies to submit bids on mineral leases for the oil shale lands commensurate with the estimated value of oil to be obtained.

May we have your comments?

Mr. RAMPACEK. We are developing information on the composition and characteristics of oil shale to permit better evaluation of these shales for their potential commercial exploitation. The work that has been done to date with respect to the conventional mining and retorting operation has been well-established. We have determined many of the economic factors as they relate to mining and retorting oil shales, which information has been made available to the industry.

RIFLE, COLO. PLANT

In addition to that, the plant at Rifle, Colo., was operated by several large oil companies, and they developed information that further confirmed the feasibility of the Bureau of Mines retorting method. The companies and the Secretary are using this information, I believe, to make decisions as to when the full development of the oil shale land should be undertaken as well as the type of technology which should be used.

IN SITU RETORTING OF OIL SHALE

Dr. HAYES. Madam Chairman, we did have two very interesting developments in the past fiscal year in this area. One was the in situ retorting of oil shale near Rock Springs, Wyo.

The other was the operation of a retort near Laramie, Wyo., in which we used mine run ore containing boulders up to 4 feet in diameter. We did achieve, in rather an unsophisticated retort, 60 percent of the shale oil. We think this is tremendous. This is pointing in the direction of how you would recover oil from fractured shale in place.

Mrs. HANSEN. Are you proceeding with that process?

Dr. HAYES. Yes.

Mrs. HANSEN. Have you developed more sophisticated techniques?

PROOF OF IN SITU OIL SHALE WORK NEEDED

Dr. HAYES. I do not know whether it would be more sophisticated for that large a retort or not.

What we want to prove is how to do in situ work.

Mr. RAMPACEK. This relates to the possibility of in situ retorting of the broken oil shale in chimneys formed by a nuclear blast. The type of material we have been retorting in our 150-ton retort would be the type of material we would anticipate would occur in the chimney itself.

DISPOSITION OF OIL SHALE WASTE

Mrs. HANSEN. You have requested $370,000 for the oil shale conversion and waste disposal. If the current emphasis on polution control continues, this could present a real problem.

What are the prospects for a practical disposition of the oil shale waste?

Mr. RAMPACEK. In situ retorting, if it can be made technically economically feasible, would eliminate the problem of disposing of the retorted shale. The spent shale would remain underground and none of the surface facilities would be disturbed.

In addition to that we are looking at the disposal of the retorted shale that results from the mining and surface retorting to determine how it can be disposed of, what its packing characteristics are, whether it can support vegetation and whether there are any deleterious soluble materials in the shale that would pollute the surrounding environment.

EMPLOYEE COMPENSATION BENEFITS

Mrs. HANSEN. You have requested $88,000 increase for employees compensation benefits.

These compensation payments are required by section 209 of Public Law 86–767. How many employees do you have per year affected by this?

Mr. THOMSON. I do not have the number. The Labor Department bills the Department of Interior and the Bureau of Mines part was about $221,000.

Mrs. HANSEN. Also include in the record the average compensation payment.

(The information follows:)

The Bureau of Employee Compensation, Department of Labor, does not furnish information on the number of Bureau of Mines employees receiving compensation payments under the Federal Employees' Compensation Act. However, Bureau of Employee Compensation did report that it made a total of 501 medical and/or compensation payments in 1969 at a cost of $220,148. This is an average of $440 per payment.

IRON AND STEEL TECHNOLOGY

Mrs. HANSEN. You say: "Iron and steel technology in the United States has not been improved at the same rates that it has been in other nations. One serious result of this lag is the unnecessarily high price domestic consumers must pay for steel products."

Don't you feel that there are other factors having a more pronounced effect on steel prices than this lack of improving our technology?

Dr. HAYES. One of these costs would certainly be labor. We are competing in this day and age with excellent labor in the other hemisphere at a dollar an hour, where it is rather common to have $5-an-hour labor figures in this country. We make up for a good part of this with increased productivity.

TECHNOLOGY PROBLEMS

But our technology has to keep improving to stay even with these people.

Mrs. HANSEN. What are we doing to improve our technology?

I would think our iron and steel industries would do this of their own volition.

PIPE SIZES FOR TRANS-ALASKA PIPELINE SYSTEM

This year when we were holding supplemental hearings on TAPS, I believe the statement was made that our steel industry had no factories that could tool up for the size pipeline required.

It became immediately apparent that Japan was already tooled up for such a pipeline. Why are we lagging in this kind of technology?

Dr. HAYES. In this particular matter where you need very large diameter pipe, you notice even the Russians are placing orders clear into Western Europe for large diameter pipe. Not very many plants in the world have this capability.

JAPANESE HAVE REBUILT STEEL INDUSTRY

Mrs. HANSEN. How does it happen Japan has the technology?

Dr. HAYES. The Japanese have completely rebuilt their steel industry since World War II. They have as modern an industry as exists in the world in iron and steel.

Mr. MCDADE. You define that as technology. I do not call that technology. That sounds to me like we are just talking about the obsolescence or nonobsolescence of the plant, not technology.

Dr. HAYES. That is correct.

Mr. MCDADE. You keep using the term "we need technology." What we need is new plants, not new technology.

I do not understand your answers to the chairman's queries based upon the word "technology."

Mrs. HANSEN. Japan and West Germany are apparently tooled up in their factories.

Mr. MCDADE. They have new plants.

Mrs. HANSEN. Their readiness was not a matter of developing new technology but having the equipment and initiative available.

Do our industries want to become competitive with the West Germans and Japanese?

Dr. HAYES. Certainly.

AMERICAN INDUSTRY AND WORLD MARKETS

Mrs. HANSEN. How does it happen they are not?

There was a time when American products were famous all over the world. What comes to mind is that if our Nation loses the leadership image in development then customers start to look elsewhere in the world for what they need.

I just want to say to U. S. industry it would seem to me if we do not begin to reestablish our position in some of these commercial enterprises, we are not going to have much of a customer impact any place in the world.

Dr. HAYES. Madam Chairman, you are making a good case for the world of research and development, and without this world of knowledge we will not progress very far.

BALANCE OF PAYMENTS PROBLEMS

Mrs. HANSEN. If industry does not use all of the technology developed or does not use the concept of going after world markets, then where are we going to be?

Dr. HAYES. I think the last quarter was one of the lowest in many quarters.

Mrs. HANSEN. Will you insert in the record what presently is our balance-of-trade position.

(The information follows:)

WORLD TRADE BALANCE

The United States has a trade deficit in both mineral fuels and in nonfuel minerals.

Foreign petroleum has been cheaper to find and to produce than U.S. oil because the discovered reserves have been large and the wells capable of high production rates. Imports of foreign petroleum would be even larger were they not restricted by quota. The positive balance that the United States has in coal trade is only a fraction of the oil trade deficit. A large volume of foreign petroleum is produced by U.S. companies and the U.S. income on these foreign investments substantially offsets the petroleum trade deficits.

The deficit in nonfuel mineral trade stems from both the better grade of ore available in foreign countries and the lower cost of smelting and refining abroad. In recent years our widening nonfuel mineral trade deficit has been caused by finished metal imports from developed nations. This reflects their lower costs for plant, fuel, and labor.

U.S. IMPORTS AND EXPORTS OF MINERALS AND MINERAL PRODUCTS

[In millions of dollars]

	1964	1965	1966	1967	1968
Mineral fuels:					
Imports	1,996	2,181	2,239	2,243	2,499
Exports	911	947	978	1,104	1,056
Deficit	1,085	1,234	1,261	1,139	1,443
Nonfuel minerals:					
Imports	3,180	3,940	4,485	4,487	5,677
Exports	2,200	2,275	2,373	2,451	2,728
Deficit	980	1,665	2,112	2,036	2,949

Mrs. HANSEN. This committee sees a variety of areas in which this Nation is no longer dominant.

If we are going to just trade with ourselves, we ought to make a public announcement about it and gear everybody's economy to be able to purchase from ourselves.

Dr. HAYES. I could point out a case in point.

The Japanese buy zinc concentrates in South America. They outbid us for the concentrates, take them home and then send the metal back——

Mrs. HANSEN. And we buy it enthusiastically.

Dr. HAYES. At a price cheaper than ours.

Mrs. HANSEN. What effect is this going to have on the American people?

We find in my district that we export logs to Japan in great quantities. The Japanese housing program is progressing and ours is not.

Dr. HAYES. I feel as deeply about this as you. I came from the lead and zinc mining district of northern Idaho, and it affects these people in the way you are describing.

Mrs. HANSEN. The more that American industry decides to allow others to become the developing industrial nations, the less employment is created for Americans. Is that not correct?

Dr. HAYES. This is correct.

Mrs. HANSEN. Yet, more and more people are coming to the United States for employment.

Dr. HAYES. For the best life on earth.

Mrs. HANSEN. It will have to be a welfare life if there are no jobs available.

Dr. HAYES. That is the other part of the cycle, yes.

Mrs. HANSEN. Is it not time we looked at the other part of the cycle?

Dr. HAYES. Yes.

WELFARE FUNDING

Mrs. HANSEN. New obligation authority in the HEW budget is about $19 billion. If we were to break this down, I am sure that the welfare equivalent of the HEW bill is greater than the total Interior and related agencies bill.

Dr. HAYES. Madam Chairman, it is this we are trying to sell you and the committee.

Mrs. HANSEN. If you can sell the Bureau of the Budget as well as you have sold this committee, you would not be in your present condition.

Dr. HAYES. We try valiantly each and every year.

Mrs. HANSEN. You are not very successful.

IRON RESEARCH PROGRAM FUNDING

Please insert in the record a breakdown of the $3.189 million you are requesting for iron and ferroalloy metals, indicating the location, activity, and funding in each instance for the work to be performed.

(The information follows:)

IRON AND FERROALLOY METALS

The iron and ferroalloy research program is aimed at developing new technology that will reduce the cost of producing steel, and thus place the United States in a more favorable competitive position. The planned distribution of funds for this program follows:

IRON RESEARCH PROGRAM

Location	Projects	Funding (millions)
Albany, Oreg.	Electric furnace and physical metallurgy research	$0.540
Boulder City, Nev.	Ferroalloy metal research	.075
College Park, Md.	Ferroalloy metal, corrosion, and scrap research	.430
Minneapolis, Minn.	Iron ore beneficiation and scrap research	1.464
Rolla, Mo.	Physical metallurgy and scrap research	.310
Salt Lake City, Utah	Ferroalloy metal and scrap research	.370
Total		3.189

Mrs. HANSEN. You say we must import our entire requirements for rutile. What is its principal use and from what countries do we import?

Dr. HAYES. Rutile is used principally for making titanium base pigments and electric welding rods. It makes the finest paint we know. A small portion is used to make titanium metal.

COUNTRIES EXPORTING RUTILE

Mrs. HANSEN. From what countries do we import rutile?

Dr. HAYES. Australia is the largest supplier. We have obtained it also from Africa in the past and elsewhere. But Australia is far and away the biggest supplier.

Mrs. HANSEN. Is that because it is superior?

Dr. HAYES. It happens to have a lot of beach sand with a fair concentration of rutile. The resource is not unlimited. They do have a 10 or 12-year life expectancy. These are the best rutile sources in the world today.

Mrs. HANSEN. When this supply is depleted what will you use?

Dr. HAYES. We will probably work on lower grade beach sand. We have some of these in Florida if necessary. The world's true reserves of titanium are in ilmenite, an iron titanium oxide. We have enormous quantities of this mineral on the North American Continent, largely in Canada but also in this country.

SMOKELESS INCINERATORS

Mrs. HANSEN. You mention the smokeless incinerator you have developed which burns 50 cars every 8 hours and can be constructed at a cost of about $22,000.

How many requests have you had for information on this incinerator?

Mr. RAMPACEK. Since the report was published on that, about a month ago, we have had over a hundred requests for information regarding the incinerator and 25 of those have asked for detailed drawings and design figures.

Mrs. HANSEN. Do the requests come from various cities around the Nation?

Mr. RAMPACEK. Yes, they do.

Mrs. HANSEN. Will you insert in the record the cities that have requested information.

(The information follows:)

INFORMATION REQUESTS ON BUREAU OF MINES SMOKELESS CAR INCINERATOR

City and State	Number of requests	Those requesting drawings
Alabama:		
Anniston	1	
Birmingham	2	1
Tuscaloosa	1	1
Arizona:		
Phoenix	1	
Tucson	1	
Arkansas: Little Rock	2	1
California:		
Bishop	1	
Los Angeles	2	1
Pico Rivera	1	
Sante Fe	1	
Colorado:		
Colorado Springs	2	2
Dnever	3	1
Pueblo	2	1
Idaho: Boise	1	1
Illinois:		
Blue Island	1	1
Carbondale	1	
Chicago	3	2
Moline	1	1
Peoria	1	1
Waukegan	1	
Indiana:		
Indianapolis	1	1
Michigan City	1	
Terre Haute	1	
Iowa:		
Davenport	1	1
Des Moines	3	1
Waterloo	1	
Kentucky: Buckhorn	1	
Louisiana:		
New Orleans	2	1
Shreveport	1	1
Maryland:		
Baltimore	1	
Finksburg	1	
Hagerstown	1	1
Michigan: Warren	1	1
Minnesota: Minneapolis	1	
Missouri: Testus	1	
Montana:		
Great Falls	1	1
Helena	1	
Nevada: Reno	1	1
New Jersey:		
Deepwater	1	
Elizabeth	1	
New Brunswick	1	
North Branch	1	
New York:		
Bronx	1	
Buffalo	1	
North Tonawanda	1	
New York City	4	1
Niagara Falls	1	
West Nyack	1	
North Carolina:		
Durham	1	
Winston-Salem	1	
Ohio:		
Bedford	1	
Cincinnati	4	2
Cleveland	4	2
Dayton	1	
Defiance	1	1
Salem	1	
Youngstown	2	
Oklahoma:		
Bartlesville	1	1
Oklahoma City	1	
Pennsylvania:		
Allentown	1	
Ellwood City	1	
Coatesville	1	1
Lebanon	1	
Manheim	1	
Rhode Island:		
Providence	1	
Warwick	1	
South Carolina:		
Darlington	1	
Greenville	1	1
Tennessee:		
Chattanooga	1	
Memphis	1	
Morristown	1	
Texas:		
Freeport	1	
Houston	2	1
Jacksonville	1	
Sweeny	1	
Utah:		
Brigham City	1	
Ogden	1	
Provo	1	1
Salt Lake City	6	3
Vermont: Essex Junction	1	
Virginia:		
Alexandria	1	1
Burke	1	
Lynchburg	1	1
Richmond	1	1
Roanoke	1	
Winchester	1	1
Washington:		
Kent	1	1
Tacoma	1	1
Spokane	1	
Washington, D.C	3	
Wisconsin:		
Beloit	1	
Milwaukee	1	
Canada:		
Edmundson	1	
Toronto	1	1
St. Thomas	1	1
Shawinigan	1	
Germany: Frankfort	1	
Total	127	45

MINING IN A METHANE ENVIRONMENT

Mrs. HANSEN. You are requesting an increase of $1.3 million for research to develop the technology necessary to minimize the hazards of mining in a methane environment. Give us the details on this increase.

I may say you have also requested funds for this purpose under "Health and Safety." How does this coordinate with the activities you plan under the health and safety program?

TOTAL METHANE FUNDING

Mr. HOWARD. This money requested under conservation development, an increase of $1.3 million, will be supplemented by an increase of $2.2 million for a total methane program of $5,210,000 in 1971.

This is the second year of a very substantial expansion of the program to move it into the development and demonstration phase. The program covers the whole spectrum of conditions that are likely to be encountered in the coal that will be mined over the next 30 years, and tackles the methane problem from the perspective of trying to reduce and control the amount of methane that enters the mine during mining to a controllable amount. There are about 17 subprojects in this program. They vary all the way from basic studies of the formation of methane, its characteristics, and the way it is transmitted through the coalbeds, emitted into the mines, to demonstrations on a large scale under various mining conditions of control measures that will involve such things as premining drainage of methane through surface bore holes, isolation of large blocks of coal underground to separate the block before mining from the main gas reservoir, and leading the methane out over a substantial period of time prior to mining.

Then during mining, to bleed the methane from the coal in a manner that it can be kept separate from the mine atmosphere and lead it to the outside and, if possible, utilize that as a fuel.

EXPENSE OF PROVING TECHNIQUES

The major part of the increase is required because of the size and the expense of the demonstration that will be involved in proving the techniques, in lowering all of the costs and all of the engineering ramifications of designing these control measures to fit specific coal mining conditions.

HISTORY OF METHANE OPERATIONS

Mrs. HANSEN. How much information do you now have on your methane control?

Mr. HOWARD. This program is about 6 years old now and has been operated at a fairly low level, about $300,000 a year until this fiscal year, and its purpose until we reached this expanded stage was to determine the basics of methane formation and movement in coalbeds—the structural features that control the emissivity, the transmissivity of methane in coalbeds—to establish a base of fundamental knowledge upon which we could mount this present applied research, development, testing, and evaluation program. We do not have all the answers yet.

We expect to have them at the end of 5 years at this accelerated rate, when we expect to be able to design a mining system or be able to design into the mining system measures that will reduce in advance the amount of methane that the operation has to contend with and to control what remains in such a way that it does not develop into an explosive situation during mining.

We are now in a position to do much better with respect to the methane problem than we could 5 years ago, starting from the exploration phase of a mining operation, taking measurements and coal samples determining the amount of methane the coalbed contains, the kind of fractures that the coal contains, the geological structures in which the bed occurs.

We are able now to do a much better job of desiging the mining operation that will be much less hazardous from a methane standpoint than what was previously possible.

MANNINGTON, W. VA., MINE DISASTER

Mrs. HANSEN. I am intrigued by one sentence on page 36, "We started this program immediately after the Mannington disaster."

Mr. WHEELER. We started a lot of things immediately after that.

Mrs. HANSEN. I think this is an indictment of your bureau.

Dr. HAYES. We were working on this problem in coal research before this. This is an accelerated program.

Mrs. HANSEN. It should have been accelerated before the disaster.

Dr. HAYES. That is right.

IMPROVED EXTRACTION SYSTEMS

Mrs. HANSEN. $2.8 million is requested for improved extraction systems.

PROJECT BADGER WORK

Would any of the work performed with these funds be similar to "Project Badger," for which you requested funds several years ago?

Mr. HOWARD. Some of the kind of work, yes, would be of the type that we requested funds for in Project Badger 2 years ago. Underground excavation to a large extent is underground excavation, no matter what the excavation is made for.

However, the end application, because of the difference in, say, economics of underground construction and underground mining, there are certain features, certain areas of research that would not be included in a rapid excavation program, that would have to be included in a mining program and vice versa.

As an example, one of the critical factors in designing any kind of a mining operation is knowledge in advance of the distribution and the amount of mineral in the rock mass that you are going to mine; the grade and so forth. This program does include a substantial element of research related to the modeling of mineral deposits as distinguished from——

SOPHISTICATED GROUND TRANSPORTATION SYSTEMS

Mrs. HANSEN. Isn't it true that knowledge of this kind is going to have to be available when we get into more sophisticated ground transportation systems?

Mr. HOWARD. That is right, knowledge of the ground behavior.

Mrs. HANSEN. There will come a day when we can no longer afford the luxury of a one-car freeway system in the United States. We are going to have to utilize rapid transit systems.

What you develop here could be very useful in the transportation area.

PROJECT BADGER RESEARCH

Mr. HOWARD. That is right, and that is one of the reasons we proposed Badger when we did in order that the research would be focused in one place so there would be not so much danger of duplication of effort, because many of the elements and much of the technology of an excavation system are the same no matter whether you drive a tunnel for the purpose of subway, railroad tunnel, a sewer or a mine.

MARINE MINERAL MINING

Mrs. HANSEN. $925,000 is requested for marine mineral mining. Last year you were not too optimistic about this activity. How did it survive the severe budget squeeze this year?

Mr. RAMPACEK. Last year we requested $878,000. I believe the House cut that figure to $600,000, Subsequently the funds were restored in conference. As a result of that, we lost some people during the period the final figures were being agreed upon. But, we did revise our research program too. We have now what we think is a very viable marine mining technology program.

MARINE MINERAL MINING ACCOMPLISHMENTS

Mrs. HANSEN. Will you please insert in the record some of your outstanding accomplishments in this area.

(The information follows:)

ACCOMPLISHMENTS IN MARINE MINING

As a result of earlier efforts to develop adequate marine mineral sampling systems, important basic operational problems were defined. This led to the decision at the end of 1968 to concentrate for the immediate future on short-based research to solve these problems.

Since then, important progress has been made. Significant results have been achieved in improving components of a high-resolution acoustic profiling system for characterizing marine mineral deposits. Field tests showed greatly improved resolution and better penetration than with conventional sources. A system has been designed for feeding data obtained from radio position-fixing into a calculator. This allows automatic plotting of longitudes and latitudes, and constitutes a significant improvement over the standard manual conversion techniques. Significant progress has also been made in developing various components of a drilling system that would allow proper function and adequate sample recovery in the ocean environment.

Perhaps more importantly is the increased emphasis which the marine minerals research program has placed on the environmental aspect of marine mining in an effort to assure that the type of pollution and degradation which has occurred on land will not be repeated in the much more complex marine environment. This is not an easy task that can be accomplished on any short-term basis, but an important beginning has been made.

A cooperative project with the Bureau of Sport Fisheries and Wildlife has been implemented. Close coordination is being maintained with the Coastal Engineering Research Center of the Corps of Engineers, which has initiated a program to study environmental problems related to dredging and beach nourishment operations. The Bureau believes that the most effective and least costly way of preventing environmental damage is to develop the type of technology that would enable the industry to develop mining systems compatible with the marine environment and other marine resources.

BITUMINOUS COAL

Mrs. HANSEN. You say a new coal export expansion program will be developed for bituminous coal. Please give us the details.

Mr. LAMB. The domestic supply of high-quality coal is becoming more and more important to the metallurgical and utility industries in the United States and exports of coal make up a substantial part of our total exports, to Europe primarily.

COAL EXPORT FIGURES

Mrs. HANSEN. Will you please insert in the record the export figure for the last 5 years.

Mr. LAMB. Yes, madam.

(The information follows:)

U.S. exports of bituminous coal

	Short tons (thousands)
1965	50, 181
1966	49, 302
1967	49, 528
1968	50, 637
1969	56, 246

Mr. LAMB. The program we are speaking of here is one that the Department of Interior is trying to develop to increase the coal export capability of the United States and is really a study being made now which will be expanded next year.

LEADING OVERSEAS CONSUMERS OF COAL

Mrs. HANSEN. Which is the leading overseas consumer of coal?

Mr. LAMB. I believe it is West Germany.

Mrs. HANSEN. Who are the overseas consumers?

Mr. LAMB. France and England and Western Europe in general. Italy.

Mrs. HANSEN. How about Japan?

Mr. LAMB. There is a substantial part that goes to Japan too.

Mrs. HANSEN. Does Japan buy her coal from the east or west coast?

JAPANESE USING WEST VIRGINIA COAL

Mr. LAMB. On the east coast primarily, from the West Virginia mines because it is the kind of coking coal they are after.

USE OF METALLURGICAL COAL FOR GENERATION OF POWER

Dr. HAYES. Madam Chairman, I think I would like to put in one remark here. I am a metallurgist, and the metallurgical world views with great alarm this use of metallurgical coal both here and around the world for just plain energy generation purposes.

The truly good metallurgical-grade coals of the world are limited and yet we are being forced into the situation where we are consuming some of these and exporting some for straight energy generation purposes.

Mrs. HANSEN. Could a lower grade coal serve the same purpose if there were some protection from pollution?

Dr. HAYES. It is a stopgap measure to meet the sulfur dioxide standards that have been set up. This is a waste of the country's valuable resources to be using it for this.

RATE OF COAL DEPLETION

Mrs. HANSEN. At what rate are we depleting that particular grade of coal?

Dr. HAYES. Last week two civilians were in my office trying to buy 10,000 tons of coke or roughly twice that of coal a month for the next 2 years to help them through a difficult time. There is just none available.

NATIONAL POLICY ON MINERAL USAGE

Mr. MCDADE. Dr. Hayes, does not the same general problem apply to every metal or mineral in existence? We do not have a national policy with respect to the optimum usage of each of our resources, do we?

Dr. HAYES. No.

Mr. MCDADE. Have we ever made an effort to develop such a national policy?

Dr. HAYES. Not in those words, Congressman McDade.

We did have a Paley Commission some 16 or 18 years ago to look at the mineral resources and what we thought we would be using at this time. I think the figures were all low.

Mr. ZINNER. They always are.

Mrs. HANSEN. Has the optimum usage of our resources ever been examined?

Dr. HAYES. Not on a very broad front.

MINERAL RESERVE STATISTICS

Mrs. HANSEN. Do you know our metal and petroleum reserves in the United States today?

Dr. HAYES. No.

Madam Chairman, I would like to have this made a part of the record. This is the U.S. primary mineral supply and demand relationships for most of the minerals and metals we deal with and our estimates of what they might be in the year 2000.

Mrs. HANSEN. Very good.

(The information follows:)

U.S. PRIMARY MINERAL SUPPLY-DEMAND RELATIONSHIPS

The two tabulations compare the U.S. primary mineral supply-demand relationships that existed in 1968 with those that are anticipated for 2000.

Specifically, the tabulations show the quantity and value of primary minerals that would have to be derived from domestic sources in 2000, if (1) the present (1968) production to demand ratio is maintained, (2) if production trends of the past 20 years prevail, and (3) if production trends of the past 5 years prevail. Differences between the constant ratio projections and those based on historical production trends indicate potential changes in the percentage of the U.S. demand for minerals that may be met from domestic sources.

In 1968, the U.S. demand for primary minerals totaled approximately $33.2 billion. On the basis of 1968 constant dollars, the demand is expected to increase over 4 times to about $140.6 billion in 2000.

It is apparent from the tabulations that, by 2000, domestic production will supply substantially less of the demand for primary minerals than it does at present. For example, to maintain the present production to demand ratio in 2000 a domestic primary mineral production of $104.9 billion would be required. However, based on historical production trends of the past 20 years and 5 years, deficits of $50.6 billion and $31.2 billion, respectively, are indicated for 2000.

BUREAU OF MINES

Comparison of Prevailing U.S. Primary Mineral Supply-Demand Ratios with Projected Historical Trends in Domestic Mineral Production

Commodity	Units	1968			2000				Departure From Constant Ratio	
		A U.S. Primary Production	B U.S. Primary Demand	Constant Ratio A/B	C Projected U.S. Primary Demand	D U.S. Primary Production if Prevailing Constant Ratio is Maintained	E U.S. Primary Production Derived From Historical Trends		F (Difference Between D & E)	
							Past 20-yr trend	Past 5-yr trend	(D) Compared to 20-yr trend	(D) Compared to 5-yr trend
Aluminum	Thousand S.T.	418	3,888	0.108	27,700	3,000	300	700	- 2,700	- 2,300
Antimony	S.T.	1,875	21,093	.089	40,000	3,550	0	5,000	- 3,550	1,450
Arsenic	S.T.	2,900	23,900	.121	41,300	5,000	1,100	0	- 3,900	- 5,000
Barium	Thousand S.T.	525	772	.680	1,205	820	510	1,115	- 310	295
Beryllium	S.T.	7	328	.021	1,495	32	0	58	- 32	26
Bismuth	Thousand lb	700	2,298	.304	3,710	1,130	20	1,620	- 1,110	490
Boron	Thousand S.T.	169	87	1.941	313	605	329	512	- 276	- 93
Bromine	Million lb	305	297	1.027	860	885	567	790	- 318	- 95
Cadmium	Thousand lb	3,780	13,328	.284	30,000	8,550	4,000	0	- 4,550	- 8,550
Calcium	Million S.T.	96	95	1.007	306	308	207	152	- 101	- 156
Cesium	lb	0	6,000	0	23,900	0	0	0	0	0
Chlorine	Thousand S.T.	8,428	8,434	.999	35,127	35,100	17,480	27,990	-17,620	- 7,110
Chromium	Thousand S.T.	0	454	0	1,072	0	0	0	0	0
Cobalt	Thousand lb	1,209	14,151	.085	24,590	2,100	1,100	1,700	- 1,000	- 400
Columbium	Thousand lb	0	4,307	0	19,150	0	0	0	0	0
Copper	Thousand S.T.	1,205	1,540	.782	6,380	4,990	2,000	0	- 2,990	- 4,990
Fluorine	Thousand S.T.	118	646	.183	2,400	439	45	336	- 394	- 103
Gallium	Kg	200	300	.667	690	460	540	390	80	- 70
Germanium	Thousand lb	21	25	.840	49	41	19	32	- 22	- 9
Gold	Thousand T.oz	1,500	6,600	.227	24,500	5,600	500	2,000	- 5,100	- 3,600
Hafnium	S.T.	0	18	0	50	0	0	0	0	0
Indium	Thousand T.oz	230	550	.418	900	376	392	380	16	4
Iodine	Thousand lb	300	4,451	.067	16,000	1,050	400	0	- 650	- 1,050
Iron	Million S.T.	56	84	.667	153	102	43	62	- 59	- 40
Lead	Thousand S.T.	359	898	.400	2,050	820	78	834	- 742	14
Lithium	S.T.	2,900	2,640	1.098	10,900	12,000	5,100	13,800	- 6,900	1,800
Magnesium-Metal	Thousand S.T.	98	91	1.077	395	425	156	271	- 269	- 154
Magnesium-Nonmetal	Thousand S.T.	1,040	1,083	.960	1,850	1,775	1,990	0	215	- 1,775
Manganese	Thousand S.T.	48	1,150	.042	2,083	87	0	0	- 87	- 87
Mercury	Thousand Fl	29	62	.467	128	60	55	136	- 5	76
Molybdenum	Million lb	94	56	1.676	179	299	177	316	- 122	17
Nickel	Million lb	30	319	.095	933	89	88	60	- 1	- 29
Nitrogen-Compounds	Thousand S.T.	10,108	9,960	1.015	39,700	40,300	22,800	40,600	-17,500	300
Nitrogen-Gas&Liquid	Thousand S.T.	4,531	4,531	1.000	22,500	22,500	10,700	22,900	-11,800	400
Palladium	Thousand T.oz	5	525	.010	980	10	6	0	- 4	- 10
Phosphorus	Thousand S.T.	5,605	3,475	1.613	12,175	19,600	10,900	23,500	- 8,700	3,900
Platinum	Thousand T.oz	5	464	.011	1,445	16	9	0	- 7	- 16
Potassium	Thousand S.T.	2,259	3,551	.636	12,000	7,635	5,490	2,010	- 2,145	- 5,625
Radium	Mg	0	0	0	0	0	0	0	0	0
Rare Earths	S.T.	11,400	6,800	1.676	17,800	29,800	27,000	103,000	- 2,800	73,200

BUREAU OF MINES

Comparison of Prevailing U.S. Primary Mineral Supply-Demand Ratios with Projected Historical Trends in Domestic Mineral Production

Commodity	Units	1968			2000				Departure From Constant Ratio	
		A	B	Constant Ratio	C	D	E		F	
		U.S. Primary Production	U.S. Primary Demand	$\frac{A}{B}$	Projected U.S. Primary Demand	U.S. Primary Production if Prevailing Constant Ratio is Maintained	U.S. Primary Production Derived From Historical Trends		(Difference Between D & E)	
							Past 20-yr trend	Past 5-yr trend	(D) Compared to 20-yr trend	(D) Compared to 5-yr trend
Rhenium	lb	2,400	775	3.097	3,688	10,950	3,828	6,360	- 7,122	- 4,590
Rhodium	Thousand T.oz	(36)	33	.001	88	(88)	4	0	4	- (88)
Rubidium	lb	0	3,000	0	8,500	0	0	0	0	0
Scandium	Thousand g	11	11	1.000	20	20	0	128	- 20	108
Selenium	Thousand lb	633	1,070	.592	1,615	955	960	0	5	+ 955
Silicon	Thousand S.T.	503	517	.973	1,223	1,190	788	1,470	- 402	280
Silver	Million T.oz.	33	90	.363	210	76	29	0	- 47	- 76
Sodium	Thousand S.T.	17,617	16,609	1.061	59,260	62,870	32,420	50,510	-30,450	-12,360
Strontium	S.T.	0	6,500	0	17,100	0	0	0	0	0
Sulfur	Thousand L.T.	9,817	9,085	1.081	30,000	32,400	13,600	30,300	-18,800	- 2,100
Tantalum	Thousand lb	0	1,040	0	4,250	0	0	0	0	0
Tellurium	Thousand lb	121	221	.548	363	199	290	0	91	- 199
Thallium	lb	2,600	6,500	.400	7,750	3,100	1,926	89	- 1,174	- 3,011
Thorium	S.T.	110	110	1.000	1,370	1,370	0	822	- 1,370	- 548
Tin	Thousand L.T.	(41)	59	.001	85	(52)	0	0	- 52	- 52
Titanium-Metal	Thousand S.T.	0	13	0	148	0	0	0	0	0
Titanium-Nonmetal	Thousand S.T.	305	441	.692	1,560	1,080	650	740	- 430	- 340
Tungsten	Thousand lb	9,817	15,750	.623	74,000	46,100	13,800	39,800	-32,300	- 6,300
Vanadium	S.T.	6,149	5,770	1.066	31,500	33,600	14,700	12,600	-18,900	-21,000
Yttrium	S.T.	5	30	.167	122	20	28	1	8	- 19
Zinc	Thousand S.T.	529	1,406	.376	3,045	1,145	389	23	- 756	- 1,122
Zirconium-Metal	S.T.	0	4,500	0	26,250	0	0	0	0	0
Zirconium-Nonmetal	Thousand S.T.	35	64	.551	165	91	107	89	16	- 2
Asbestos	Thousand S.T.	121	817	.148	1,574	232	241	266	9	34
Clays	Million S.T.	57	56	1.025	170	174	85	74	- 89	- 100
Corundum	S.T.	0	2,600	0	3,450	0	0	0	0	0
Diamond-Bort&Synthetic	Thousand Carats	11,000	12,150	.905	60,555	54,800	30,000	68,000	-24,800	13,200
Diamond-Industtial	Thousand Carats	0	2,600	0	12,855	0	0	0	0	0
Diatomite	Thousand S.T.	627	474	1.323	1,900	2,514	1,399	1,088	- 1,175	- 1,426
Emery	S.T.	10,000	10,700	.935	48,300	45,200	10,100	13,100	-35,100	-32,100
Feldspar	Thousand L.T.	668	658	1.015	2,660	2,700	825	1,143	- 1,875	- 1,557
Garnet	Thousand S.T.	22	19	1.157	96	110	38	64	- 72	- 46
Graphite	Thousand S.T.	3	60	.050	107	5	0	3	- 5	- 2
Gypsum	Thousand S.T.	10,018	15,628	.641	40,000	25,600	10,000	3,300	-15,600	-22,300

BUREAU OF MINES

Comparison of Prevailing U.S. Primary Mineral Supply-Demand Ratios with Projected Historical Trends in Domestic Mineral Production

Commodity	Units	1968			2000				Departure From Constant Ratio	
		A U.S. Primary Production	B U.S. Primary Demand	Constant Ratio A/B	C Projected U.S. Primary Demand	D U.S. Primary Production if Prevailing Constant Ratio is Maintained	E U.S. Primary Production Derived From Historical Trends		F (Difference Between D & E)	
							Past 20-yr trend	Past 5-yr trend	(D) Compared to 20-yr trend	(D) Compared to 5-yr trend
Kyanite	Thousand S.T.	139	120	1.158	630	725	290	215	- 435	- 510
Mica-Scrap&Flake	Thousand S.T.	125	121	1.033	414	428	240	183	- 188	- 245
Mica-Sheet	Thousand lb	15	6,414	.002	1,180	2	0	0	- 2	- 2
Perlite	Thousand S.T.	428	413	1.036	1,290	1,335	960	999	- 375	- 336
Pumice	Thousand S.T.	3,530	3,841	.919	15,600	14,300	8,500	8,700	- 5,800	- 5,600
Sand & Gravel	Million S.T.	918	916	1.002	3,572	3,579	1,908	1,250	- 1,671	- 2,329
Stone-Crushed	Million S.T.	816	816	1.000	3,243	3,243	1,907	1,435	- 1,336	- 1,808
Stone-Dimension	Million S.T.	3	3	1.000	5	5	4	1	- 1	- 4
Talc	Thousand S.T.	958	886	1.081	2,824	3,055	1,570	1,500	- 1,485	- 1,555
Vermiculite	Thousand S.T.	290	280	1.036	790	820	398	712	- 422	- 108
Anthracite	Thousand S.T.	11,461	10,160	1.128	2,300	2,600	0	0	- 2,600	- 2,600
Bituminous Coal&Lignite	Million S.T.	545	499	1.092	1,957	2,137	569	1,060	- 1,568	- 1,077
Natural Gas	Billion C.F.	18,684	18,957	.986	45,250	44,600	40,100	50,700	- 4,500	6,100
Peat	Thousand S.T.	619	907	.682	1,800	1,228	1,664	383	436	- 845
Petroleum	Million bbl	3,879	4,900	.792	11,900	9,400	6,040	10,320	- 3,360	920
Shale Oil	Million bbl	(100)	(100)	1.000	1,000	1,000	0	0	- 1,000	- 1,000
Uranium	S.T.	10,463	2,700	3.875	64,000	49,550	35,600	9,700	-13,950	-39,850
Argon	Thousand S.T.	115	115	1.000	560	560	256	607	- 304	47
Helium	Million C.F.	867	842	1.030	2,500	2,575	2,500	2,200	- 75	- 375
Hydrogen	Billion C.F.	2,060	2,060	1.000	34,015	34,015	4,400	11,500	-29,615	-22,515
Oxygen	Thousand S.T.	11,568	11,56[illegible]	1.000	56,800	56,800	29,700	38,300	-27,100	-18,500

BUREAU OF MINES

Comparison of Value of U.S. Primary Mineral Production and Demand in 1968 with Projected Value in 2000

Commodity	Price Units	Average Unit Price-1968 Dollars		Value-Million 1968 Dollars							
				Primary	Demand	Primary Production				Departure from 1968 Constant Ratio	
		1968	2000	1968	2000	1968	2000			Difference A & B	Difference A & C
							A If 1968 Constant Ratio Prevails	B If Past 20-Year Trends Prevail	C If Past 5-Year Trends Prevail		
Aluminum	lb	0.255	0.40	1,982.9	22,160.0	213.2	2,400.0	2,40.0	560.0	- 2,160.0	- 1,840.0
Antimony	lb	.4575	.60	19.3	48.0	1.2	4.3	0	6.0	- 4.3	1.7
Arsenic	S.T.	160.00	170.00	3.8	7.1	5	.9	.2	0	- .7	- .9
Barium	S.T.	26.40	30.00	20.4	36.2	13.9	24.6	15.3	33.5	- 9.3	8.9
Beryllium	lb	62.00	50.00	40.7	149.5	.9	3.2	0	5.8	- 3.2	2.6
Bismuth	lb	4.00	5.00	9.2	18.6	2.8	5.7	.1	8.1	- 5.6	2.4
Boron	S.T.	472.70	500.00	41.1	156.5	79.8	302.3	164.5	256.0	- 137.8	- 46.3
Bromine	lb	.285	.285	84.5	245.1	86.8	252.2	161.6	225.2	- 90.6	- 27.0
Cadmium	lb	2.65	3.50	35.2	105.0	10.0	29.9	14.0	0	- 15.9	- 29.9
Calcium	S.T.	3.84	3.84	364.4	1,174.5	367.0	1,182.7	791.3	583.7	- 391.4	- 599.0
Cesium	lb	.60	.60	.004	.01	0	0	0	0	0	0
Chlorine	S.T.	72.00	72.00	607.2	2,529.1	606.8	2,527.2	1,258.6	2,015.3	- 1,268.6	- 511.9
Chromium	S.T.	53.10	64.00	24.1	68.6	0	0	0	0	0	0
Cobalt	lb	1.85	1.85	26.2	45.5	2.2	3.9	2.0	3.1	- 1.9	- .8
Columbium	lb	1.36	1.40	5.9	26.8	0	0	0	0	0	0
Copper	lb	.422	.75	1,299.8	9,570.0	1,017.0	7,485.0	3,000.0	0	- 4,485.0	- 7,485.0
Fluorine	S.T.	100.00	133.00	64.6	319.2	11.8	58.3	6.0	44.7	- 52.3	- 13.6
Gallium	g	1.20	1.20	.4	.8	.2	.6	.6	.5	0	- 0.1
Germanium	lb	79.65	120.00	2.0	5.9	1.7	5.0	2.3	3.8	- 2.7	- 1.2
Gold	T.oz	39.26	50.00	259.1	1,225.0	58.9	280.0	25.0	100.0	- 255.0	- 180.0
Hafnium	lb	75.00	75.00	2.7	7.5	0	0	0	0	0	0
Indium	T.oz	2.65	3.00	1.5	2.7	.6	1.1	1.2	1.1	0.1	0
Iodine	lb	1.18	1.50	5.3	24.0	.4	1.6	.6	0	- 1.0	- 1.6
Iron	S.T.	15.40	17.75	1,293.6	2,715.8	862.4	1,810.5	763.3	1,100.5	- 1,047.2	- 710.0
Lead	lb	.135	.115	242.5	471.5	96.9	188.6	17.9	191.8	- 170.7	3.2
Lithium	lb	.92	1.00	4.9	21.8	5.3	24.0	10.2	27.6	- 13.8	3.6
Magnesium-Metal	lb	.35	.30	63.7	237.0	68.6	255.0	93.6	162.6	- 161.4	- 92.4
Magnesium-Nonmetal	S.T.	74.00	75.00	80.1	138.8	77.0	133.1	149.3	0	16.2	- 133.1
Manganese	S.T.	55.36	53.48	63.7	111.4	2.7	4.7	0	0	- 4.7	- 4.7
Mercury	Flask	535.56	630.00	33.1	80.3	15.5	37.8	34.7	85.7	- 3.1	47.9
Molybdenum	lb	1.62	1.60	90.4	286.4	151.5	478.4	283.2	505.6	- 195.2	27.2
Nickel	lb	.94	1.15	299.9	1,072.4	28.5	101.9	100.7	68.9	- 1.2	- 33.0
Nitrogen-Compounds	S.T.	60.00	50.00	597.6	1,985.0	606.5	2,015.0	1,140.0	2,030.0	- 875.0	15.0
Nitrogen-Gas & Liquid	S.T.	23.00	19.00	104.2	427.5	104.2	427.5	203.3	435.1	- 224.2	7.6
Palladium	T.oz	44.00	100.00	23.1	98.0	.2	1.0	.6	0	- .4	- 1.0
Phosphorus	S.T.	45.00	51.00	156.4	620.9	252.2	999.6	555.9	1,198.5	- 443.7	198.9
Platinum	T.oz	120.00	175.00	55.7	252.9	.6	2.8	1.6	0	- 1.2	- 2.8
Potassium	S.T.	33.50	48.00	119.0	576.0	75.7	366.5	263.5	96.5	- 103.0	- 270.0
Radium	mg	26.00	26.00	0	0	0	0	0	0	0	0
Rare Earths	lb	1.50	2.00	20.4	71.2	34.2	119.2	108.0	412.0	- 11.2	292.8
Rhenium	lb	580.00	500.00	.4	1.8	1.4	5.5	1.9	3.2	- 3.6	- 2.3
Rhodium	T.oz	245.00	300.00	8.1	26.4	.01	.03	1.2	0	1.17	- .03

BUREAU OF MINES

Comparison of Value of U.S. Primary Mineral Production and Demand in 1968 with Projected Value in 2000

Commodity	Price Units	Average Unit Price-1968 Dollars		Value-Million 1968 Dollars						Departure from 1968 Constant Ratio	
				Primary	Demand	Primary Production					
		1968	2000	1968	2000	1968	2000			Difference A & B	Difference A & C
							A If 1968 Constant Ratio Prevails	B If Past 20-Year Trends Prevail	C If Past 5-Year Trends Prevail		
Rubidium	lb	.45	.80	.001	.007	0	0	0	0	0	0
Scandium	g	4.30	4.30	.05	.09	.05	.09	0	.55	- .09	.46
Selenium	lb	5.10	5.10	5.5	8.2	3.2	4.9	4.9	0	0	- 4.9
Silicon	S.T.	287.00	300.00	148.4	366.9	144.4	357.0	236.4	441.0	- 120.6	84.0
Silver	T.oz	2.14	2.50	192.6	525.0	70.0	190.0	72.5	0	- 117.5	- 190.0
Sodium	S.T.	18.57	18.57	308.4	1,100.5	327.1	1,167.5	602.0	938.0	- 565.5	- 229.5
Strontium	S.T.	49.00	80.00	.3	1.4	0	0	0	0	0	0
Sulfur	L.T.	42.00	39.00	381.6	1,170.0	412.3	1,263.6	530.4	1,181.7	- 733.2	- 81.9
Tantalum	lb	11.00	12.50	11.4	53.1	0	0	0	0	0	0
Tellurium	lb	6.00	6.00	1.3	2.2	.7	1.2	1.7	0	0.5	- 1.2
Thallium	lb	7.50	7.50	.05	.06	.02	.02	.01	0	- 0.01	- .02
Thorium	lb	6.82	3.40	1.5	9.3	1.5	9.3	0	5.6	- 9.3	- 3.7
Tin	lb	1.481	1.90	195.4	361.8	.1	.2	0	0	- .2	- .2
Titanium-Metal	lb	1.32	1.32	34.3	390.7	0	0	0	0	0	0
Titanium-Nonmetal	S.T.	860.00	1,060.00	379.3	1,653.6	262.3	1,144.8	689.0	784.4	- 455.8	- 360.4
Tungsten	lb	2.71	3.91	42.7	289.3	26.6	180.3	54.0	155.6	- 126.3	- 24.7
Vanadium	lb	1.70	2.70	19.6	170.1	20.9	181.4	79.4	68.0	- 102.0	- 113.4
Yttrium	lb	56.00	56.00	3.4	13.7	0.6	2.2	3.1	0.1	0.9	- 2.1
Zinc	lb	.135	.27	379.6	1,644.3	142.8	618.3	210.1	12.4	- 408.2	- 605.9
Zirconium-Metal	lb	3.00	2.00	27.0	105.0	0	0	0	0	0	0
Zirconium-Nonmetal	S.T.	113.00	113.00	7.2	18.6	4.0	10.3	12.1	10.1	1.8	- .2
Total				10,296.7	55,004.6	6,276.2	26,670.7	11,907.8	13,762.2	-14,762.9	-12,908.5
Asbestos	S.T.	86.22	100.00	70.4	157.4	10.4	23.2	24.1	26.6	0.9	3.4
Clays	S.T.	4.30	6.50	240.0	1,105.0	246.1	1,133.0	552.5	481.0	- 580.5	- 652.0
Corundum	S.T.	80.00	80.00	.2	.3	0	0	0	0	0	0
Diamond-Bort&Synthetic	Carat	2.20	2.00	26.7	121.1	24.2	109.6	60.0	136.0	- 49.6	26.4
Diamond-Industrial	Carat	6.80	7.50	17.7	96.4	0	0	0	0	0	0
Diatomite	S.T.	58.00	58.00	27.5	110.2	36.4	145.8	77.7	63.1	- 68.1	- 82.7
Emery	S.T.	20.00	20.00	.2	1.0	.2	.9	.2	.3	- .7	- .6
Feldspar	L.T.	12.40	12.40	8.2	33.0	8.3	33.5	10.2	14.2	- 23.3	- 19.3
Garnet	S.T.	105.00	100.00	2.0	9.6	2.3	11.0	3.8	6.4	- 7.2	- 4.6
Graphite	S.T.	50.00	65.00	3.0	7.0	.2	.3	0	.2	- .3	- .1
Gypsum	S.T.	3.67	3.70	57.4	148.0	36.8	94.7	37.0	12.2	- 57.7	- 82.5
Kyanite	S.T.	77.00	77.50	9.4	48.8	10.7	56.2	22.5	16.7	- 33.7	- 39.5
Mica-Scrap&Flake	S.T.	25.00	30.00	3.0	12.4	3.1	12.8	7.2	5.5	- 5.6	- 7.3
Mica-Sheet	lb	.71	.82	4.6	1.0	.01	.002	0	0	- .002	- .002
Perlite	S.T.	9.87	10.00	4.1	12.9	4.2	13.4	9.6	10.0	- 3.8	- 3.4
Pumice	S.T.	1.58	1.60	6.1	25.0	5.6	22.9	13.6	13.9	- 9.3	- 9.0
Sand&Gravel	S.T.	1.11	1.25	1,016.8	4,465.0	1,019.0	4,473.8	2,385.0	1,562.5	- 2,088.8	- 2,911.3
Stone-Crushed	S.T.	1.49	1.50	1,215.8	4,864.5	1,215.8	4,864.5	2,860.5	2,152.5	- 2,004.0	- 2,712.0
Stone-Dimension	S.T.	39.21	42.50	98.0	204.0	98.0	204.0	148.8	42.5	- 55.2	- 161.5

BUREAU OF MINES

Comparison of Value of U.S. Primary Mineral Production and Demand in 1968 with Projected Value in 2000

Commodity	Price Units	Average Unit Price-1968 Dollars		Value-Million 1968 Dollars							
				Primary	Demand	Primary Production				Departure from 1968 Constant Ratio	
		1968	2000	1968	2000	1968	2000			Difference A & B	Difference A & C
							A If 1968 Constant Ratio Prevails	B If Past 20-Year Trends Prevail	C If Past 5-Year Trends Prevail		
Talc	S.T.	7.00	7.00	6.2	19.8	6.7	21.4	11.0	10.5	- 10.4	- 10.9
Vermiculite	S.T.	19.60	22.00	5.5	17.4	5.7	18.0	8.8	15.7	- 9.2	- 2.3
Total				2,822.8	11,459.8	2,733.7	11,239.0	6,232.5	4,569.8	- 5,006.5	- 6,669.2
Anthracite	S.T.	8.48	12.40	86.2	28.5	97.2	32.2	0	0	- 32.2	- 32.2
Bituminous Coal&Lignite	S.T.	4.67	4.67	2,330.3	9,139.2	2,545.2	9,979.8	2,657.2	4,950.2	- 7,322.6	- 5,029.6
Natural Gas	Mcf	.164	.319	3,108.9	14,400.0	3,064.2	14,200.0	12,800.0	16,200.0	- 1,400.0	2,000.0
Peat	S.T.	11.68	11.68	10.6	21.0	7.2	14.3	19.4	4.5	5.1	- 9.8
Petroleum	bbl	2.81	2.90	13,770.0	34,510.0	10,900.0	27,260.0	17,516.0	29,928.0	- 9,744.0	2,668.0
Shale Oil	bbl	3.00	3.00	0	3,000.0	0	3,000.0	0	0	- 3,000.0	- 3,000.0
Uranium	lb	9.43	20.00	50.9	2,560.0	197.3	1,982.0	1,424.0	388.0	- 558.0	- 1,594.0
Total				19,356.9	63,658.7	16,811.1	56,468.3	34,416.6	51,470.7	-22,051.7	- 4,997.6
Argon	S.T.	234.00	200.00	26.9	112.0	26.9	112.0	51.2	121.4	- 60.8	9.4
Helium	Mcf	30.00	60.00	25.3	150.0	26.0	154.5	150.0	132.0	- 4.5	- 22.5
Hydrogen	Mcf	.25	.285	515.0	9,694.3	515.0	9,694.3	1,254.0	3,277.5	- 8,440.3	- 6,416.8
Oxygen	S.T.	12.00	10.00	138.8	568.0	138.8	568.0	297.0	383.0	- 271.0	- 185.0
Total				706.0	10,524.3	706.7	10,528.8	1,752.2	3,913.9	- 8,776.6	- 6,614.9
Grand Total				33,182.4	140,647.4	26,527.7	104,906.8	54,309.1	73,716.6	-50,597.7	-31,190.2

DEPLETION OF OTHER RESOURCES

Mrs. HANSEN. We are not only depleting our mineral resources at a substantial pace, but we are also depleting our timber supply at a substantial pace.

Trees are replaceable, but minerals are not. It would seem to me, Dr. Hayes, that it is high time that the Department of Interior sat down and began to evaluate the national policy on the optimum use of mineral resources of our country.

NATIONAL MINERAL POLICY BILL

Dr. HAYES. I think Mr. Zinner should put a paragraph in the record here.

Secretary Dole had hearings last year on a national minerals policy which I believe passed the Senate.

Mr. ZINNER. It is in a committee now, S. 719, the mineral policy bill.

Mrs. HANSEN. Please insert the information in the record.

(The information follows:)

[S. 719, 91st Cong., first sess.]

AN ACT To establish a national mining and minerals policy

Be it enacted by the Senate and House of Representatives of the United States of American in Congress assembled, That this Act may be cited as the "Mining and Minerals Policy Act of 1969".

SEC. 2. The Congress declares that it is the continuing policy of the Federal Government in the national interest to foster and encourage (1) the development of an economically sound and stable domestic mining and minerals industry, (2) the orderly and economic development of domestic mineral resources and reserves to help assure satisfaction of industrial and security needs, and (3) mining, mineral, and metallurgical research to promote the wise and efficient use of our mineral resources. It shall be the responsibility of the Secretary of the Interior to carry out this policy when exercising his authority under such programs as may be authorized by law other than this Act. For this purpose the Secretary of the Interior shall include in his annual report to the Congress a report on the state of the domestic mining and minerals industry, including a statement of the trend in utilization and depletion of these resources, together with such recommendations for legislative programs as may be necessary to implement the policy of this Act.

Passed the Senate September 5, 1969.

Attest: FRANCIS R. VALEO,
Secretary.

MINERAL STATISTICS

Mr. MCDADE. All of this is based on production figures, not estimated reserves?

Mr. ZINNER. There are no reserves figures on the tables. What these purport to show is the magnitude of the demand and the likely supplies over this period of time.

Mr. MCDADE. But without relationship to the reserves?

Mr. ZINNER. The reserve problem is a very difficult one to measure in precise terms because it always has to be at some price.

What our mineral resources people are always trying to do here is continue to reassess their reserves in terms of economic conditions. It may be price, and even environmental aspects come into measuring what is reserve.

You may have the richest source in the world of some commodity someplace but you may not have access to it.

Mr. McDade. Like Prudhoe Bay?

Mr. Zinner. I thought you were going to mention something else.

Mr. McDade. What did you think I was going to mention?

(Off the record.)

SALE OF OUR STOCKPILE MATERIALS

Mrs. Hansen. Currently, there are recommendations relative to the sale of some of our stockpile materials. Have you any comments on this proposal?

Dr. Hayes. We are asked for technical advice on these matters. The decisions are made above us and in the other agencies, Madam Chairman.

CRITERIA FOR SALE OF STOCKPILE MATERIALS

Mrs. Hansen. Will you please insert in the record what you use in deciding whether stockpiled material will be sold?

(The information follows):

Policies governing stockpiled materials are established by the Director of the Office of Emergency Preparedness. Criteria used by the Bureau of Mines in providing technical advice on these matters include availability of strategic minerals from domestic and foreign sources, changing patterns of industrial practices, technological advances, near-term supply and demand forecasts, effects of disposal on normal markets, and other technical and economic information peculiar to each commodity.

CULM BANK FIRES

Mrs. Hansen. You are requesting $300,000 for evaluation and development of technology in connection with culm bank fires. Give us the details on this. This is a very familiar item.

Mr. Corgan. Madam Chairman, what is involved here is the evaluation of the work we are doing at the present time with respect to the elimination and extinguishment of culm bank fires. We have been working on several of them but we have not really evaluated the problem.

Mrs. Hansen. How many fires have you worked on and what is the total amount that you have expended? Also what are the results?

Mr. Corgan. We have worked on only two as demonstration projects. One of them we are working on at the present time, one of the very large ones. We have worked on one other culm bank fire.

We have completed our work on the one known as the Baker bank.

TAYLOR BANK FIRE

We are now working with the State on what is known as the Taylor bank, which happens to be in Congressman McDade's district. We expect to evaluate the results of our work on these fires.

In addition, we shall evaluate data on the size and location of all the burning and nonburning waste banks in the area and the possibility of placing these banks underground to prevent subsidence. Also we expect to conduct a study as to why waste must be put on the surface in the first place rather than underground.

That covers the $300,000 item.

Mrs. HANSEN. What has been the total expended on culm bank fires?

Mr. CORGAN. $750,000 for the 1969 fiscal year, which I believe was a special appropriation. Three hundred thousand dollars for the 1970 fiscal year and $300,000 we are asking for in 1971. That would be a total of about $1,450 million.

Mr. MCDADE. I want to first indicate my appreciation to the members of the subcommittee because I think the record ought to indicate were it not for the support of the members of the subcommittee, none of this money would have been spent. That is to start with.

Secondly, the figure used is $300,000 for the current fiscal year 1971, and you use the phrase I heard a few moments ago relating to mining, "at a very low level of activity." I am disappointed to see this budget does not reflect, after all of the intense interest of the subcommittee and the initiative of the subcommittee, a real effort by the Bureau of Mines.

DEMONSTRATION METHODS NEEDED TO CONTROL CULM BANK FIRES

I am very much disturbed not to see an additional effort to further demonstrate methods of meeting this problem, which is such an environmental problem in the fiscal year 1971 budget. It is disturbing to me. It seems every year the Bureau of Mines comes up, Mr. Zinner, I have to look across the table at you and get angry.

When Mr. O'Leary was here we had the same problem with him, with Dr. Hibbard, all the way through. Yet here we come with a budget at "a very low level of activity" to solve the problem.

Did you ask for additional moneys on culm banks?

Mr. ZINNER. No, I do not believe we did.

Mr. THOMSON. No, sir.

Mr. ZINNER. If I understand this correctly, and Mr. Corgan can correct me if I am wrong, there is a time element here. We are experimenting with a process. We are not quite sure how this is going to come out. I think our timing in terms of fiscal years and whatnot is probably one of the faults.

Depending, I think, what Mr. Corgan's people and the State find will determine whether or not any additional requests in this area can be supported. I really do not know on what basis a different program could have been proposed at the time this budget was formed——

Mrs. HANSEN. Will there be a supplemental request?

Mr. ZINNER. I do not know what the results are at the moment. We certainly did not know at the time the budget was being put together.

Mrs. HANSEN. How long have these fires been burning?

Mr. ZINNER. A very long time.

MINE FIRE BURNING 23 YEARS

Mrs. HANSEN. What do you mean by a very long time?

Mr. ZINNER. The one we are talking about is 23 years.

Mr. CORGAN. Since I was a little boy and that was a long time ago.

Mrs. HANSEN. The culm bank fires have been burning for 23 years and nothing has been done until 3 years ago?

Mr. CORGAN. About 3 or 4 years ago.

Mrs. HANSEN. Isn't it true, Congressman McDade, that the people in the areas where these fires burn find it most difficult during certain seasons to go outside or leave windows open?

Mr. MCDADE. Absolutely correct; in some cases it is so bad it can turn a white house black in a couple of short hours. As we said over and over again, goodness knows what it does to someone's lungs.

There ought to be a new start in here. I do not really see the Bureau of Mines and I have not seen them over 3 years really making an effort to tackle this problem. I know it is a difficult one. That I think is a reason to put some money and sweat into it to try to get a solution. We are not much closer.

We found some new methods. But we have not really gotten down to a method to attack this problem satisfactorily. Is that not about correct?

Mr. ZINNER. I think that is correct.

Mr. MCDADE. The one you are working on—at Taylor, Pa.—you described as one of the most dangerous mine fires in the entire Nation. The potential damage of the Taylor Bank could have done was enormous.

BUREAU AND STATE OF PENNSYLVANIA WORKING ON TAYLOR BANK FIRE

Mr. CORGAN. To answer Mr. Zinner's question, just a little further, we are working on the Taylor Bank at the present time with the State of Pennsylvania. That bank covers approximately 12 acres. The fumes have been very obnoxious to the entire surrounding area of Scranton, Pa. The job is almost complete. We believe the fire is about extinguished but are not certain. We have spent almost all of the Federal money that has been available. We and the State cannot be certain the fire is out for another couple of months. It was necessary to build a dike around this particular fire, in fact a series of ponds like rice paddies were formed and flooded with water, hoping that the water would penetrate into the fire and extinguish it.

The State dug out two of the rice paddies and took all of the fire out, but found that this fire was in a deeper strip pit bed and was much more extensive in volume than had ever been anticipated. There was no way to measure it beforehand because you could not drill a hole down into the red hot fire.

TEMPERATURE AT TOP OF MINE FIRE

Mr. MCDADE. What was the temperature at the top of the fire?

Mr. CORGAN. It was red hot like a blast furnace. In looking down, it was like looking into the top of a blast furnace. So there was no way to tell how deep the fire was and it could not be drilled. The State has excavated one-third of the fire area. We are hoping the other two-thirds will have been extinguished by the water.

NEW TECHNIQUE FOR CONTROLLING MINE FIRES

With this technique, and it is a new technique in the United States, there have been no fumes or dust from the work since it started because the water has kept them down. But until we know whether the

other two-thirds of this burning waste bank is out, which could be a couple of months from now, we will not know whether the demonstration has been completely successful or whether it should be continued further.

MINE FIRES BURNING IN UNITED STATES

Mrs. HANSEN. How many more fires are in that general area?

Mr. CORGAN. Altogether in the United States, there are about 400 that we have a record of. I think 26 are in the anthracite area.

Mrs. HANSEN. You have a big task before you.

Mr. CORGAN. Yes, we have worked on only two so far.

Mrs. HANSEN. You have not made very much progress.

Mr. CORGAN. Not a very good picture, is it?

Mrs. HANSEN. It is not a very good record.

SUPPLY AND DEMAND STUDY

$2.2 million is requested for supply and demand studies.

Please give us more detail on what you plan for this program in fiscal 1971.

Mr. KAUFMAN. This is a series of availability studies in which our field engineers attempt to determine the quantity of a given material by cost. We develop typical flow sheets and then cost them out. This then gives us some idea as to how much material we could produce at various price levels and also how much material we would be able to bring our reserve expertise to bear and possibly make it competitive.

Among the materials we hope to complete studies on are fluorine, and the one on lead. We hope to start one on copper in the fiscal year coming up.

TYPES OF STUDIES AND CASES LISTED

Mrs. HANSEN. Please insert in the record a breakdown of the locations and type of activity indicating the amount of funding in each instance you propose for this program in 1971.

(The information follows:)

SUPPLY AND DEMAND STUDIES

AVAILABILITY STUDIES

[Amounts in thousands of dollars]

	Fluorine	Copper	Lead	Mercury	Total
Knoxville	100				100
Minneapolis		75			75
Bartlesville			150		150
Denver		200	50		250
Spokane		150	150		300
Alaska			100	100	200
Total	100	425	450	100	1,075

OTHER SUPPLY AND DEMAND STUDIES

	Mineral deposit invest.	Solid waste problem appraisal	Transportation of minerals	Other supply studies [1]	Demand studies [2]	Total
Pittsburgh		35		150		185
Minneapolis		25	100			125
Bartlesville		25			75	100
Denver	40	50				90
Dallas	20					20
San Francisco	50				100	150
Albany		40		50	75	165
Spokane	25					25
Alaska	140		125			265
Total	275	175	225	200	250	1,125

[1] Such as impact of changing technology on supply of iron.
[2] Study of future metal markets.

Health and Safety

Mrs. Hansen. Insert in the record pages 63 to 86 of the justifications. (The pages follow:)

DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

Health and Safety

Appropriation, 1969	$11,237,000	
Second Supplemental Appropriation, 1969	750,000	
Total appropriation, 1969		$11,987,000
Transferred to "Operating Expenses, Public Buildings Service," General Services Administration		-2,132
Transferred from "Solid Waste Disposal"		347,000
Total Available, 1969		12,331,868
Appropriation, 1970	14,332,000	
Supplemental Appropriation	12,000,000	
Pay Cost Supplemental	1,120,000	
Total Appropriation, 1970		27,452,000
Unobligated balance available, start of year		732,255
Transferred to "Salaries and Expenses" Office of the Secretary		-400,000
Transferred to "Salaries and Expenses" Office of the Solicitor		-468,000
Total Available, 1970		27,316,255

DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

Summary of Increases and Decreases, 1971

	Base for 1971	Increase 1971	
Inspections, Investigations, and Rescue Work			
To increase safety inspections, technical assistance, equipment testing and accident analysis work	$8,840,000	$+10,426,000	
To increase health inspections and studies	1,396,000	+4,500,000	
To increase safety education work including training of inspectors and assistance to States and the industry	2,274,000	+1,400,000	
To provide planning, design and preliminary contracting for a facility to provide specialized training for Health and Safety personnel	- -	+500,000	
To increase inspections of metal and nonmetal mines	3,156,000	+1,065,000	
Unobligated balance from Second Supplemental Appropriation, 1969 available in first quarter of F.Y. 1970	- -	-412,255	+17,478,745
Health and Safety Research			
To expand Health Research Program for coal mines	3,426,000	+2,220,000	
To expand Safety Research Program for coal mines	6,873,000	+7,600,000	
To expand research for metal and nonmetal mines	401,000	+100,000	
Unobligated balance from Second Supplemental Appropriation, 1969 available in first quarter of F.Y. 1970	- -	-320,000	+9,600,000
Net increase, 1971			+27,078,745
Budget estimate, 1971			54,395,000

HEALTH AND SAFETY

Analysis by Activities

Activity	F.Y. 1969 Amount Available	Fiscal Year 1970 Total Appropriation	Pay Cost Supplemental	Transfers 1/	Amount Available
1. Inspections, Investigations, and Rescue Work	$ 9,101,529	$16,015,255	$ 931,000	-868,000	$16,078,255
2. Control of Fires in coal deposits	210,935	212,000	6,000	- -	218,000
3. Health and Safety Research	2,276,831	10,837,000	183,000	- -	11,020,000
Unobligated balance available, start of year	- -	-732,255	- -	- -	-732,255
Unobligated balance available, end of year	732,255	- -	- -	- -	- -
Unobligated balance lapsing	10,318	- -	- -	- -	- -
Total	12,331,868	26,332,000	1,120,000	-868,000	26,584,000 2/

1/ Represents transfers of $400,000 to Office of the Secretary and $468,000 to Office of the Solicitor.

2/ Excludes unobligated balance of $732,255 appropriated in 1969.

HEALTH AND SAFETY

Activity	F.Y. 1969 Amount Available	F.Y. 1970 Amount Available	F.Y. 1971 Estimate	F.Y. 1971 Increase (+) or Decrease (-)	Page Reference
1. Inspections, Investigations, and Rescue Work	$ 9,101,529	$16,078,255	$33,557,000	$+17,478,745	67
2. Control of Fires in Coal Deposits	210,935	218,000	218,000	- -	77
3. Health and Safety Research	2,276,831	11,020,000	20,620,000	9,600,000	78
Unobligated balance available, start of year	- -	-732,255	- -	+732,255	
Unobligated balance available, end of year	732,255	- -	- -	- -	
Unobligated balance lapsing	10,318	- -	- -	- -	
Total	12,331,868	26,584,000	54,395,000	27,811,000	

1. Inspections, investigations, and rescue work: Fiscal Year 1970, $16,078,255; fiscal year 1971, $33,557,000; increase $17,478,745. The increase consists of:

	Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1)	$+10,426,000	+450	$19,266,000	1,148	To increase safety inspections, technical assistance, equipment testing and accident analysis work.
(2)	+4,500,000	+228	5,896,000	351	To increase health inspections and studies.
(3)	+1,400,000	+39	3,674,000	170	To increase safety education work including training of inspectors and assistance to States and the industry.
(4)	+500,000	- -	500,000	- -	To provide planning, design and preliminary contracting for a facility to provide specialized training for Health and Safety personnel.
(5)	+1,065,000	+60	4,221,000	292	To increase inspections of metal and nonmetal mines.
(6)	-412,255	- -	- -	- -	Unobligated balance of 1969 supplemental appropriation available until September 30, 1969, to provide preliminary work necessary to establish an educational institute to advance mine health and safety and to accelerate the inspection programs in the 1970 budget.
	+17,478,745	+777			

COST FACTORS INVOLVED IN INCREASES

(1) 300 safety inspectors and 70 aids at an average annual salary of $12,000, $4,440,000; 34 technical specialists at an average annual salary of $13,000, $442,000; 5 engineers for permissible testing, $65,000; 20 employees associated with accident analysis, $250,000; 21 employees to collect and disseminate accident statistics, $220,000; personnel benefits, $409,000; travel and transportation of persons, $430,000; specialized testing equipment, $400,000; contractual services, including costs for computer services, space and automobile expenses, $2,220,000; rents and utilities, $200,000; and supplies and equipment $1,350,000.

(2) 228 permanent positions (primarily dust inspectors) at an average annual salary of $12,000, $2,736,000; personnel benefits, $206,000; travel and transportation of persons, $225,000 contractual services including costs for operation of dust laboratory and automobile expenses, $783,000; and supplies and equipment, $550,000.

(3) 39 permanent positions at an average annual salary of $13,000, $507,000; personnel benefits, $40,000; travel and transportation of persons, $42,000; contractual services including leasing of automobiles and space, $211,000; supplies and equipment, $500,000; and grants to States, $100,000.

(4) Architectural design contract for a training facility.

(5) 60 permanent positions at an annual rate of $12,000, $720,000; personnel benefits, $55,000; travel and transportation of persons, $50,000; contractual services including leasing of space and automobiles, $155,000; and supplies and equipment, $85,000.

NEED FOR INCREASE

(1) Safety Standards:

Safety Inspections: $15,480,000 (Increase $7,971,000)

From a total of about 9,000 regular inspections made in calendar year 1968, the Federal Coal Mine Health and Safety Act of 1969 will require increases in the number of inspections per year as follows:

Regular inspections of underground coal mines, (4 per year)	16,000
Regular inspections of strip and auger mines, (2 per year)	3,000
Spot inspections of ultra-gassy mines, (About 50 per year)	20,000
Spot inspections of coal mines first year	2,000
Total number of coal mine inspections	41,000

Additional inspectors are necessary not only because of the increased frequency of inspection but because of more intensive inspection requirements. Additional requirements and standards have been imposed by the Act and the inspector must assure that all requirements are met. Persons trained in specialized areas of inspection are required. For example, more complicated mandatory electrical standards will require inspections by personnel specially trained in electricity and electrical installation. Similar requirements will apply in such specialized areas as ventilation, roof control, methane control, and others.

Technical Support: $1,000,000 (Increase $800,000)

Technical Specialists must be available to provide advice and assistance to Bureau inspection personnel on special problems encountered during inspections. Such assistance is needed in all areas of mine inspection.

Mandatory safety standards for coal mines require that roof-control plans shall be approved by the Secretary for each mine and for each type of mining, and that these plans shall be reviewed at least every six months by the Secre-

41-447 O - 70 - pt. 1 -- 58

tary. Personnel must be assigned to review the roof-control plans in use at each mine and determine their adequacy, and to review the plans periodically at intervals not to exceed six months to determine if improvements are necessary.

It will also be necessary to conduct investigations, including tests where necessary, of methods that have been developed to further upgrade and provide better roof and rib support.

Permissibility Equipment Testing: $1,100,000 (Increase $690,000)

A system for determining the permissibility of equipment in the field must be developed so that standards can be provided, including those for the necessary modifications of existing equipment, which will permit equipment to be converted to a permissible condition without having to return it to a factory or central repair shop.

One of the requirements of the Federal Coal Mine Health and Safety Act of 1969 is that the electrical equipment in all underground coal mines must be "permissible" equipment. Formerly, only equipment used in mines classified as "gassy" was required to be "permissible." Within six minths after the effective date of the new law a survey must be made of non-permissible equipment in service to determine what modifications, if any, are needed to make such equipment "permissible." The results of this survey will determine the requirements industry must meet to supply new equipment and certified components to serve as replacements.

"Permissible" electrical equipment is also used in gassy non-coal mines where methane is found. The Bureau also tests and approves diesel powered mining equipment and respiratory protective devices for use in the mineral and related industries. Some additional requirements in connection with self rescuers for escape from hazardous atmospheres and for respirators for use in dusty atmospheres stem from the Federal Coal Mine Health and Safety Act of 1969 which will be studied and incorporated into improvements made in the program of permissibility, approval, and testing.

A code along the lines of the National Electrical Code will be developed to control the installation and assembly of certified components for use in hazardous locations. Appropriation specifications to meet special requirements of mobile equipment and coal mine environments will be included. Specialized training must be provided for a field inspection force on certified components, permissible equipment, and means of testing for permissibility in the field.

Tests and investigations will be instituted to evaluate the possibility of innovations in electrically powered equipment such as conversion from single to three phase electrical circuitry, the use of hydraulic powered equipment, and similar studies.

Accident Analysis: $616,000 (Increase $365,000)

Additional funds are required to expand accident analysis work to keep pace with the expanded safety inspection program and the newly instituted mine health program. The critical need to assure safer and more healthful working conditions in the Nation's mineral industries obliges the Bureau to continuously define and evaluate new and existing hazards associated with mineral extraction processes and related technologic changes. Such detailed definition and evaluation of hazards, together with full correlation with mine inspection findings and safety training activities, will necessitate an expansion of the analytical program.

A program utilizing operations research techniques will be initiated to assure that the most efficient methods are used in carrying out the Health and Safety program.

Historical records of mines will be developed as a basis for evaluating each mine's performance over a greater period of time. Each mine will be evaluated on its accident record, dangerous occurrences, performance under safety inspections, safety training, and its general physical and environmental conditions.

Data will be developed to provide more precise information on the chain of events preceding mine accidents and on the human factors contributing to injuries from mine accidents. Elements contributing to accidents must be assessed by technically competent personnel so as to correctly determine the leading events and factors in the unsafe-condition and unsafe-act areas of accident prevention work. The resulting information will be disseminated through training courses and publications so as to achieve the maximum contribution to mine safety.

Statistics: $1,070,000 (Increase $600,000)

The accident reports required by the new coal mine legislation will be collected on a quarterly basis. Reports will be received from all coal mines. Summaries of these reports will be prepared indicating cause of accident, location in mine, and number of miners involved. These summaries will be the basis for a continuing review of situations and locations posing the greatest danger to miners. These quarterly accident reports will be reconciled with the Bureau's existing personal injury statistics to develop more detailed information about the relationship of serious injuries, minor injuries, and accidents not injuring but potentially hazardous to miners.

The expanded number of coal mine inspections will be recorded in a systematic manner so that periodic detailed summaries and analyses can be made of the efficiency, effectiveness, and contribution of the inspections to the Bureau's health and safety program. The detailed records will be available for computer processing in order to analyze the cost and effectiveness of the inspection program, the improvement in the safety performance of the coal mining community, and the resultant impact on the well being of coal miners.

(2) Health Standards:

Dust Inspections: $5,446,000 (Increase $4,450,000)

The requested increase is needed to enable the Bureau of Mines to continue to expand its capability, initiated in FY 1970, to implement the provisions of the Federal Coal Mine Health and Safety Act of 1969. The Act establishes for the first time a respirable dust standard applicable to all underground coal mines in the United States. Funds are included for an inspection force to take atmospheric dust samples in mines throughout the United States, and to assure that the airborne dust concentrations in the mines do not exceed the standard. Spot inspections will be made at irregular intervals to assure that specified operating procedures are followed by the mine operators. Assistance will be provided to mine operators on request to help them to meet new standards as they become effective. This includes advice on methods of dust control and demonstrations of equipment that reduces the dust concentration in mine atmospheres.

Health Studies: $150,000 (Increase $50,000)

The Act requires that coal mines ultimately meet a respirable dust standard of 2 milligrams or less per cubic meter. Technology now available will not per-

mit the mining industry to meet this standard. Since the Act directs the Bureau of Mines to lend all possible technical assistance to the industry in effort to comply with the law's requirements, it is obligatory for the Bureau to exert every effort in applying new and existing technology that can help assure compliance with this future standard. Constant studies will have to be made in operating mines to determine the effect of technology and other environmental changes on the production and control of respirable coal mine dust.

In addition, the Act imposes a noise standard. This will require basic surveys to determine noise levels and the engineering procedures that can be applied for noise reduction.

(3) Education and Training:

Training Inspectors: $1,324,000 (Increase $700,000)

The Federal Coal Mine Health and Safety Act of 1969 places an expanded responsibility in the Secretary of the Interior. To meet it, a larger staff of engineers and inspectors with greater technical and technologic skills is required. The requested funds are mainly to provide initial training for new mine inspection personnel hired during fiscal year 1971. The Bureau has contracted for development of a training program and a curricula for all new inspection personnel. This will be administered in a way expressly designed to develop the desired uniformity and high level of inspection skills so necessary for proper administration of the Act. The training will be provided on a centralized basis, both to assure uniformity and to speed the incorporation of new technology and procedures.

Industry Assistance: $900,000 (Increase $600,000)

More stringent safety requirements imposed by law plus an added awareness of the need for safe working conditions in coal mines have encouraged the coal industry to seek assistance from the Bureau of Mines for ways to make the mines a safer place to work. Such requests for assistance are expected to increase significantly until existing mines become fully capable of meeting all health and safety standards prescribed by the new Act.

The Bureau of Mines will be expected to advise mine operators how needed improvements can be made. Demands for advice on mine ventilation problems will be made frequently. Methods for ventilating gob areas must be developed further. The value of certain types of equipment for improving mine ventilation will be demonstrated. The use of boreholes from the surface with exhaust fans will be studied as a means of ventilating worked-out areas. Industry personnel must be shown the art of proper face ventilation for methane and coal-dust control. Problems of providing adequate ventilating air in the mines will require assistance from Bureau personnel.

Falls of roof and ground have constantly been the principal source of injuries in mine operations. Rock mechanics is an emerging science but there is no fool-proof system for roof support at the present time. Workers may only be protected through a fail-safe environment. Field teams working directly with mining companies in operating mines need to apply greater investigative efforts to determine causes of roof failure. Improved roof bolting equipment and protective equipment for miners must be developed.

The Federal Coal Mine Health and Safety Act of 1969 requires that numerous actions, measurements and decisions be made by personnel or agents of the operator who are certified or qualified within the meaning of the Act. The Secretary must establish standards of the minimum qualifications for such

persons and provide for certification or registration of individuals in those States which do not have a program of certification or registration at least equal to the Secretary's standards.

To make it possible for the mines to employ appropriate persons and for the Department and the States to have a full complement of trained inspection personnel, the Bureau of Mines will implement a program to train, examine, and, where necessary, certify both existing and new personnel for those categories of work which the Act requires be certified.

Technical competency to advise industry personnel in the important safety areas of mine transportation, electrical safety, mine fire control, explosion control, explosives control, diesel safety and others must be provided.

Grants: $400,000 (Increase $100,000)

Increased cooperation between the individual States and the Department to advance health and safety in coal mines will contribute materially to more effective and more uniform operations, and permit an appropriate division of responsibility and labor. Cooperation should be encouraged through resonable grants to assist those States which, after complying with the provisions of the Act, enter into agreements with the Secretary.

The Act provides for assistance to coal mining States in developing and enforcing effective health and safety laws and regulations and for the promotion of Federal-State coordination and cooperation. It further authorizes the Secretary to make grants to any State which has an acceptable mine inspection program to carry out its approved plan, to train State inspectors, and to assist in planning and implementing other programs for the advancement of health and safety in coal mines, provided that the grants are designed to supplement State funds.

Prompt implementation of the grants program at a reasonable level should greatly encourage this cooperation and permit the joint training of State and Federal inspectors at a time when new Federal inspectors will have to be trained to meet the Department's expanded responsibility.

(4) Facility planning: $500,000 (Total Program)

The funds requested are for architectural design of a Mine Safety Institute to provide specialized training for Federal Mine Health and Safety personnel and also for Health and Safety personnel in the industry and in State and local governments. There is a critical need to upgrade the professional competence of current mine inspection personnel (coal as well as metal and nonmetal) to keep abreast of rapidly changing mining technology and to prepare new personnel to perform the work. Demands for mine inspection personnel far exceed the available supply and there are no alternate educational facilities to provide complete training for them. The Bureau of Mines has contracted with a University to develop: (1) specialized short-term and long-term training for new Federal and State and industry inspection personnel, and (2) short-term refresher training for existing Federal and State and industry inspection personnel. Until facilities are provided for a mine safety institute, it will be necessary to conduct training in temporary facilities on a University campus or at a Government facility.

The need is especially critical during this period when the mine inspection forces are being expanded greatly and the training provided needs to be of the highest quality. To accelerate provision of these needed facilities, funds are requested to obtain the architectural design so that a construction contract may be let as soon as authorization to build the institute is provided.

(5) Metal and Nonmetal Mine Safety: $4,221,000 (Increase $1,065,000)

An increase is requested to continue implementation of Public Law 89-577, the Federal Metal and Nonmetal Mine Safety Act. During FY 1970 about 1,700 standards for metal and nonmetal mines were promulgated leaving about 100 standards to be published as soon as the necessary procedural steps have been completed. The requested increase is to provide the required inspections to assure that standards are complied with and to provide requested advice to operators on how such standards are to be met. The standards apply to about 20,000 mines, quarries, and sand and gravel operations employing about 175,000 workers throughout the United States, and also to related milling operations.

The metal and nonmetal mine inspection program is being implemented in stages to allow time to recruit and train staff, develop adequate safety standards, and to determine the extent to which provisions of State plans affect the work that must be done by the Bureau of Mines. About ¼ of the full schedule of inspections will be implemented in FY 1970. The requested increase provides funds for further implementation of the program.

PROGRAM STATEMENT

Situation: There are approximately 5,000 coal mines and about 20,000 metal and nonmetal mines in the United States employing some 375,000 workers to extract the valuable mineral resources that are vital to this Nation's economy. These mineral deposits occur in many different forms and in many different environmental conditions, and it is often necessary to extract them under conditions that are hostile to man's well being. All minerals are not extracted under identical procedures and conditions, so a program is required to adapt necessary safety measures to the conditions that exist which will enable the miner to perform his duties safely. In some cases it is necessary to remove dust laden air and replace it with clean air to prevent development of "black-lung" disease. In another case, new support systems must be provided to assure that changes in mining methods and technology do not cause retrogression in mine safety.

The Federal Coal Mine Health and Safety Act of 1969 places new responsibility on the Bureau of Mines to carry out a program of inspection of coal mines, with broad authority to enforce correction of unsafe conditions. Authority to enforce prescribed standards of respirable dust in mine atmospheres is included for the first time. New responsibilities for such programs as ventilation, roof control, and permissible electrical equipment have been added. The Bureau of Mines has similar responsibilities in the metal and nonmetal mines under the provisions of the Federal Metal and Nonmetallic Mine Safety Act. The laws are designed to provide instruments for reducing health and safety hazards in the mineral extraction industry and diminish the accident injury rates.

Under the provisions of the Federal Coal Mine Health and Safety Act and the Federal Metal and Nonmetallic Mine Safety Act the Bureau of Mines is authorized to carry out a program of mine inspection, including enforced correction of unsafe conditions, designed to reduce health and safety hazards in the mineral extraction industry and diminish the accident injury rates.

Mines are inspected to assure compliance with the health and safety standards applicable to the particular type of mining operation, and reports of inspection are made available to all interested representatives of the operation. The Bureau is authorized to enforce compliance with certain mandatory safety standards to the extent that mines may be closed and all employees withdrawn from work if there is imminent danger.

A related program of education, training and safety motivation is conducted simultaneously with the aim that at some future date the results of the educational and motivational effort will reduce the need for inspection work. Through safety motivation and training, workmen and supervisors are prepared to cope with the hazards of their work and are encouraged to develop an attitude of safety awareness.

Special studies and investigations are carried out to determine the effects of new mining technology or methods, new applications of known methods or procedures, the causes of accidents and methods to prevent their recurrence, and ways to prevent damage to property. The information gained from such studies and investigations guides the Bureau and industry in their efforts to provide better and safer working conditions, control accidents, and develop improved standards. A service is provided to advise the mining industry of ways to improve the safety of its mining operations.

Although progress has been made in improving the safety of mining, much remains to be done. New mining technology has greatly increased the amount, size, and speed of machinery used underground, thus compounding the problems of dust accumulations in mine atmospheres, explosion hazards, falls of roof or rib, and danger of injury by moving objects. The various forms of mining remain among the most dangerous work categories in the United States.

Objectives: The major objective of the Health and Safety Program is to make the Nation's mines safe and healthful. This objective can only be achieved by finding solutions to health problems in the mineral extractive industries and by reducing the current accident rate in those industries. Steady improvement in the working environment can be achieved through distribution of the findings of inspections, as well as through enforcement procedures. The results of special studies and investigations will be used to effect improvements, to prevent recurrence of accidents or injuries, to detect areas which require research, to guide training and related programs, and to give the industry a better understanding of its health and safety problems. The objective of education and training, in turn, is to acquaint the industry with the information and skills needed to operate and work safety, and to motivate a keen safety awareness.

PROGRAM OF WORK

Safety Standards: $19,266,000 (Increase, $10,426,000)

The Bureau of Mines conducts its program of safety inspection under the provisions of the Federal Coal Mine Health and Safety Act of 1969 which, with implementing instructions, provides guides to the Federal inspectors in determining the existence of unsafe conditions and practices.

The new act provides expanded authority and responsibility for the Bureau of Mines to see that safe conditions are maintained in the Nation's coal mines. Work will continue in FY 1971 to implement the requirements of the Act and to further develop the necessary procedures and facilities for carrying out its provisions.

Reports of coal mine inspections and investigations are distributed to interested persons including both labor and management and are available for inspection by the general public. An annual report on Coal Mine Safety activities is forwarded to the Congress, as required by the Federal Coal Mine Health and Safety Act of 1969.

Health Standards: $5,896,000 (Increase $4,500,000)

The Federal Coal Mine Health and Safety Act provides standards for the amount of respirable dust that may be permitted in mine atmospheres, and authorizes the Bureau of Mines to conduct a program of sampling and inspection to assure that prescribed standards are maintained.

Samples of mine atmosphere must be taken by each mine operator on every third production shift and sent to the Bureau of Mines for analysis. A dust inspection is required in each underground coal mine at least four times annually to see that standards are met. Spot check inspections are made as needed. Mine operators receive reports on the amount of respirable dust contained in the dust samples furnished so that they can take appropriate corrective action if needed. Chemical analyses are made of a representative number of samples to determine that other harmful constituents are not present in dangerous amounts.

Surveys are made of the noise levels in mines to determine if appropriate standards are being met.

Dust sampling and inspections to determine dust concentrations, noise levels, and other possible health hazards were initiated in FY 1970 and will be accelerated to required levels prescribed in the Act in FY 1971. Refinements of inspection and sampling procedures will be made in FY 1971.

Education and Training: $3,674,000 (Increase $1,400,000)

The Bureau of Mines has developed and presents courses of instructions designed specifically for the type of industry in which they are presented. These courses are in the form of class room instruction, lectures and demonstrations, motion pictures, and other means to convey a forceful message of the causes and prevention of accidents and unhealthful work environments, of safe mining practices, and of first aid and mine rescue methods. All are designed to develop an awareness of safety and make the student a safer worker.

A major effort will be directed toward more effective health and safety training through a concerted study of the attitudes, learning capability levels, and the motivational requirements of those receiving such training. The training program will be designed for maximum effectiveness with each audience and this effectiveness will be evaluated by comparing the training received with job performance. Experience indicates that the educational, training, and safety motivation efforts of the Bureau are essential ingredients in the progress which has been made over the years in reducing accident frequency.

Metal and Nonmetal Mine Inspection: $4,221,000 (Increase $1,065,000)

The Federal Metal and Nonmetallic Mine Safety Act, Public Law 89-588, authorizes representatives of the Department to enter metal and nonmetal mines, quarries, and sand and gravel pits to inspect them for compliance with health and safety standards promulgated by the Secretary of the Interior, and to obtain, utilize and disseminate information relating to health and safety.

The bulk of the health and safety standards promulgated by the Secretary of the Interior for mines subject to the Federal Metal and Nonmetallic Mine Safety Act are expected to become enforceable about July 1, 1970. A significant increase in the number and length of inspections under the provisions of the Act will be required.

EXAMPLES OF RECENT ACCOMPLISHMENTS

Based largely on the recommendations of the advisory committees appointed pursuant to the Federal Metal and Nonmetallic Mine Safety Act, about 90 per cent of the immediately contemplated health and safety standards of the Secretary of the Interior will have been promulgated in FY 1970. About 140 standards will remain for promulgation.

On December 30, 1969, the President signed into law the Federal Coal Mine Health and Safety Act of 1969. This Act provides a comprehensive program of inspection, enforcement, and other measures to enhance health and safety in the mines. It calls for an expanded and more complex program than heretofore. Interpretations,

regulations, and other actions required by the Act required our immediate, intensive effort throughout the coal mine inspection and health activities of the Bureau.

During fiscal year 1969, more than 100,000 miners and mine supervisors attended almost 11,000 meetings of chapters of the Holmes Safety Association. Another 7,500 attended more than 150 meetings of Holmes Safety Association Councils. The Association is largely sponsored by the Bureau.

Health and safety films produced by the Bureau have been used extensively to train and indoctrinate safety in the mineral industries. The cumulative record shows that 2 million people have viewed the films.

The following tabulations list Bureau of Mines accomplishments in mine inspection, safety training, safety demonstration, and other safety activities:

Mine Inspections

	Calendar Years	
	1969 Estimate	1970 Estimate
Coal mines:		
Number of active mines	5,000	5,000
Individual mines inspected	4,700	4,700
Total regular inspections	7,137	8,000
Total spot inspections	1,632	13,000

	Fiscal Years	
	1969 Estimate	1970 Estimate
Mines other than coal:		
Number of mines 1/	20,000	20,000
Number of mills 1/	4,500	4,500
Health and safety inspections	1,500	3,000
Other investigations	300	300

1/ Included are many operations which are of an intermittent or temporary nature.

Safety Education

Type of Program	Number Persons Trained Fiscal Year 1969
First-aid classes	25,802
Mine-rescue classes	1,817
Accident-prevention classes:	
Coal mines	3,291
Metal and nonmetal mines	6,587
Petroleum-gas industry	227

Exhibits, Demonstrations, Safety Meetings, Contests, and Lectures

	Attendance Fiscal Year 1969
"Magic of Fire" demonstrations	24,223
"Hazards of Static Electricity" demonstrations	14,097
Other safety demonstrated lectures	12,588
First-aid and mine-rescue contests	17,130
Safety meetings	103,787
Showing of safety motion pictures	105,617

2. Control of fires in coal deposits: Fiscal year 1970, $218,000, fiscal year 1971, $218,000; no change.

PROGRAM STATEMENT

Fires in inactive coal deposits deplete valuable coal reserves, release noxious and toxic gases into the atmosphere, contribute acid drainage to streams by percolation of water through burned-out areas, and constitute a hazard to people and to grazing and forest land. In recognition of problems that evolve from fires in inactive coal deposits, Congress in 1949 began appropriations to the Bureau of Mines to initiate control and extinguishment of such fires. In 1954, Congress enacted Public Law 83-738 that authorized an annual appropriation for an intensified control program.

Since 1949 through FY 1970, a total of 192 fires have been controlled by this program. By conservative estimate, 762 million tons of coal have been saved from destruction by extinguishing these fires. Additional benefits include reduction of air pollution, abatement of acid water drainage, and lessening of subsidence hazards.

PROGRAM OF WORK

During fiscal year 1970, the Bureau proposes to initiate control work on three large coal fires in Utah and Wyoming. In FY 1971, control work will be initiated on two new projects, one in Utah and one in Arizona while the final phase of a large fire in Utah will be continued.

In a continuing effort to improve effectiveness and lower the cost of controlling coal fires, remote sensing techniques to detect fires in early stages were investigated and new methods of extinguishment were evaluated. Encouraged by the results of aerial infrared sensing to detect and delineate coalbed fires in the Appalachian Region, the Bureau engaged in a pilot project in the western coalfields. Results of the initial infrared sensing flights in selected areas of coalfields in Arizona, Colorado, New Mexico, and Utah indicate that the technique has a potential for successfully detecting heat anomalies resulting from outcrop fires or fires under shallow overburden. A report is being prepared and initial evaluation indicates valid correlations between imagery produced by the airborne sensor and information obtained by ground checks in known fire areas. In addition, 4 previously unknown fires were detected and located in the test areas. Other sophisticated remote sensing techniques will be evaluated to determine their feasibility in reducing the cost of discovering and delineating fires in coal deposits in Western States.

Additionally, small fires that are discovered will be attacked promptly, where feasible, to prevent their spreading to become large fires that are costly and difficult to control. Research will be conducted to improve effectiveness and lower the cost of controlling fires under difficult conditions.

EXAMPLES OF RECENT ACCOMPLISHMENTS

A total of five projects were completed during FY 1969, under the provisions of Public Law 83-738, two in Colorado and one each in Montana, New Mexico, and Utah. Four of the projects were on public lands, the other was on Indian land. Maintenance and repair work was performed on four previously completed projects areas, and one control project was in progress on June 30, 1969.

An experimental aerial survey that employed infrared photography as a means of locating coalbed fires in the western coalfields was completed during FY 1969. Preliminary evaluation of the survey indicated that the infrared technique could become a valuable tool to locate fires in remote areas.

Pneumatic injection of dry fly ash to control fires in abandoned underground coal mines has been used by the Bureau in 7 projects since the inception of the technique in 1967. However, in efforts to improve in the dry fly ash control method, a fly ash-water slurry was injected under pressure into mine voids. Pilot tests were conducted with various fly ash water combinations to determine the proper mixture to form a satisfactory slurry. Field experience indicates that slurry injection provides a satisfactory barrier in special applications to control fires in abandoned underground mines. Commercially available techniques for underground grouting and oil well injection were evaluated to determine possible application in improving the effectiveness and reducing the cost of controlling and extinguishing fires in coal deposits under difficult conditions.

3. Health and Safety Research: Fiscal year 1970, $11,020,000; fiscal year 1971, $20,620,000; increase, $9,600,000. The increase consists of:

	Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1)	$+2,220,000	8	$ 5,646,000	88	To expand Health Research Program for coal mines.
(2)	+7,600,000	26	14,473,000	122	To expand Safety Research Program for coal mines.
(3)	+100,000	1	501,000	16	To expand research for metal and nonmetal mines.
(4)	-320,000	- -	- -	- -	Unobligated balance of 1969 supplemental appropriation available until September 30, 1969, for accelerated research on dust production and control.
	+9,600,000	+35			

COST FACTORS INVOLVED IN INCREASES

(1) 8 permanent positions (scientists and engineers) at annual average rate of $15,000, $120,000; personnel benefits, $9,000; travel and transportation of persons at average of $1,000 per professional employee, $8,000; supplies and equipment, $45,000; and research contracts, $2,038,000.

(2) 26 permanent positions (scientists and engineers) at annual average rate of $14,000, $355,000; personnel benefits, $35,000; travel and transportation of persons, $20,000; supplies and equipment, $80,000; and research contracts, $7,110,000.

(3) 1 engineer, $17,000; travel expenses, $1,000; other expenses, $2,000; and research contracts, $80,000.

NEED FOR INCREASE

(1) Health Research: $5,646,000 (Increase $2,220,000)

The increase is requested for additional expansion of the research required to develop the new and improved technology to reduce health hazards in coal mines to comply with the provisions and intent of the Federal Coal Mine Health and Safety Act of 1969. This research will contribute to upgrading of the standards in the Act and development of improved standards.

(a) An increase of $1,780,000 is requested for expansion of research aimed at the development of control technology to reduce respirable dust to a minimum during coal mining and to the ultimate elimination of the problem of dust related lung diseases.

(b) An increase of $100,000 is requested for expansion of research on mining equipment design improvements and other means of suppressing or minimizing noise that can adversely affect mine workers.

(c) An increase of $240,000 is for accelerating development of improved instrumentation for measuring oxygen content and for detecting and measuring noxious gases.

(d) An increase of $100,000 is for expansion of research on determination of potentially toxic materials in coal mines and means of eliminating or minimizing the hazard.

(2) Safety research in coal mines: $14,473,000 (Increase $7,600,000)

The increase is requested for expansion of research required to develop the new and improved technology to reduce safety hazards in coal mines to comply with the provisions and intent of the Federal Coal Mine Health and Safety Act of 1969. This research will contribute to upgrading of the standards in the Act and the development of improved standards.

(a) An increase of $4,162,000 is for expansion of research on fire and explosion prevention in coal mines. This includes $2,200,000 for research on control of methane which, together with $1,300,000 increase requested under the Conservation and Development of Mineral Resources appropriation, will provide for conduct of this critical program at the planned accelerated rate.

We initiated this program immediately after the Mannington disasters, recognizing that the danger of occurrence of disas-

ters of this type could never be reduced to a minimum until methane emissions could be effectively controlled or eliminated.

(b) An increase of $1,388,000 is for research on ground control in coal mines. Research will be increased on rock mechanics for coal mine design, including the "bump" or coal outburst problem, and on development of technology to cope with the serious roof fall problem in the face areas of mine workings.

(c) An increase of $500,000 is for initiating research on improved communication systems in mining and for research to cope with hazards in materials handling, transportation and haulage, roof support installation, and face drilling and undercutting.

(d) An increase of $200,000 is for expanding research on mine recovery and rescue equipment and techniques, including research on unmanned remote-controlled emergency vehicles, a fire detection device, and materials and techniques for erecting emergency stoppings to restore mine ventilation.

(e) An increase of $700,000 is for initiating research on innovations in mining systems including the development of advanced mine haulage technology for coal mines. The possibilities of hydraulic, pneumatic, and peristaltic-action transportation will be investigated with the aim of reducing the movement hazards that accompany conventional methods in the restricted space in mine workings.

(f) An increase of $650,000 is requested for expanding research on systems engineering for coal mining in relation to health and safety, and for leasing of coal mine test facilities. This includes development of analytical models for evaluation of coal mine seams, time and motion studies, and testing and evaluating new mining technology and equipment in relation to complete mining systems.

(3) Minerals and Metals Research: $501,000 (Increase $100,000)

The increase is for research and development to improve technology to cope with radon-gas and radon-decay-product health problems in uranium mines.

PROGRAM STATEMENT

Situation: The probability of methane gas/coal dust explosions in coal mines, as evidenced by past history and emphasized by the relatively recent explosion disaster in the Consol No. 9 mine in West Virginia, dictates the need for a concerted and accelerated research effort. Research is needed to develop the technology for inherently safer coal mining methods, equipment, techniques, and systems to adequately cope with current and future mining conditions and thus assure much safer working environments and conditions for coal miners. This will contribute to assuring a continued economic supply of this valuable fuel with its multiplicity of uses and benefits to the public. As a consequence of the disaster and subsequent publicity, attention has been focused on other hazards in coal mining, among the most serious of which are falls of roof and injurious respirable dust produced in mining. Because of increased mechanization to meet ever-increasing demands and a minimal level of research effort in the past to develop the technology to cope with the resulting problems, health and safety hazards in coal mining are numerous, severe, and out of proportion to those in other industries.

The recently enacted Federal Coal Mine Health and Safety Act stipulates concerted research to provide more effective means for improving the working conditions in the Nation's coal mines.

To mount an all out research effort on the health and safety problems in mining, the Bureau of Mines has reorganized and consolidated its mining research capability to utilize it to best advantage for this purpose. In addition to inhouse research, contracting of research with technical monitoring by mining research specialists will be used to the maximum extent possible. Emphasis at the outset will be on coal mining problems. Acceleration of the coal mining research program and increased research on health and safety problems in noncoal mines will depend primarily on the level of funding.

A study was initiated in FY 1969 by the Office of Science and Technology on behalf of the Bureau of Mines on the status of coal mining technology and the research needs, with primary emphasis on health and safety. A systems engineering firm was granted a contract to do this study for the Office of Science and Technology. It is expected that the product of the study will contribute to the planning and programing of a total systems research approach to develop inherently safer, economic, and environment-preservative technology for the mining of coal.

A parallel one year study on post-disaster survival and rescue techniques has been undertaken for the Bureau of Mines by the National Academy of Engineering. This study is concentrated on development of a program for improving rescue techniques and for increasing the prospects for survival of mine workers while they are trapped. The newly formed Academy Committee on Mine Rescue and Survival Techniques is examining opportunities derived from technological advances in such fields as space exploration, deep-ocean submergence, telecommunications, seismology, and civil defense that may lead to significant improvements in mine rescue techniques and equipment. The study is being conducted in two phases. The report on the first phase, titled Mine Rescue and Survival, has been completed and is the basis of research to be initiated under contract in FY 1970 with the potential for development of significant improvements in approximately one year. The second phase of the NAE study is on additional potential improvements that will require longer term research. The study is scheduled for completion before the end of FY 1970.

Objectives: The purpose of the Bureau's Health and Safety research program is the development of improved technology to conserve human resources in the mineral-extraction industry. This responsibility requires: conduct of fundamental and applied research to overcome the health and safety problems that accompany increased mechanization, higher productivity and other technological changes in mining methods; development of methods or techniques leading to mining practices that will provide improved safety and efficiency; development of Federal Schedules to regulate the approval and certification of electrically operated mining machines and devices and diesel equipment that may present fire, explosion, or health and safety hazards; and the approval of respiratory-protective equipment needed to protect mineral industry personnel from harmful contaminants in the air where they work.

PROGRAM OF WORK

Health Research in Coal Mines: $5,646,000 (Increase, $2,220,000)

A total of $4,846,000 is for research on respirable dust. The purpose of this research is to reduce respirable dust to a minimum during coal mining in order to eliminate dust related lung diseases. Research will be increased on the development of fundamental knowledge of the formation, nature, and behavior or respirable

dust, on the basic mechanics of dust capture and collection, and on the fragmentation and dust generation characteristics of various coal beds in relation to their physical properties.

Research will be continued on equipment modifications to reduce production of respirable dust to a minimum during mining. Techniques for dust suppression involving foam, water sprays, and steam with and without additives, and water stemming of explosives will be investigated. Research will be continued on techniques for dust collection; on dilution and control by ventilation; on instrumentation development for efficient monitoring of dust contamination of mine atmosphere; on establishment of performance requirements for respirators; and on development of rapid analytical methods for determination of free silica and minor trace elements in coal dust.

Additional research will be conducted on control of respirable dust by water infusion and other means of preconditioning; on control of dust resulting from haulage and secondary handling; and on enclosed air-filtered cabs on equipment.

A total of $200,000 is for research on mining equipment design improvements and other means of suppressing or minimizing noise that can adversely affect mine workers. The high noise level from the operation of mechanical equipment in the restricted and confined space in mines can contribute to the incidence of mine accidents as well as result in impairment of hearing.

A total of $600,000 is for research on development of improved instrumentation for measuring content and for detecting and measuring noxious gases. Development of analytical methods and techniques for toxic and other hazardous constituents will be carried out.

Safety Research in Coal Mines: $14,473,000 (Increase, $7,600,000)

A total of $5,827,000 is for fire and explosion prevention research. This includes $2,200,000 for the methane control program. This program was initiated immediately after the Mannington disaster, recognizing that the danger of occurrence of disasters of this type would never be reduced to a minimum until methane emissions could be effectively controlled or eliminated. Research will be increased also on defining the relationship of various modes of fragmentation and physical characteristics of coal beds to the formation of explosive dust. Development of special instrumentation for detecting and measuring methane and explosive dust in mine atmospheres will be increased. Onsite analyzers to determine the incombustible content of dust deposited on the surfaces of mine openings will be developed.

Research will be conducted on development of improved analytical techniques for determination of the inert content of coal dust; on the incendivity of frictional sparks generated by mining machine cutting bits and methods for reducing the methane ignition hazard; on control of explosive dust by ventialtion; on permissibility requirements for mining equipment; on the potential of mining in inert atmosphere; and on development of a practical and safe device to serve as a barrier for the quenching of methane and dust explosions. Development of fundamental information will be continued on pressure development and gas flow during vented dust explosions, scaling laws for dust explosions, the effects of turbulence on ignition and explosion development, and the critical parameters affecting heat release from a developing explosion.

Research will be continued on the potential of water infusion for preconditioning for control of explosive dust; on improved means of rendering coal dust inert; on identification of all potential fire and explosion hazards and sources of ignition; on development of improvements to eliminate or cope with fire and explosion sources and hazards in secondary materials handling and in transportation; and on provisions for automatic fire extinguishment; on reduction of the methane/dust ignition

hazard from electrical sources and on the possibilities for major improvement in explosion proofing of electrical equipment; and on the potential of other sources of power to improve safety.

A total of $3,496,000 is for research on ground control in coal mines. Research will be increased on rock mechanics for coal mine design including the "bump" or coal outburst problem. Statistical correlation techniques will be studies to predict local changes in immediate roof lithology.

Research will be increased on support of roof and rib by roof bolting and chemical stabilization; on development of devices for detecting and measuring tension in roof bolts; and on development of the technology to cope with the serious roof-fall problem in the face areas of mine workings, including the potential of utilizing remote controls on face equipment, protective shields and canopies. The potential of modification of mining machines and mining techniques will also be assessed.

A total of $1,300,000 is for completion of development of a post disaster survival and rescue system for coal mining.

A total of $1,400,000 is for research on improved mine illumination and on means of coping with industrial type hazards in coal mining. The latter will include development of improvements to cope with electrical power distribution and use hazards and with hazards in materials handling, transportation and haulage, roof support installation, and face drilling and undercutting.

A total of $400,000 is for research and development on mine recovery and rescue equipment and techniques including research on an unmanned, remote-controlled, emergency vehicle; a fire detection device; improved self-contained, oxygen-breating, rescue apparatus; and materials and techniques for erection of emergency stoppings to restore mine ventilation.

A total of $1,100,000 is for expansion of research on new innovations in mining technology towards development of advanced mining systems which will fulfill the primary requirement of being inherently safer and, secondly, of being environment-protective and more economic. This involves development of practical survey technology for coal mines. The possibilities of hydraulic, pneumatic, and peristaltic-action transportation, among others will be investigated with the aim of significantly reducing the movement hazards that accompnay conventional methods in the restricted space in mine workings. The potential for elimination of dust hazards related to haulage and for provision of a haulage subsystem compatible with use of dust collectors for elimination of the dust problem in mining operations are also important factors.

A total of $950,000 is for research on systems engineering for coal mining in relation to health and safety. The systems engineering research will include development of analytical models for assessment of coal mine seams, evaluation and selection of mining methods and equipment, and optimization of production scheduling; definition of the information input needs for the programing of coal mining research as part of an overall Bureau of Mines coal mining health and safety data acquisition and management system; and testing and evaluation of new mining technology and equipment in relation to complete mining systems.

Metal and Nonmetal Research: $501,000 (Increase, $100,000)

Under this heading research will be conducted on respirable dust and respirators, mine ventilation, ground control studies, and equipment permissibility. Research to improve technology to cope with radon gas and radon decay product health problems in uranium mines will be expanded to include other facets in addition to the current investigation of the effectiveness of sealants for inhibiting radon gas diffusion.

EXAMPLES OF RECENT ACCOMPLISHMENTS

Another advance was made in the Bureau's longstanding efforts to promote safety in underground coal mines with the adaptation for use against coal dust explosions of a prototype quenching device developed earlier to combat gas explosions. An ultraviolet sensor detects incipient flame and activates rapid distribution of a quenching agent. In trials at the Experimental Coal Mine, Bruceton, Pa., it effectively arrested coal dust explosions even after they had propagated over considerable distances. There remains the problem of noise generated by operation of the device, which must be reduced to a physiologically acceptable level before it can be recommended for use in operating mines.

The long-range program for measuring environmental dust concentrations in operating underground bituminous coal mines, initiated in FY 1968, was continued with a survey of 29 large and 12 small mines. The resulting information has been used to establish operational standards for the prevention of pneumoconiosis in the bituminous coal mining industry. Particle size distributions were determined to aid in assessing this health hazard. A special study produced further evidence that concentrations of respirable dusts in face areas can be reduced significantly through the proper use of water and ventilation.

Research on rock bolts, used extensively for supporting mine roofs, concentrated on the effect of the shape of bearing plates on bolt performance. The interrelation between shapes of bearing plates, length of roof bolts, rock characteristics and environmental conditions was established. It was found that bell-shaped plates should be used where room permits and rock surfaces should be flat but not necessarily smooth. Minor irregularities such as the corrugations made by the bits of continuous mining machine do not affect rock bolt action.

Studies on methods for controlling coal mine roof have led to the development of an inexpensive displacement gage to measure mine roof motion relative to a presumed stable stratum. The device is compatible with conventional strain gage amplifying instruments and recorders. It offers several advantages over existing methods for measuring roof displacement. Specifically, it can be used to drive recording instruments and thus obtain graphical records of roof motion over a period of time. Its amplified output can also be used to drive an indicating meter for a direct readout of displacement.

A portable battery-powered recording methanometer was developed for continuous recording of the methane content in mine atmospheres. This type of monitor is necessary in studies of methane drainage, water infusion and mine ventilation. The device utilizes catalytic methane sensing resistors in a Wheatstone bridge circuit and records the resulting unbalance as percent methane on a strip-chart recorder. Permissible rechargeable batteries allow the methanometer to operate continuously for 30 hours.

The effect of diesel engine performance on the production of toxic exhaust fumes in underground mines has long been a subject of Bureau research. Recently, the use of additives as ignition accelerators in diesel fuel raised the possibility of a material increase in the concentrations of nitrogen oxides and carbon monoxide in the diesel exhaust. A study using amyl nitrate and nitrite as additives revealed no significant increase in the relative amounts of these pollutants in the exhaust gases.

Previous large-scale tests at the Experimental Coal Mine has established that dry fly ash could be injected pneumatically from tank trucks into open mine passageways to creat air-tight barriers against underground mine fires. To permit application of this remote-sealing method in caved workings, a special grouting procedure was developed. A fly ash-cement-water grout is pumped hydraulically under 100-psig pressure into caved areas where it acts as a sealing agent and helps to support the mine roof.

41-447 O - 70 - pt. 1 -- 59

ITEMIZATION OF ESTIMATE

Department of the Interior
Appropriation Title: Health and Safety

Bureau of Mines

	Actual 1969	Estimate 1970	Estimate 1971	Increase (+) or Decrease (-)
Program and Financing				
Total Obligations	$11,589,295	$27,316,255	$54,395,000	$+27,078,745
Unobligated balance available, start of year	- -	-732,255	- -	+732,255
Unobligated balance available, end of year	732,255	- -	- -	- -
Unobligated balance lapsing	10,318	- -	- -	- -
Budget authority	12,331,868	26,584,000	54,395,000	+27,811,000
Budget authority				
Appropriation	11,987,000	26,332,000	54,395,000	+28,063,000
Transferred to other accounts	-2,132	-868,000	- -	+868,000
Transferred from other accounts	347,000	- -	- -	- -
Appropriation (adjusted)	12,331,868	25,464,000	54,395,000	+28,931,000
Proposed supplemental for wage board increases	- -	36,000	- -	-36,000
Proposed supplemental for pay act increases	- -	1,084,000	- -	-1,084,000

		Actual 1969	Estimate 1970	Estimate 1971	Increase (+) or Decrease (-)
Obligations by Objects					
11	Personnel compensation	$ 8,930,000	$13,425,000	$25,946,000	$+12,521,000
12	Personnel benefits	669,000	1,000,000	1,953,000	+953,000
21	Travel and transportation of persons	438,000	721,000	1,481,000	+760,000
22	Transportation of things	40,000	90,000	136,000	+46,000
23	Rent, communications, and utilities	194,000	230,000	503,000	+273,000
24	Printing and reproduction	39,000	55,000	127,000	+72,000
25	Other services	650,000	8,437,000	17,124,000	+8,687,000
26	Supplies and materials	328,000	1,087,000	2,183,000	+1,096,000
31	Equipment	297,000	1,961,000	4,532,000	+2,571,000
41	Grants, subsidies, and contributions	4,000	310,000	410,000	+100,000
	Adjustment for rounding	295	255	- -	-255
	Total obligations	11,589,295	27,316,255	54,395,000	27,078,745

Personnel Summary	Actual 1969	Estimate 1970	Estimate 1971
Total number of permanent positions	825	1,380	2,192
Full-time equivalent of other positions	32	40	45
Average number of all employees	802	1,087	2,109
Average GS grade	9.1	9.2	9.2
Average GS salary	$11,162	$12,351	$14,465
Average salary of ungraded positions	$7,751	$8,255	$8,793

TRANSFER TO OFFICE OF THE SECRETARY

Mrs. HANSEN. You indicate a transfer of $400,000 to the Office of the Secretary. What does this involve?

Mr. THOMSON. The $400,000 that was transferred to the Office of the Secretary was primarily for a staff of advisory hearing examiners and a departmental board of review that is being set up in the Secretary's Office to hear the different cases under the new Mine Health and Safety Act.

ADVISORY BOARD

Mrs. HANSEN. Will you please insert in the record the number of members on the advisory board and how many will be appointed?

(The information follows:)

It is currently proposed that there will be a departmental board of review consisting of three members to make final determination on behalf of the Department. This board will act only on appeals from decisions of the hearing examiners. Further legal action would be in the U.S. Court of Appeals.

No appointments have been made to this three-member departmental board of review.

Mrs. HANSEN. Does the legislation provide for a specific amount to be transferred?

Mr. THOMSON. The transfer covers only this year. The funds for 1971 are included in the Office of the Secretary's budget.

Mrs. HANSEN. Is this just to pay for the rest of this fiscal year?

Mr. THOMSON. Yes.

Mrs. HANSEN. Insert in the record a detailed breakdown of the factors involved on which you base the total estimate of $400,000.

FUND TRANSFER TO SOLICITOR'S OFFICE

You also indicate a transfer of $468,000 to the Office of the Solicitor. Please insert a similar table for this amount.

(The information follows:)

BREAKDOWN OF AMOUNTS TRANSFERRED TO OFFICE OF THE SECRETARY AND OFFICE OF THE SOLICITOR

	Office of the Secretary	Office of the Solicitor
Permanent positions	38	52
Man-years of employment	12	26
Personnel compensation	$200,100	$353,000
Personnel benefits	16,200	26,000
Travel and transportation of persons	33,000	38,000
Transportation of things	5,400	
Rent, communications, and utilities	8,100	10,000
Printing and reproduction	8,300	5,000
Other services	[1] 99,600	8,000
Supplies and materials	4,400	3,000
Equipment	24,900	25,000
Total	400,000	468,000

[1] Included in this amount are such items as contractual services to provide official transcript of hearings, employee security clearance, office space preparation, and other miscellaneous items.

MAJOR MINE ACCIDENTS

Mrs. HANSEN. It would be well at this point to insert a meaningful summary table in the record for the past 3 calendar years, showing major mine accidents by State for each of the 3 years, indicating the fatalities and the causes of the accident.

(The information follows:)

MAJOR DISASTERS

Date	State	Operation	Number of fatalities	Cause
Mar. 5, 1968	Louisiana	Belle Isle Salt Mine, Cargill, Inc., St. Mary Parish, La.	21	Mine fire most probably caused by use of an open flame oxyacetylene torch or an electric arc.
Aug. 7, 1968	Kentucky	River Queen No. 1 Mine, Peabody Coal Co., Greenville, Ky.	9	Dust explosion caused by improper handling of explosives.
Nov. 20, 1968	West Virginia	Consol No. 9, Consolidation Coal Co., Mountaineer Coal Co. Division, Farmington, W. Va.	78	Explosion of gas and dust; source unknown as investigation has not been completed.

Note: A major disaster in the mineral industries is a single accident in which 5 or more men were killed. There were no major disasters in either 1967 or 1969.

RECRUITING HEALTH AND SAFETY PERSONNEL

Mrs. HANSEN. You have 825 permanent positions engaged in health and safety work in 1969. You have programed an increase of 555 positions for 1970 and an additional 812 positions for 1971. Undoubtedly, the majority of these employees will have to have special skills.

How confident are you that you will be able to recruit highly skilled individuals at this accelerated rate?

Mr. WHEELER. We have attempted to program in here a degree of competence and which, as I said this morning, we expect to get up to a level of something more than 50 percent of what we think it will take to do the job in the remainder of 1970.

And then we are confident we could get on up fully staffed by the end of 1971.

WALK-IN EXAMINATION CONDUCTED

Just last week we made available to coal miners around the country what we call a walk-in examination where they could walk in and take an examination for these various things, inspectors and electrical specialist positions.

In 1 week we were very pleasantly surprised, we had over 600 applicants come in and take these examinations. So even though perhaps no more than 15 or 20 percent of them will ultimately turn out to be qualified, this is an indication that we will probably be able to do the job.

Mr. MCDADE. What does the miner make a day?

Dr. HAYES. I think the going wage is $33 to $35 for a machine operator per day.

Mr. MCDADE. What are you going to pay an inspector per day?

Mr. WHEELER. From $9,000 to $13,000 a year.

Mr. MCDADE. That is around $50 a day. In other words, you are going to pay the inspector more than a miner would make, is that right?

Mr. WHEELER. I think this is right. I think the effect of this is already being felt. I think this is the mine foreman wages and we are really competing for mine foremen.

Mr. MCDADE. What do they make a day?

Mr. WHEELER. About what we are going to pay our inspectors.

Mr. MCDADE. Thank you, Madam Chairman.

CONTRACTUAL SERVICES

Mrs. HANSEN. You, are requesting an increase of $2.2 million for contractual services including costs for computer services, space and automobile expenses.

How much of this is for contractual services and what does it involve?

(The information follows:)

BREAKDOWN OF INCREASE REQUESTED FOR CONTRACTUAL SERVICES

Computer costs	$750,000
Space	320,000
Autos	384,000
Protective equipment	46,000
Visual aids and educational equipment—field use	350,000
Design and construction of special gages and instruments for permissability testing—field	150,000
Contract professional services—field permissability inspections	200,000
	2,200,000

AUTOMOBILES

Mr. WHEELER. Of course, all of our inspectors have to get to the mines, and this means we have to provide just about one automobile for each new inspector that we bring to the job.

We do propose, instead of buying a lot of additional automobiles, to utilize General Services Administration automobiles, so a lot of this money is for them. As a matter of fact, we find that we get new automobiles from GSA. They make us keep our cars longer then they hold onto their cars.

DUST SAMPLES ANALYZED PER DAY

The computer services, in this new law, in the dust provisions, for example, we have to analyze something like 4,000 samples of respirable dust per day. This information has to be analyzed, sent back to the operator, so that he will know what the level of respirable dust is in his mine. We have to use it in determining whether or not he is in compliance with the law.

PENALTIES

We also have the problem of penalties under the new law. One of the elements in assessing the amount of penalities will be whether an operator has had this same penalty before, whether it is a first, second or third offense, and about the only way we have been able to figure we can keep up with all of this is to put it into an automatic data processing system.

Mrs. HANSEN. Each mine operator will expect to be treated with the same equity as the next mine operator. Isn't that correct?

Mr. WHEELER. Yes, ma'am.

MINES TO BE INSPECTED

Mrs. HANSEN. Please insert in the record a breakdown of the number of mines to be inspected.

Mr. WHEELER. Yes, ma'am.

(The information follows:)

NUMBER OF MINES INSPECTED AND REGULAR INSPECTIONS MADE JAN. 1, 1969, DEC. 31, 1969 BY STATES

State	Mines inspected					Inspections made				
			C					C		
	A	B	L	S	Total	A	B	L	S	Total
Alabama	54	1	17	55	127	79	2	43	127	251
Alaska	5	0	0	0	5	7	0	0	0	7
Arizona	0	0	0	1	1	0	0	0	2	2
Arkansas	8	0	2	1	11	8	0	6	1	15
California	1	0	0	0	1	1	0	0	0	1
Colorado	7	2	11	39	59	8	2	30	68	108
Illinois	29	0	22	5	56	41	0	69	11	121
Indiana	29	0	3	5	37	38	0	12	15	65
Iowa	10	0	2	1	13	18	0	8	2	28
Kansas	5	0	0	0	5	5	0	0	0	5
Kentucky	100	65	157	599	921	111	67	483	1,031	1,692
Maryland	10	2	3	17	32	10	2	4	31	47
Missouri	7	0	0	1	8	7	0	0	1	8
Montana	9	0	0	9	18	9	0	0	16	25
New Mexico	4	0	1	7	12	5	0	3	13	21
North Dakota	19	0	0	0	19	24	0	0	0	24
Ohio	75	15	22	26	138	75	15	45	47	182
Oklahoma	8	1	2	1	12	8	1	8	1	18
Oregon	0	0	0	1	1	0	0	0	2	2
Pennsylvania:										
Anthracite	83	0	10	180	273	85	0	26	372	483
Bituminous	269	20	109	119	517	310	24	288	214	836
South Dakota	0	0	0	0	0	0	0	0	0	0
Tennessee	51	8	24	93	176	84	13	58	239	394
Texas	2	0	0	0	2	2	0	0	0	2
Utah	0	0	10	12	22	0	0	28	30	58
Virginia	29	35	64	446	574	31	36	176	739	982
Washington	2	0	1	3	6	4	0	2	8	14
West Virginia	120	62	307	439	928	122	62	764	772	1,720
Wyoming	8	0	1	4	13	8	0	3	8	19
National data	944	211	768	2,064	3,987	1,100	224	2,056	3,750	7,130

A—strip mines; B—auger mines; C—underground mines.
L—Mines employing 15 or more persons underground.
S—Mines employing fewer than 15 persons underground.

FUNDS FOR TECHNICAL SUPPORT

Mrs. HANSEN. How did you arrive at an estimate of $1 million for technical support?

Mr. WHEELER. We arrived at it because this is about the level that we think we can buildup to in 1971. We think it is very important, under this new law, that we provide a capability within the Bureau of Mines to advise operators, to give them technical assistance with their problems, and how they can get into compliance with this law.

ROOF CONTROL AND OTHER MINE PROBLEMS

What we are talking about here is roof control, ground control problems, ventilation problems, methane control problems, respirable dust, across the board. There is no substantial private capability in the United States for providing this service.

So what we intend to build up at Pittsburgh is a technical support staff, with a branch in Denver, Colo., that will be capable of going out and giving the mine operators the technical advice that they need.

We have most of the technical expertise in this area in our organizations.

EQUIPMENT TESTING

Mrs. HANSEN. Give us the details on your request of $1.1 million for permissibility equipment testing.

Mr. WHEELER. As I said this morning, within a period of 4 years the new law would require that all mines be treated as "gassy mines," and the principal thing that this does is to require all the electrical equipment in that mine to be approved on an ignition explosion proof basis, whereas it did not have to be that way before.

We now have a lot of equipment in mines that were not classified as gassy. Consequently they were not required to have explosion proof equipment in them.

Over a 4-year period, we have to make sure that all of the equipment in the mines is brought up to the same standard from the electrical standpoint that existed previously in gassy mines. And this is what this is for.

Mrs. HANSEN. How many mines do you expect will be classified as gassy?

Mr. WHEELER. There are something like 5,000 coal mines and probably no more than 1,000 of them were classified as gassy. Is that correct?

Dr. HAYES. That is right.

Mr. WHEELER. So there are about 4,000 that we will have to get into.

STATISTICS

Mrs. HANSEN. Justify your request of $1,070,000 for statistics.

Mr. WHEELER. The only way we can measure the effectiveness of what we are doing is to know what the health and safety records of the mines are. This is measured in a statistical fashion. I might say at the present time it is not measured very well in a statistical fashion because of the way the statistics are used.

Mrs. HANSEN. Will you explain that further?

Mr. WHEELER. Generally, the factor which is used is the disabling injury factor which means a man has to be hurt before it is reported.

Mrs. HANSEN. Hurt or killed?

Mr. WHEELER. He has to be hurt so badly that he cannot come back to work the next day. In a good many instances people are brought back to work the next day and put on some other job to avoid showing up as a statistic.

Mrs. HANSEN. How does this affect the various States with industrial compensation laws?

Mr. WHEELER. I don't know how they avoid conflict of the compensation laws. Just to give you an example——

Mrs. HANSEN. Supposing a man returned to work after having a rather serious injury. He would then be certified as able to return to his job. If his injury flared up after a few years or a few days wouldn't this preclude the man from receiving industrial compensation?

Mr. WHEELER. I assume what you say is true. But this is something I really don't know anything about. I do know that people are brought back to work to avoid becoming a health and safety statistic. And consequently, the health and safety statistics do not accurately reflect the level of health and safety in the mining industry.

What we propose to do is to ask for statistics on a different basis in which we will get reports of statistics on all injuries, not just disabling injuries, and on some occurrences where there are no injuries but where someone could have gotten hurt if someone had been standing there at the time.

So we are really trying to get at the problem of what is happening in the mines as far as the health and safety standpoint is concerned. This will require a much greater degree of sophistication in our statistical analysis.

If you are in a mine and a piece of rock falls from the roof and hits you, it kills you. If there is no one there, no one gets hurt. But the potential is just the same, the potential for a fatality.

DUST INSPECTIONS

Mrs. HANSEN. $5.4 million is requested for dust inspections. Describe in detail the cost factors on which this estimate is based.

Mr. WHEELER. Basically, we figure that an inspector of any kind will cost us $20,000 a year. We also figure that it will take about one-fourth of a clerical type-person for each inspector. That is basically what this is built up on, a basis of about $20,000 to fully equip and put an inspector in an automobile and all the equipment he has to carry with him.

TRAINING OF INSPECTORS

Mrs. HANSEN. $1.3 million is requested for training inspectors. Give us the detailed cost factors on this estimate.

Mr. WHEELER. I can't give you the cost factor. I think this was based upon our experience. At the present time we are training inspectors in two ways. We have a contract with the University of West Virginia to train three classes of 20 inspectors each. This is only part of the contract.

Mrs. HANSEN. How long does the training last?

Mr. WHEELER. Two months. We are also conducting a training course of 4 months' duration for coal mine inspectors at our district office at Mount Hope, and we have just completed training about 55 new trainee inspectors there.

We will continue to use this procedure. We are about ready to send a new batch of about 55 inspectors down to Mount Hope. And we are going to have to duplicate that at Pittsburgh in order to train all of the people that we intend to employ in 1970 and 1971. So we will be training people at Pittsburgh and at Mount Hope and we will be sending some people to the University of West Virginia.

Mrs. HANSEN. Will you be able to train all the new inspectors?

Mr. WHEELER. Yes.

Mrs. HANSEN. How long will it take you to complete the training of the new inspectors or will this be a continuing program?

MINES SAFETY ACADEMY

Mr. WHEELER. Yes, ma'am. As you know, we have asked for $500,000 for an architect engineering type study for the construction of a mines safety academy. In the long run we think the answer is to establish a mine safety academy somewhere in the United States to train our inspectors, to train any State inspectors who might want to come, to train industry people, their own industry inspectors and health and safety people generally. We would not expect to have that ready for about probably 2 years. The training at Mount Hope and Pittsburgh will not continue once this mine safety academy is in operation.

Mrs. HANSEN. Has this been discussed with the authorizing committee?

Mr. WHEELER. No. But we think we have the authority under the new law to do this.

Mrs. HANSEN. Do you have the authority to establish a mine safety academy?

Mr. WHEELER. I have not talked with them about it. Now, whether Mr. O'Leary did or not I don't know.

STATE GRANTS PROGRAM

Mrs. HANSEN. You are requesting $400,000 for your State grants program. Describe in detail for the committee how this program will work.

Mr. WHEELER. This amount of money is, as it says, to provide grants to the States to assist them in education and training and in their own inspection work.

Mrs. HANSEN. How many States are involved?

Mr. WHEELER. We have not provided a mechanism yet for this.

Mrs. HANSEN. How do you know $400,000 is the proper funding level?

Mr. WHEELER. I do not know.

Mrs. HANSEN. You just picked the figure out of the air?

Mr. WHEELER. I think that it won't be too much.

Dr. HAYES. Madam Chairman, I could put my finger on 10 or 15 States who will ask for money, and this will not be more than $25,000 per State.

Mr. MCDADE. If you get a figure big enough, you will get a lot of them in the coal business.

Dr. HAYES. Madam Chairman, under the previous act, we did have authority and budgeted $300,000 for such grants, but the language was sort of binding in that only a certain percent could go to one State. Under this act the restrictions are less stringent.

Mrs. HANSEN. I am intrigued by the method you used to arrive at the requested $400,000.

Mr. WHEELER. I would be less than candid if I did not say that this is our best estimate as to what the States will ask for.

Mrs. HANSEN. Will you please insert in the record a list of the coal mining States.

Mr. WHEELER. We will be glad to do so.

(Note: The information may be found on p. 813.)

Mrs. HANSEN. How many States have participated in grants?

Mr. WHEELER. There have been none.

Mrs. HANSEN. How many States have inquired about such a program?

Mr. WHEELER. To my knowledge, three or four.

FACILITY PLANNING

Mrs. HANSEN. $500,000 is requested for facility planning which involves preparation of architectural design of a mine safety institute. Give us the details on this.

You have already mentioned the mine academy. What do you expect the anticipated total cost of this will be? Also from what sources do you expect to derive the necessary academy staff?

Dr. HAYES. An amount was made available to us in the supplemental for this fiscal year for a study to be made as to how such a mining academy should be established.

Mrs. HANSEN. Is that report available?

Mr. WHEELER. No ma'am, it is not yet. This is a part of the contract that we have had made with West Virginia University, to tell us how they would recommend that this be done—whether it be done on campus as a part of the university course, off campus, or whether it ought to be some sort of a separate facility, whether the facility ought to be owned by the Government and operated by the university or whether it should be owned and operated by the university; all the various options. They expect to have their recommendations in by June 30.

So until we get that, we cannot make any decisions.

Mrs. HANSEN. How can the committee make a judgment on the amount of the appropriation if you have not made a decision?

Mr. WHEELER. I think some people have made a determination, as is evidenced by this request, that this should be a Government-owned facility.

Mrs. HANSEN. That is why I asked if you had talked to the authorizing committee.

NEED FOR GRADUATE MINING ENGINEERS

I think you realize, Mr. Wheeler, that a great many universities have had to phase out their mine schools because of the steadily decreasing interest by students in becoming graduate mining engineers. I know this is true in the West.

I am wondering if you have worked with universities to see where you might implement and build up mine engineering schools to handle the training of mine inspectors?

Dr. HAYES. Madam Chairman, we think this bill alone will probably create the greatest single demand for mining engineers in many years.

Mrs. HANSEN. I am sure it will. But will this increase the number of students majoring in mining? This seems to be where you have your greatest need.

Dr. HAYES. It is true across the United States. Back in 1952 we graduated 450 mining engineers. Ten or eleven years ago we graduated 235. This year about 110. The number of mining schools has decreased from 30 to about 17, or it will be 16 July 1.

MINING SCHOOLS ACCREDITED

Mrs. HANSEN. Will you insert in the record a list of the mining schools.

(The information follows:)

The following 18 schools have accredited curricula in mining engineering:

University of Alabama
University of Alaska
University of Arizona
Colorado School of Mines
Columbia University
University of Idaho
Michigan Tech. University
University of Minnesota
University of Missouri (Rolla)
Montana College of Mineral Science & Technology
University of Nevada
Pennsylvania State University
South Dakota School of Mines & Technology
University of Utah
University of Washington
University of Wisconsin
Virginia Polytechnic Institute
West Virginia University

Other schools have engineering departments which include a mining program, but do not have an accredited curriculum in this field. Included are: University of Kentucky, New Mexico Institute of Mining and Technology, Ohio State University, University of Pittsburgh, Stanford University.

MINE TRAINING NEEDED

Mr. MCDADE. Will this bill have any impact on people making a decision whether to work in the mines? We may have some mining engineers, but we haven't got any miners.

Mr. WHEELER. We are working on that. We are working with the Departments of HEW and Labor, Mrs. Hansen, on something separate and apart from this to encourage and provide some training for mine mechanics and mine electricians that would attract these people into the mining business as workers in the mines.

I would like to make it clear in this academy we are not talking about mining engineers.

Mrs. HANSEN. I understand.

Mr. WHEELER. We are talking about a 2-year course.

AVERAGE AGES OF MINERS

Mrs. HANSEN. Will you please insert in the record the average age of a miner at the present time and the average age of the new miners.

Mr. MCDADE. It would be interesting to see what percentage of the work force is presently immigrant labor, working in the mines.

Mrs. HANSEN. Yes.

Mr. MCDADE. If it is not too difficult.

Mr. WHEELER. Yes, we will try to do that.

(The information follows:)

AVERAGE AGE OF MINERS

The average age of miners working in coal mines in the United States is approximately 40.5. The average age of new miners (employed less than a year in the industry) is 24 and under. The average age of those people being encour-

aged and trained to become miners is 18–25. Data on the percentage of immigrant labor working in the mines is not available but would probably be less than 1 percent.

LOCATION OF MINING ACADEMY

Mrs. HANSEN. Once your report is finished, who is going to do the architectural design.

Mr. WHEELER. We don't know. We would obtain competition. We would invite proposals and consider them.

Mrs. HANSEN. Do you know where the institute will be located?

Mr. WHEELER. No, we do not. I think I would be less than candid again if I did not tell you that there has been quite a lot of conversation about putting it in West Virginia but no decision has been made.

Dr. HAYES. Madam Chairman, the General Services Administration would handle the contracting for architectural services.

METAL AND NONMETAL MINE SAFETY

Mrs. HANSEN. Describe in detail the workload factors which necessitate your estimate of $4.2 million for metal and nonmetal mine safety.

Mr. WHEELER. These factors are the same we use in coal. It is about $20,000 for fully equipped inspectors.

We do have a problem in estimating the workload and the amount of money that we need in the metal and nonmetal part of our business because we do not yet know what roles the States will wish to have.

Mrs. HANSEN. When do you think you will have that knowledge available?

Mr. WHEELER. It will not be before the beginning of the fiscal year.

STATE PARTICIPATION AND FUNDING

Mrs. HANSEN. Do the States need to pass their own mine safety legislation and do they have to provide their own appropriations?

Mr. WHEELER. The States have to provide their own appropriations.

Mrs. HANSEN. Which of necessity has to go through a legislative body?

Mr. WHEELER. Yes, ma'am. What we are going to ask the States to agree to do before we will agree to enter into a State plan with them essentially is to agree to do no less than we would do to provide an equivalent number of inspectors with an equivalent level of training to inspect against an equivalent strength of health and safety standards, to provide an equivalent level of laboratory facilities and this kind of thing. So it is going to be relatively expensive for the States. This may discourage some of them.

Mrs. HANSEN. Off the record.

(Discussion off the record.)

Mr. WHEELER. But we are going to encourage them.

CONTROL OF FIRES IN COAL DEPOSITS

Mrs. HANSEN. I notice most of your work on the control of fires in coal deposits will be in Utah and Wyoming in 1970 and in Utah and Arizona in 1971. Do these areas represent the major problem in this connection?

Mr. CORGAN. The major problem has to do with the Appalachia region as such, with respect to most of the mine fires coming under the Appalachia Act.

MINE FIRES ON PUBLIC LAND

Mrs. HANSEN. But you are also doing fire control work on three large coal fires in Utah and Wyoming.

Mr. CORGAN. That is right.

Mr. WHEELER. This is public land.

Mr. CORGAN. Under this particular act fires are controlled on a 50–50 basis except when the land is publicly owned. This is through the Bureau of Mines. We do cooperate with the Bureau of Land Management where they have fires on their land. In fact, all of this money is spent on public land.

Mrs. HANSEN. Is this on Bureau of Land Management land?

MINE FIRE FUNDING IN APPALACHIAN STATES

Mr. CORGAN. That is right where the Government owns either the minerals or both land or minerals. The reason for that is because, with the event of the Appalachia Commission, we receive fairly large sums of money applicable to mine fires in the Appalachian States. We are using the funds from the Appalachia Commission for very large fires in the east, such as in Congressman McDade's district, where we are completing work on the Cedar Avenue mine fire.

HEALTH RESEARCH

Mrs. HANSEN. $5.6 million is requested for health research. You have listed four areas of activity in this connection. Please give us a detailed explanation of the cost factors and workload involved in each of these phases.

Mr. HOWARD. The largest single program in health research is aimed at respirable dust. This program is designed to tackle the respirable dust program across the entire spectrum, from fundamental studies such as research on the physics and chemistry of the formation of the coal dust and the aerodynamics of face ventilation to move the dust and to collect and control it, to actual equipment design to minimize the production of respirable dust during the mining process. This work will be largely contracted. In fact, most of the mining research related to health and safety will be contracted.

Mrs. HANSEN. Will you please give us the details on your dust contract?

Mr. HOWARD. We have not made the contracts yet. We will advertise for contractors to do research on the problem areas of mining.

Mrs. HANSEN. Are they competitive?

Mr. HOWARD. For the most part they will be awarded on the basis of competitive bidding. However, we will want to do some of the more basic work at the universities, and this work will be located on the basis of the interests and capabilities that the various universities have, and will largely be done under negotiated contracts.

We have developed in some detail the research tasks that need to be undertaken to solve the dust problem. We have determined relative priorities and made some estimate of the cost of accomplishing these tasks. We will then prepare requests for proposals and advertise for contractors to bid on the research.

I am sure that we won't be 100 percent right in our estimate of the costs of every project. However, we think we know enough about the problems and the approaches to the problems that we can estimate costs fairly closely.

RESEARCH ON NOISE

The research on noise, minimizing noise, will be a small effort in fiscal year 1971 because we know very little yet about how to tackle this problem. The research will involve a study, which we hope to contract, to determine the level of noise and the frequency spectrum of the noise from various kinds of mining equipment that miners are exposed to and some exploratory work on how to reduce it, where necessary, to tolerable levels.

We have in the past done work on noise related to the use of pneumatic equipment underground in metal mines, but we have done nothing with coal mining equipment. This is largely mechanical noise. We just don't know yet how difficult this problem will be to solve.

Mrs. HANSEN. What is the percentage of workers affected by noise?

Mr. HOWARD. Practically all of the men at the face probably are exposed to noise sometime during the shift, that is in excess of the 90 decibels that is generally accepted as the maximum for prolonged exposure.

Mrs. HANSEN. How many miners, after working x number of years, have serious hearing problems?

Mr. HOWARD. There are no statistics that I know of on this problem. Most men who have worked in metal mines and tunnels who have been exposed to pneumatic machine noise for any length of time—say, 3 or 4 years—generally have some loss of hearing. Now, whether this is related I don't know. I don't believe there have been sufficient studies made to prove a relationship.

Mrs. HANSEN. You don't have any figures that you can compare with other industrial work?

Mr. HOWARD. We have only just completed the first study that I know of that has been made of the noise levels in U.S. Mines. Some of Mr. Wheeler's people made this study out in the West, I believe. They covered a number of mines and have measured the noise level for various kinds of mining equipment. I think this is the first time that has been done, and I also am fairly sure that in this country there has been no attempt to relate exposure and noise level in mining and effect on hearing.

Dr. HAYES. Madam Chairman, this is tied into the Labor Department. You know under the Walsh-Healey Act they do have certain standards for protection of the workingman, and certainly we will be guided by those standards, of 90 decibels. A lot of those have been formulated by HEW. So we are tied in along the line to the appropriate agencies.

Let me point out that this noise level has gone up in late years, like the pollution problem, because the machines are bigger.

Mrs. HANSEN. Is this also true in industry?

Dr. HAYES. Yes, ma'am.

SAFETY RESEARCH IN COAL MINES

Mrs. HANSEN. $14.4 million is requested for safety research in coal mines. This is about double the funding level in 1970. Do you have any additional information to supplement your statement this morning?

Mr. HOWARD. I might say that together, these two increases for health and for safety will permit us for the first time to do something we have been wanting to do for a long time. We will be able to tackle the mining process on the broad systems basis that it has to be tackled on if it is going to be substantially improved.

Our research program, both in health and safety, has a double-barreled objective. It works toward making presently available technology as safe as possible as quickly as possible, and at the same time it works toward the development of new technology that will be inherently safer, and that, in addition, will have built in the capability for improved economics and environment preservation.

You have to work toward improving the mining process in this way. You have to tackle it not just from the perspective of health and safety alone but from the overall perspective of health and safety, economics and environment. These have to be simultaneous objectives and all of them together determine the directions for your research.

We are, in general, working toward the development of mining systems that can, in the future, be largely remotely controlled or automated. This accomplishes two things. It permits you to keep the men in places in the mine where they will be exposed to less danger, and it increases productivity.

RESEARCH ON GROUND CONTROL

An example of the kind of thing we are doing is in the field of ground control. We have just started—and we are very hopeful of this area of research—work on the chemical stabilization of coal and coal mine rocks. If successful, this research will produce a means of reinforcement of the rock and coal surrounding a mine opening in such a way that it provides a strong shell and reduces the amount of extra material, such as roof bolts, steel, and timber, you have to bring into the mine. This new approach will also be more amenable to remote control or automation than the kind of technology we have today—that is, where you have to bring in heavy equipment, timbers, etcetera and men have to expose themselves to some extent in order to place it.

FUNDS FOR SAFETY RESEARCH

Mrs. HANSEN. Please insert in the record a tabulation indicating funds expended for safety research in coal mines during the past 10 years.

(The information follows:)

Funds expended for safety research in coal mines fiscal years 1962 through 1971

Fiscal year:	*Amount*
1971 estimate	$14,473,000
1970 estimate	6,873,000
1969	1,977,000
1968	1,644,000
1967	1,632,000
1966	1,615,000
1965	1,569,000
1964	1,322,000
1963	1,108,000
1962	920,000

General Administrative Expenses

Mrs. Hansen. Please insert pages 87 through 93 of the justifications in the record.

(The pages follow:)

General Administrative Expenses

Appropriation, 1969		$1,577,000
Transferred from "Solid Waste Disposal," Bureau of Mines		70,000
Total available, 1969		1,647,000
Appropriation, 1970	$1,647,000	
Pay cost supplemental	152,000	
Total available, 1970		1,799,000
Budget estimate, 1971		1,799,000

Analysis by Activities

Activity	F.Y. 1969 Amount Available	Fiscal Year 1970 Total Appropriation	Pay Cost Supplemental	Transfers 1/	Amount Available
General administrative expenses (Total program costs, funded)	$1,637,438	$1,647,000	$152,000	--	$1,799,000
Unobligated balance lapsing	9,562	--	--		--
Total	1,647,000	1,647,000	152,000	--	1,799,000

Activity	F.Y. 1969 Amount Available	F.Y. 1970 Amount Available	F.Y. 1971 Estimate	Increase (+) or Decrease (-) 1971 Compared with 1970	Page Reference
General administrative expenses (Total program costs, funded)	$1,637,438	$1,799,000	$1,799,000	--	90
Unobligated balance lapsing	9,562	--	--	--	
Total	1,647,000	1,799,000	1,799,000	--	

General Administrative Expenses: Fiscal year 1970, $1,799,000; fiscal year 1971, $1,799,000; no change.

PROGRAM OF WORK

The General Administrative Expenses appropriation provides for the immediate offices of the Director and Deputy Director, and the key administrative positions in the Headquarters Office and the Pittsburgh and Western Administrative Offices. The balance of the cost for general administrative positions is charged to program funds appropriated directly or transferred from Department of Defense; Atomic Energy Commission; Health, Education, and Welfare; and other agencies.

The Office of the Director provides executive direction in conducting programs designed to conserve and develop mineral resources and to promote healthful working conditions in the mineral industries.

The general administrative functions include the Office of Assistant Director--Administration and four staff and service divisions in Washington; two staff and service divisions in Denver, Colorado; and two field administrative offices. Administrative services consist of development, presentation, and execution of budgets; administration of equal opportunity under civil rights laws and Executive orders; planning, coordinating, and evaluating the Bureau's financial management program; maintaining payroll, retirement, and leave records; maintaining accounts for control of funds and recording assets, liabilities, and income and expense; preparing financial reports; recruiting, training, placing, classifying, and servicing employees; management of ADP systems and programs; organization and staffing management; centralized mail, files, and communication services; contracting for supplies, equipment, construction, research and development, grants, and other services; recording, utilization, maintenance, and disposal of Government property.

Costs of general administration are met from both the General Administrative Expenses appropriation and assessments on other funds including charges assessed to transfer, working and contributed funds. A breakdown of the source of funding is supplied below:

	Amount Available 1969	Amount Available 1970	Estimate 1971	Increase (+) or Decrease (-)
General administrative expenses	$1,637,000	$1,799,000	$1,799,000	- -
Other administrative funding:				
Conservation and development of mineral resources .	932,000	979,000	979,000	- -
Health and safety ...	268,000	482,000	582,000	$+100,000
Helium fund	55,000	55,000	55,000	- -
Working, contributed, and transfer funds.	315,000	320,000	320,000	- -
	3,207,000	3,635,000	3,735,000	+100,000

An increase of $100,000 from program funds is needed to provide additional administrative services for program increases proposed in 1971. Significant increases are included for several programs, primarily those relating to health and safety in the extractive minerals industries which are being expanded to carry out the provisions of the newly enacted Public Law 91-173, the Federal Coal Mine Health and Safety Act of 1969.

Specifically, the $100,000 increase would provide for the following:

	Amount
Personnel management	$ 45,000
Property management (contracting)	22,000
Finance	33,000
	100,000

Personnel management.—The increase in health and safety will cause a significant increase in staffing required for overall guidance, coordination, and program and staff assistance. Four additional positions are needed: One Staffing Specialist (GS-12) to direct and coordinate an extensive and streamlined recruitment effort, to draft and coordinate examinations with the Civil Service Commission, and to maintain liaison with them; one Training Specialist (GS-11) to expand the currently operating training program to make it capable of servicing the additional positions projected for the Bureau and to provide staff services to field training personnel; one Labor Relations Specialist (Personnel Management Specialist) (GS-12) to assist in all aspects of pay administration, position classification, etc.; and one Clerk-Typist (GS-4) to provide the necessary clerical support.

Property management (contracting).—In order to assist in contracting out for Inspector and Industry Training, Grants to States, and Mining Systems Research-Development of Advanced Technology for Safer Coal Mining Systems, two positions are needed: One Contract Specialist (GS-13) and one Clerk-Typist (GS-4).

Finance.—To meet the increased workload, resulting from increased employment, four additional positions are needed: One accountant (GS-11); one Accounting Technician (GS-7); one Voucher Examiner (GS-5); and one Payroll Clerk (GS-4).

ITEMIZATION OF ESTIMATE

Department of the Interior
Appropriation Title: General Administrative Expenses

Bureau of Mines

	Actual 1969	Estimate 1970	Estimate 1971	Increase (+) or Decrease (-)
Program and Financing				
Total obligations	$1,637,438	$1,799,000	$1,799,000	- -
Unobligated balance lapsing	9,562	- -	- -	- -
New obligational authority	1,647,000	1,799,000	1,799,000	- -
New obligational authority				
Appropriation	1,577,000	1,647,000	1,799,000	$+152,000
Transferred from other accounts	70,000	- -	- -	- -
Appropriation (adjusted)	1,647,000	1,647,000	1,799,000	+152,000
Proposed supplemental for pay act increases	- -	152,000	- -	-152,000

	Actual 1969	Estimate 1970	Estimate 1971	Increase (+) or Decrease (-)
Obligations by Objects				
11 Personnel compensation	$1,403,000	$1,546,000	$1,551,000	$+5,000
12 Personnel benefits	106,000	117,000	117,000	- -
21 Travel and transportation of persons	32,000	40,000	40,000	- -
22 Transportation of things	3,000	5,000	5,000	- -
23 Rent, communications, and utilities	7,000	7,000	7,000	- -
24 Printing and reproduction	7,000	8,000	8,000	- -
25 Other services	52,000	50,000	45,000	-5,000
26 Supplies and materials	18,000	16,000	16,000	- -
31 Equipment	9,000	10,000	10,000	- -
Adjustment for rounding	438	- -	- -	- -
Total obligations	1,637,438	1,799,000	1,799,000	- -

Personnel Summary

	1969 Actual	1970 Estimate	1971 Estimate
Total number of permanent positions	140	140	140
Full-time equivalent of other positions	3	3	3
Average number of all employees	135	135	135
Average GS grade	9.1	9.2	9.2
Average GS salary	$11,162	$12,351	$12,465
Average salary of ungraded positions	$7,751	$8,255	$8,793

NEED FOR INCREASED FUNDING LEVEL

Mrs. HANSEN. Please justify your request for an increase of $100,000 for administrative expenses.

Dr. LANDER. This is for four people in personnel to meet the expected increase in the Bureau strength of 1,100 people. Also this includes four in the finance operation to provide the additional people to take care of additional accounting that will result from the increase of 1,100 people.

There are two people in the contracting area to provide for anticipated increases in the contracting.

Mrs. HANSEN. Your justifications show total authorized permanent positions of 5,072 for fiscal year 1970, whereas, the personnel ceiling for the Bureau of Mines is 4,787. Likewise, while your justifications indicate a total of 5,851 positions for 1971, information received by the committee indicates your personnel ceiling will be 5,579. In other words, you have budgeted 272 more positions in 1971 than you have provided ceiling for. Are these "phantom positions" or are your budget estimates being overly optimistic? What is the explanation?

VACANCIES

Mr. THOMSON. We budget for more positions than the actual number of employees we expect to have on the payroll at the end of the year. We always have a certain number of vacant positions.

Mrs. HANSEN. Your vacancies are due to what?

Mr. THOMSON. Resignations, transfers, deaths, retirements, and so forth. When someone leaves, it takes, on an average, of 6 weeks before a replacement is obtained. Therefore, we are generally underbudgeted by 5 percent.

PERMANENT POSITIONS FILLED

Mrs. HANSEN. Please insert in the record a listing of permanent positions actually filled at the end of the month beginning with July 1969 through January 1970.

(The information follows:)

LIST OF PERMANENT POSITIONS FILLED

	July 31, 1969	Aug. 31, 1969	Sept. 30, 1969	Oct. 31, 1969	Nov. 30, 1969	Dec. 31, 1969	Jan. 31, 1970
Executive level V	1	1	1	1	1	1	1
GS-18	1	1	1	1	1	1	1
GS-17	3	3	2	2	2	2	2
GS-16	19	19	19	19	20	20	20
GS-15	102	103	106	106	109	110	112
GS-14	177	177	180	180	180	183	186
GS-13	332	332	335	335	331	330	330
GS-12	721	724	737	737	737	739	742
GS-11	445	445	447	447	447	449	452
GS-10	10	10	10	10	10	11	11
GS-9	398	398	402	402	402	408	412
GS-8	61	61	61	61	61	61	61
GS-7	351	351	355	355	351	355	360
GS-6	170	170	172	172	172	175	178
GS-5	348	348	352	350	348	351	359
GS-4	307	307	310	309	308	312	316
GS-3	201	201	203	202	201	203	205
GS-2	38	38	38	37	37	37	37
GS-1	3	3	3	3	3	3	3
Grades established by the Administrator, Agency for International Development:							
FC-3	1	1	1	1	1	1	1
FC-4	2	2	2				
Ungraded	689	689	664	664	664	664	665
Total permanent positions	4,380	4,384	4,401	4,394	4,386	4,416	4,454

EXPLANATION OF LAPSE RATE

Mrs. HANSEN. Also insert in the record a detailed statement of explanation on the amount of lapse you have taken in connection with the 5,579 positions you are budgeting for 1971.

(The information follows:)

EXPLANATION OF POSITIONS LAPSED—FISCAL YEAR 1971

In arriving at the estimated lapse (unfilled positions) for fiscal year 1971, consideration was given to delays in filling permanent positions due to retirements, transfers, etc., lag in recruitment of new positions and employees in a leave without pay status. A summary by appropriation of the estimated 272 unfilled positions as of June 30, 1971, follows:

	Budgeted positions	Estimated filled positions	Estimated vacant positions
Conservation and development of mineral resources	2,623	2,533	90
Health and safety	2,192	2,105	87
General administrative expenses	140	132	8
Helium fund	411	370	41
Advances and reimbursements	342	316	26
Contributed funds	53	46	7
Transferred funds	90	77	13
Total	5,851	5,579	272

REVIEW OF OPERATIONS BY OSR AND GAO

Mrs. HANSEN. When was the last time your operations were reviewed either by the Office of Survey and Review, or the General Accounting Office?

Dr. LANDER. We had four reviews by the GAO during fiscal 1969 and one by the Office of Survey and Review this year.

The GAO reviews were made because we closed out two finance offices, one in Pittsburg, and one in Mount Hope, and we substantially reduced the functions in Washington and consolidated all of these functions in Denver. So those four finance offices were audited.

The property management function was audited by the Office of Survey and Review in Washington. That was just recently.

Mrs. HANSEN. What exceptions, if any, were taken?

Dr. LANDER. The GAO took one exception in Pittsburgh, because we had the supplemental for the pay raise controlled in Washington, and GAO felt that we should have allocated the money out to Pittsburgh and exercised the control from there. That was the only one by GAO.

On the Office of Survey and Review Audit, there were a number of issues. They found that some equipment was not tagged, some equipment they found was not on the record, and some equipment on the record they could not find. We were aware of this problem and had been working on it for some time.

This condition arose because of personnel vacancies we had and the new people we got did not keep up with the property controls. This situation is pretty well in hand right now. I think that within a month we ought to have this all corrected.

ADMINISTRATIVE PROVISIONS

Mrs. HANSEN. Please insert in the record page 94 of the justifications.

(The page follows:)

BUREAU OF MINES.—EXPLANATION FOR ADMINISTRATIVE PROVISIONS

PURCHASE OF PASSENGER MOTOR VEHICLES

The Bureau of Mines proposes to replace 121 passenger motor vehicles in fiscal year 1971. This requires the replacement of about one-third of our total passenger vehicle fleet. The vehicles proposed for replacement are used by our coal mine inspectors during the course of their work. The vehicles are used over rough, unimproved roads and are subjected to harsh conditions since they are located in remote areas. All vehicles proposed for replacement meet the minimum age standards and more than half meet both age and mileage standards. Normally, we replace not more than 25 percent of our fleet in any fiscal year. However, during the past few years a lack of funds has prohibited our replacing the number required to maintain an economical and safe fleet. The following table summarizes purchases for the past 3 fiscal years and the expected purchases during the current year:

	Passenger fleet size	Number replaced	Percent replaced
1967	386	24	6.2
1968	386	55	14.2
1969	372	47	12.6
1970	369	48	13.0

CONTRIBUTIONS

Various industrial organizations have expressed interest in many phases of the Bureau's activities and are at times willing to contribute funds, experienced personnel, special equipment, etc. toward accomplishing certain objectives useful to industrial purposes. The Bureau endeavors to cooperate with industry wherever possible and authorization to accept such contributions is a distinct aid in furthering such cooperation.

SALE OF METALS AND MINERAL PRODUCTS

In some of the metallurgical pilot plants of the Bureau quantities of special metals may be manufactured which might be of value to industrial concerns. Funds received from the sale of such products would be covered into miscellaneous receipts.

REPLACEMENT OF MOTOR VEHICLES

Mrs. HANSEN. Please justify your need to replace 121 passenger motor vehicles in 1971. What is the total cost of this replacement?

Dr. LANDER. We have, as you see, Madam Chairman, a fleet of our own of 369 vehicles which we use in the health and safety function. We wish to replace 121, which represents about one-third of that fleet, all of which meet the criteria.

In addition to that, we are requesting additional vehicles which we will lease from GSA. We have asked GSA to furnish us with 111 passenger carrying vehicles during 1970, and we plan to request an additional amount in 1971, depending upon the number of coal mine inspectors that we are able to hire. Probably it will be in the neighborhood of 300.

This is to provide the transportation necessary for our increased mine inspection program.

CONTRIBUTORS TO BUREAU OF MINES ACTIVITIES

Mrs. HANSEN. You stated on page 94 of your justifications: "Contributions from various industrial organizations expressed interest in many phases of the Bureau's activities." Will you insert in the record a list of the contributions made and the contributors.

Dr. LANDER. All right.

(The information follows:)

CONTRIBUTED FUNDS

Contributor	Purpose	Amount
American Association of Cost Engineers	Annual bibliography of published cost data	$750
American Gas Association	Deliverability of gas from wells in underground storage projects.	61,472
American Mining Congress (International Coal Preparation Congress—Proceedings).	To help defray printing and other related costs of the "Proceedings for the 5th International Coal Preparation Congress—1966."	7,223
American Petroleum Institute	Characterization of the heavy ends of crude oil	112,745
Do	Thermodynamics of hydrocarbons from petroleum	84,425
Do	Effects of fuel volatility on automotive emissions	88,088
Do	Characteristics of petroleum fuels	12,500
American Society for Testing Materials	National exchange group program for engine testing of petroleum fuels.	6,610
Buttes Gas & Oil Co	Examination of pyrochlore-bearing ore	5,000
California, State of	Cooperative investigation which provides for spectrographic analysis.	2,250
Carter Creek Holding Co	Investigate feasibility of producing high-grade prereduced pellets from iron-ore concentrates.	2,853
Cities Service Helex, Inc., et al. (Northern Helex Co.; Phillips Petroleum Co.; and National Helium Co.).	Maintenance of cooperative motion picture "Helium"	2,854
Cleveland-Cliffs Iron Co	Investigate the flotation behavior of low-grade nonmagnetic iron ore of the Tilden type.	28,415
Commercial Solvents Corp	Determine burning rate of a series of diluted nitromethane solvent mixtures as a function of pressure.	4,725
Coordinating Research Council	Experimental procedures for vehicle emission measurement	127,358
Eveleth Taconite Co	Preparation of prereduced pellets from iron ore	16,497
Firestone Tire & Rubber Co	Investigation of disposal of used tires by carbonization	10,000
General Electric Co	Investigation of the potential hazards of asphalt fixation wastes.	25,000
General orientation program (various contributors).	Development, testing, and evaluafion of field sampling equipment and techniques; and offshore campaigns.	105,310
Hanna Mining Co	Upgrading nonmagnetic Cooley-Nashwauk area iron ores	539
International Copper Research Associates, Inc.	Work on thermodynamics properties of copper and its compounds.	33,607
Kaiser Aluminum & Chemical Corp. and Davison Chemical Division, W. R. Grace & Co.	Cooperative exhibit on alkalized aluminum process for removing SO_2 from stack gases.	5,000
Kaiser Refractories	Cooperative motion picture on "Refractories."	697
Kendrick Cattle Co	To control a coal outcrop fire on the property of the Kendrick Cattle Co.	608
Kennecott Copper Corp	Ground control—full-scale test of Kimbly pit cooperative investigation.	23,545
Manufacturing Chemists Association, Inc.	Explosions: Causes, prevention, and protection	2,886
Mobil Research & Development Corp	Oil shale mine measurements	3,626
Round Mountain Associates	Analysis of silver deposits data	2,000
Tennessee, State of	Cooperative motion picture on "Tennessee"	750
Texas Gulf Sulphur Co	Cooperative motion picture on "Potash"	692
Union Carbide Corp	Fundamental studies on the structure and chemistry of coal	10,728
Union Pacific Railroad Co	Cooperative motion picture on "Mineral Resource Conservation."	615
Utah Geological Survey	Cooperative studies of oilfield waters	1,500
Various contributors	Various purposes	2,380
Total		793,248

Note: Contributions are made by States, counties, municipalities, and private sources, and they come in as payment to the U.S. Treasury.

Helium Fund

Mrs. Hansen. Please insert in the record pages 95 through 98 of the justifications.

(The pages follow:)

BUREAU OF MINES

HELIUM FUND
(In thousands of dollars)

Estimated income, 1970:	
Operations	$15,993
Borrowing authority	24,000
Anticipated supplemental borrowing authority	21,100
Estimated income, 1971:	
Operations	13,278
Anticipated supplemental borrowing authority	40,000

Financial Summary

	Actual 1969	Estimate 1970	Estimate 1971
Income and expenses (funded):			
Income:			
Sales of helium	$15,760	$14,000	$11,500
Other income	2,086	1,933	1,778
Total income	17,846	15,933	13,278
Expenses			
Production and marketing expenses	2,998	2,740	1,970
Resources survey expense	66	72	75
Research expense	1,015	1,300	1,318
Administrative and other expense	1,369	1,453	1,515
Total expenses	5,448	5,565	4,878
Net income (funded)	12,398	10,368	8,400

	Actual 1969	Estimate 1970	Estimate 1971
Unfunded balance, start of year	$-3,595	$-12,272	$-4,861
Borrowing authority	26,200	24,000	- -
Anticipated supplemental borrowing authority	- -	21,100	1/
Changes in selected resources	-1,232	- -	- -
Total funds available	33,771	43,196	3,539
Capital outlay:			
Crude helium for underground storage	45,156	44,988	2,111
Land, structures, and equipment	887	3,069	997
Total capital outlay	46,043	48,057	3,108
Unfunded balance, end of year	12,272	4,861	- -
Unobligated balance, end of year	- -	- -	431

1/ Excludes an anticipated supplemental of $40 million which is contingent upon the results of the current review of the long-range helium program.

Helium Fund: Fiscal year 1970, $24,000,000; fiscal year 1971, none; decrease $24,000,000.

In addition, the budget estimate anticipates supplemental appropriations of $21.1 million for 1970 and $40 million for 1971.

The proposed supplemental of $21.1 million for 1970 is to pay for helium purchased under existing contracts which is collectable by the contractors through court action.

Use of the $40 million proposed for 1971 is contingent upon results of the current review of the long-range helium program.

Under the helium conservation program (as authorized by Public Law 86-777, the Helium Act Amendments of 1960), helium which otherwise would be wasted in the consumption of helium-bearing natural (fuel) gas is recovered and stored for future use. The helium is extracted from the natural gas in five plants owned and operated by four private corporations. It is purchased under long-term, fixed-price contracts by the Government (through the Bureau of Mines) and stored in the Government's partially depleted Cliffside gasfield near Amarillo, Texas. Purchases of helium under the program are limited to $47.5 million per year.

Revenue for the entire helium program--including the purchase of helium for conservation purposes, administration and operation of the two Bureau-owned helium extraction plants, the helium shipment facilities, and helium research--is derived from two sources:

(1) Sale of helium to other Federal agencies, Federal contractors. and private companies; and related income.

(2) Borrowing from the U. S. Treasury, as authorized.

Funds borrowed from the Treasury must be repaid, with accrued interest, within 25-35 years from the date of enactment of the Helium Act Amendments of 1960. The Bureau of Mines sales price for helium ($35 per 1,000 standard cubic feet) is calculated to provide sufficient revenue, over the time period involved, to repay program indebtedness in its entirety. Estimates of future helium usage provide the basis for the calculated sales price.

Within the past three years a substantial private helium industry--totally independent of the Federal helium program--has developed. The private helium industry is not engaged in the long-term storage (conservation) of helium; thus it is not subject to the additional costs of conservation. Consequently, it can sell helium for a price substantially lower than the Bureau of Mines sales price. This has resulted in a significant decrease in Bureau of Mines sales, and a consequent decrease in revenue.

Every effort is being made to increase Bureau of Mines helium sales, especially in that part of the overall helium market represented by Federal contractors. To the extent that this effort is successful in the future, sales revenue will increase and the need for future borrowings will be less.

PROGRAM OF WORK

The objective of the Government's helium program is to obtain maximum beneficial use of the helium resources of the United States. To accomplish this objective, the helium fund is used for:

(1) Production and sales,

(2) Acquisition and storage of helium that would otherwise be wasted,

(3) Research and development on helium so that it can be used more beneficially now and in the future.

These functions may be modified pending the outcome of the current review. At present, they involve the following.

Production and Sales: It is estimated that the Bureau will produce 682 million cubic feet of helium in fiscal year 1971. Sales of helium are estimated at 329 million cubic feet. The excess production will be injected to underground storage. The operation of Amarillo Helium Plant as a facility for the production of helium will be discontinued and portions of the plant will be utilized as a facility for filling and shipping helium cylinders and tube trailers. Gas processing operations now performed at Amarillo will be transferred to the Exell plant for annual savings of $854 thousand through the consolidation of operations. The number of employees will be reduced by about 50. Plans are being made for other reductions.

Acquisition and Storage: Under existing long-term contracts, the Bureau of Mines would purchase an estimated 3.4 billion cubic feet of crude helium at a cost of $40.8 million from four private companies. The crude helium would be transported through the Bureau's pipeline to Government-owned underground storage near Amarillo, Texas.

Research and Development: The Bureau of Mines would continue its program in basic and applied research at essentially the same level as 1970. Emphasis would be placed on improvements in processes, production methods, purification, liquefaction, and utilization.

SUPPLEMENTAL ESTIMATE FOR 1970 AND 1971

Mrs. HANSEN. I notice you are not requesting any funds for the helium program, but that you anticipate a supplemental estimate for 1970 and also a supplemental estimate for 1971. What is the occasion for this procedure?

Dr. HAYES. Madam Chairman, the helium program is being reviewed by the Department and the $20 million that we will be requesting in the first supplement is to pay for helium which has been and will be delivered before the end of the fiscal year. We are bound by existing contracts to accept delivery of this material.

Mrs. HANSEN. Who is making the study, and when do you expect it to be completed? What, if any, preliminary indications has the study revealed?

Mr. LIPPER. This work has been done in the Department. I provided some technical information. I think the answer will be soon, but I cannot name the time.

SALES OF HELIUM

Mrs. HANSEN. The actual sales of helium was estimated in 1970 to be $14 million, and in 1971 $11.5 million. What is causing this rather sizable reduction?

Mr. LIPPER. There have been two causes for this. One, there has been a continual erosion in the market from the private producers because of the price difference and we were unsuccessful in the lawsuit last summer and finally found in January that the Department of Justice would not appeal the final finding on that matter.

Another factor is the general reduction in the space program and in Government programs that have used helium in the past.

Mrs. HANSEN. Can Government agencies also purchase helium from the private sector?

Mr. LIPPER. Yes. This is what I referred to earlier. The total helium use is down. The lower priced helium that has come from the private sector has been sold primarily to Federal contractors.

PURCHASE OF LOWER PRICED HELIUM

Mrs. HANSEN. Why is it possible for the private sector to sell helium so much cheaper than the Federal Government?

Mr. LIPPER. The $35 selling price for Government helium established in 1961 is the price that was calculated to pay this program out over a 25-year period. As we discussed this matter before the Mines and Mining Subcommittee, of the Interior and Insular Affairs Committee the Government price provided a price umbrella. But the cost of production for the private plants is probably not more than our own.

GOVERNMENT STORED HELIUM

Mrs. HANSEN. How much helium does the Government have stored at the present time?

Mr. LIPPER. 24.2 billion feet. That is about a 30-year supply at the current level of use.

LESSER NASA DEMAND FOR HELIUM

Dr. HAYES. Mr. Lipper, I think you should cite one specific instance of decreased demand of NASA.

Mr. LIPPER. Yes. Six months ago, we got estimates from all the Federal agencies of what they expected their helium demands to be over the next 30 years. NASA is the predominant user. They told us then that they expected in the 1970–72 time period to use about 300 million feet of helium a year. Last week we got a revised estimate from them, which is half that—150 million feet a year—as their baseload.

Mrs. HANSEN. Is this due to the curtailment of the space program?

Mr. LIPPER. Yes, and a stretchout.

Mrs. HANSEN. This committee in the past has had a great many questions on the helium program. We are glad to see that a study is being made to provide information to determine the priorities of the helium program.

HELIUM RESEARCH CENTER AT AMARILLO

Have you closed any helium laboratories?

Mr. LIPPER. Mr. O'Leary recommended this and the Secretary approved the closing of the helium research center at Amarillo. The target date for that is June 30. In connection with that, we are also making reductions in the headquarters operating staff at Amarillo, with the closing of the two small helium plants at Otis, Kans., and Shiprock, N. Mex. 2 years ago and now the closing of the research center, our operations people who provide the administrative support for that research center that we were making additional cuts in our operations.

Mrs. HANSEN. What contribution was this research center making?

Mr. LIPPER. It was making directly relatively little contribution to the conservation program. The general feeling was that this could be closed without major damage to the program.

TOTAL OBLIGATIONS INCURRED

Mrs. HANSEN. Insert in the record pages 99 through 105 of the justifications.

(The pages follow:)

Obligations Incurred by the Bureau of Mines by Activity
and Source of Funds, Fiscal Years 1969, 1970, and 1971

	1969 Actual	1970 Estimate	1971 Estimate
Coal:			
Bureau of Mines appropriation	$ 6,946,655	$ 6,968,000	$ 8,468,000
Department of Health, Education, and Welfare	629,389	630,000	630,000
Department of the Interior	127	- -	- -
Department of the Air Force	23,475	20,000	20,000
Department of the Navy	10,428	10,000	10,000
Atomic Energy Commission	40,142	30,000	30,000
General Services Administration	21,170	20,000	20,000
Contributed Funds	28,703	10,000	10,000
Total	7,700,089	7,688,000	9,188,000
Petroleum:			
Bureau of Mines appropriation	2,490,263	2,695,000	2,295,000
Department of Health, Education, and Welfare	462,704	500,000	510,000
Department of the Air Force	117,015	100,000	100,000
Department of the Army	37,731	40,000	40,000
Department of the Navy	59,175	60,000	60,000
Department of the Interior	5,777	- -	- -
Atomic Energy Commission	51,354	50,000	50,000
Federal Highway Administration	10,581	- -	- -
Contributed Funds	495,335	391,000	391,000
Total	3,729,935	3,836,000	3,446,000

Obligations Incurred by the Bureau of Mines by Activity
and Source of Funds, Fiscal Years 1969, 1970, and 1971 (continued)

	1969 Actual	1970 Estimate	1971 Estimate
Oil shale:			
Bureau of Mines appropriation	$ 2,260,610	$ 2,413,000	$ 2,413,000
Atomic Energy Commission	29,643	25,000	25,000
Department of the Interior	10,000	- -	- -
Contributed Funds	3,625	- -	- -
Total	2,303,878	2,438,000	2,438,000
Metallurgy:			
Bureau of Mines appropriation	10,563,267	12,147,000	12,235,000
Atomic Energy Commission	410,371	300,000	200,000
Department of the Air Force	36,012	35,000	35,000
Department of the Army	6,162	5,000	5,000
Department of Health, Education, and Welfare	115,914	120,000	120,000
National Aeronautics and Space Administration	84,542	86,000	86,000
General Services Administration	9,366	9,000	9,000
Department of the Navy	360	- -	- -
Tennessee Valley Authority	242	- -	- -
Department of the Interior	46,355	45,000	45,000
Contributed Funds	86,895	22,000	22,000
Total	11,359,486	12,769,000	12,757,000

Obligations Incurred by the Bureau of Mines by Activity
and Source of Funds, Fiscal Years 1969, 1970, and 1971 (continued)

	1969 Actual	1970 Estimate	1971 Estimate
Mining:			
Bureau of Mines appropriation	$ 4,733,969	$ 6,391,000	$ 7,691,000
Atomic Energy Commission	16,345	20,000	20,000
Department of the Army	20,996	30,000	30,000
National Aeronautics and Space Administration	241,866	275,000	275,000
Department of the Interior	2,848	- -	- -
Panama Canal Corporation	4,266	- -	- -
Contributed Funds	25,098	- -	- -
Total	5,045,388	6,716,000	8,016,000
Marine mineral mining:			
Bureau of Mines appropriation	1,467,270	925,000	925,000
Department of the Interior	20,498	20,000	20,000
Department of the Navy	18,072	15,000	15,000
Contributed Funds	105,287	10,000	10,000
Total	1,611,127	970,000	970,000
Explosives:			
Bureau of Mines appropriation	605,574	663,000	663,000
Atomic Energy Commission	369	- -	- -
Department of the Air Force	217,093	225,000	225,000
Department of the Army	230,416	235,000	235,000
Department of the Navy	112,777	115,000	115,000
Department of Health, Education, and Welfare	25,000	25,000	25,000
National Aeronautics and Space Administration	184,867	200,000	200,000
Federal Aviation Administration	22,768	25,000	25,000
Contributed Funds	32,613	25,000	25,000
Total	1,431,477	1,513,000	1,513,000

Obligations Incurred by the Bureau of Mines by Activity
and Source of Funds, Fiscal Years 1969, 1970, and 1971 (continued)

	1969 Actual	1970 Estimate	1971 Estimate
Statistics:			
Bureau of Mines appropriation	$ 1,913,349	$ 2,091,000	$ 2,091,000
Department of the Interior	5,961	- -	- -
Contributed Funds	3,260	- -	- -
Total	1,922,570	2,091,000	2,091,000
Economic analysis:			
Bureau of Mines appropriation	473,859	520,000	520,000
Bituminous coal:			
Bureau of Mines appropriation	853,707	934,000	934,000
Atomic Energy Commission	12,780	20,000	20,000
Department of Health, Education, and Welfare	112,545	400,000	400,000
Veterans Administration	45,000	48,000	48,000
Department of the Air Force	114,021	125,000	125,000
Department of the Army	69,000	72,000	72,000
Department of the Navy	73,000	81,000	81,000
Total	1,280,053	1,680,000	1,680,000
Anthracite:			
Bureau of Mines appropriation	394,873	746,000	746,000
Petroleum:			
Bureau of Mines appropriation	749,373	839,000	839,000

Obligations Incurred by the Bureau of Mines by Activity
and Source of Funds, Fiscal Years 1969, 1970, and 1971 (continued)

	1969 Actual	1970 Estimate	1971 Estimate
Minerals:			
Bureau of Mines appropriation	$ 3,878,879	$ 4,494,000	$ 4,494,000
Atomic Energy Commission	36,530	25,000	25,000
Department of the Army	106,251	115,000	115,000
Department of Health, Education, and Welfare	200,582	100,000	100,000
Other Agencies	11,379	39,000	39,000
Department of the Interior	446,367	400,000	400,000
Contributed Funds	6,560	14,000	14,000
Total	4,686,548	5,187,000	5,187,000
International activities:			
Bureau of Mines appropriation	565,170	658,000	658,000
Department of State	203,370	175,000	175,000
Central Intelligence Agency	252,147	195,000	- -
Department of the Interior	2,831	- -	- -
Contributed Funds	200	- -	- -
Total	1,023,718	1,028,000	833,000
Inspections, investigations, and rescue work:			
Bureau of Mines appropriation	9,101,529	16,078,255	33,557,000
Atomic Energy Commission	231	- -	- -
Contributed Funds	355	- -	- -
Department of the Interior	3,083	- -	- -
Total	9,105,198	16,078,255	33,557,000

Obligations Incurred by the Bureau of Mines by Activity
and Source of Funds, Fiscal Years 1969, 1970, and 1971 (continued)

	1969 Actual	1970 Estimate	1971 Estimate
Control of fires in coal deposits:			
Bureau of Mines appropriation	$ 210,935	$ 218,000	$ 218,000
Contributed Funds	369	- -	- -
Total	211,304	218,000	218,000
Health and safety research:			
Bureau of Mines appropriation	2,276,831	11,020,000	20,620,000
Department of the Navy	15,300	- -	- -
Total	2,292,131	11,020,000	20,620,000
General administrative expenses:			
Bureau of Mines appropriation	1,637,438	1,799,000	1,799,000
Department of the Interior	268	- -	- -
Contributed Funds	5,615	- -	- -
Total	1,643,321	1,799,000	1,799,000
Drainage of anthracite mines:			
Bureau of Mines appropriation	- -	200,000	200,000
Demonstration grants:			
Bureau of Mines appropriation	1,411,315	769,000	- -
Research, training, and technical services:			
Bureau of Mines appropriation	1,330,868	- -	- -

Obligations Incurred by the Bureau of Mines by Activity
and Source of Funds, Fiscal Years 1969, 1970, and 1971 (continued)

	1969 Actual	1970 Estimate	1971 Estimate
Appalachian mine area restoration:			
Appalachian Regional Commission	$ 3,938,016	$ 6,500,000	$ 5,000,000
Contributed Funds	447,932	600,000	600,000
Total	4,385,948	7,100,000	5,600,000
Helium production:			
Federal and Non-Federal Sources	52,723,000	32,522,000	7,986,000
Summary:			
Bureau of Mines appropriation	53,865,734	72,568,255	101,366,000
Other agencies	8,984,878	11,565,000	9,780,000
Contributed Funds	1,241,847	1,072,000	1,072,000
Helium production:			
Federal and Non-Federal Sources	52,723,000	32,522,000	7,986,000
Total	116,815,459	117,727,255	120,204,000

CONTRIBUTIONS FROM OTHER GOVERNMENT AGENCIES

Mrs. HANSEN. Your contributions from other agencies declined from $11.5 million in 1970 to $9.7 million in 1971. What is the explanation for this decrease?

Mr. THOMSON. This is a contribution from other Government agencies. The main difference on the cutback is in the Appalachian program where the level of operation will be down in the future years.

ACCOMPLISHMENTS OF HELIUM LABS

Mrs. HANSEN. Will you please insert in the record a list of the accomplishments of your helium laboratories.

Mr. LIPPER. We can list the recent projects.

Mrs. HANSEN. Yes, if you will, please.

(The information follows:)

PROJECTS
HELIUM RESEARCH CENTER
AMARILLO, TEXAS

1. Critical evaluation of published thermodynamic data for helium.
Purpose: To evaluate all published thermodynamic data for helium and attempt to develop mathematical methods for describing the behavior of helium over wide ranges of temperature and pressure.
2. Experimental determination of the heat capacity of liquid helium.
Purpose: To make measurements aimed at improving the accuracy of known thermodynamic functions for liquid helium.
3. Experimental determination of enthalpy for the helium-nitrogen system.
Purpose: To determine the heat content of helium nitrogen mixtures over a limited range of temperature and pressure.
4. Experimental pressure-volume-temperature data for helium and selected mixtures.
Purpose: To obtain thermodynamic data for comparison with thermodynamic data obtained by other means.
5. Solubility of helium in liquefied gases.
Purpose: To determine the solubility of helium in liquefied gases at low temperatures and evaluate the results in the light of known theories of solution behavior.
6. Determination of the viscosities of gases.
Purpose: To determine the viscosities of gases and provide more insight into the fundamental behavior of gases.
7. Experimental determination of the temperature and pressure coefficients for the dielectric constants of helium, nitrogen, and selected gases.
Purpose: To determine various electrical phenomena which are characteristic of the molecules studied and attempt to check the results with various theoretical relationships.
8. Phase equilibria at temperatures to 5 degrees kelvin.
Purpose: To determine basic thermodynamic relationships for helium containing systems.
9. Helium bibliography.
Purpose: Compile a comprehensive reference source on literature pertaining to helium.
10. Adsorption and desorption of gases on solids.
Purpose: To develop a new understanding of the fundamental nature of the means by which gases are adsorbed on solid materials.
11. Concentration, separation, and analysis of helium-3.
Purpose: To develop laboratory scale methods for the conceneration, separation, and analysis of helium-3. Helium-3 is a lightweight form of helium which is present to the extent of about one-tenth part per million parts of ordinary helium.
12. Cryogenic chromatography.

Purpose: Obtain data on adsorption agents at low temperatures and determine thermodynamic data for argon, helium, and neon.

13. Determine heat transfer regimes, cryogenic fluids.

Purpose: Determine transfer of heat between gaseous and liquid helium gas mixtures.

14. Theoretical determination of second and third virial coefficients for Helium from semiempirical interatomic potentials.

Purpose: To obtain a better theoretical understanding of the behavior of helium molecules.

Mrs. HANSEN. Mr. Obey?

Mr. OBEY. No questions, thank you.

Mrs. HANSEN. Mr. Reifel?

Mr. REIFEL. Madam Chairman, I have no questions to ask. You have presented a comprehensive array of questions and the replies, in my judgment, are excellent. The Bureau of Mines is one of the most important research agencies in the Government, at least I so regard it and I think the chairman does too. We hope that very shortly you will have a Director on board who will keep up your momentum.

Mrs. HANSEN. I have been particularly pleased with your answers on your coal mine health and safety program. I must urge you to continually work toward safeguarding our total mineral resources.

I do very much appreciate the frankness of your answers. I particularly appreciated Mr. Wheeler's frankness today.

Mr. WHEELER. Thank you, madam.

Mrs. HANSEN. Mr. McDade?

CEDAR AVENUE MINE FIRE

Mr. MCDADE. Thank you, Madam Chairman. I want to express my commendations to all of you and the Bureau of Mines, particularly to Mr. Corgan for your work on the Cedar Avenue mine fire project. I wish the members of the committee had an opportunity to look at, first, the threat that faced us from an underground mine fire and, second, what was done to deal with it. It resulted, in my judgment, in a conservation practice unequaled any place in the United States.

We started with a mine fire about 300 feet below ground that potentially could have wiped out an entire city. Mr. Corgan reported to me just a short while ago that the fire is now isolated. It is being backfilled and being contoured. That land is not going to be distressed. It is going to be usable land.

The Bureau of Mines, as the engineering arm of the Appalachian Commission under this project, made a most remarkable effort and did a most remarkable job, and you have my complete accolades for doing so.

MINE SUBSIDENCE IN SCRANTON, PA.

I wonder if you could tell me about the current status of the most recent subsidence in my district, up around the 2600 and 2700 block of Burning Avenue. Have you any recommendations as to how you are going to handle this?

Mr. CORGAN. I think the recommendation would be, Congressman, that the area should be flushed if economically justified. You have an area there that would be very difficult and expensive to flush. What has happened is that there are five beds of coal underlying the area you

are referring to in Scranton. They have all been mined. The last mining was done in 1945. There has recently been what we call a squeeze, where the entire underground area above the bottom bed—which is the No. 2 Dunmore—has moved. We believe if the upper bed, which is the big bed, and the second or new county bed were flushed it would provide a cushion for the entire area and help to eliminate potential hazards. If this is not done, you will very definitely have minor subsidences over a period of years.

What I call a minor subsidence somebody else would not consider minor. It all depends on whose house or whose building is being wrecked, as to whether it is minor or major. The beds of coal are on approximately a 10° pitch and if sand is flushed into the two upper beds, it will probably flow down under most of the houses and the businesses in the area. The area that should be flushed would be about 1,000 feet by 3,000 feet. This is something that would come obivously under the Appalachian Act.

Mr. McDade. In other words, you do recommend the flushing program for that area?

Mr. Corgan. Very definitely if economically justified. If you have an area that fits right in a populous part of the city, and if you don't do something about it you will have subsidence in that particular area.

APPALACHIA ACT FUNDING

Mr. McDade. Thank you. I am glad to have your recommendation, and that brings us to the Appalachia Act. Do you make recommendations as to what level this program ought to be funded at in the Bureau of Mines?

Mr. Corgan. There were some recommendations suggested by a number of the States—Pennsylvania made a recommendation—and if I am not mistaken the recent budget provided some $5 million for Appalachia projects. It would not take long to use the $5 million. That could evaporate overnight if we are talking about flushing underground voids.

MINE FIRE IN WILKES-BARRE AREA

Also there has been another mine fire in the Wilkes-Barre area which is expected to be submitted by the State to the Commission at a cost of $1.3 million.

Mr. McDade. You tend to agree with me then that this figure is low in terms of realistically being prepared to approach these problems that are going to come up right away?

Mr. Corgan. I think so.

ACTIONS COMPLETED WITH APPALACHIA ACT FUNDS

Mr. McDade. Could you have furnished to me personally—you need not put it in the record—a summary under Appalachia of past actions completed, current actions in process, and what is pending and a description as well as a dollar amount of what is happening in those areas?

Mr. Corgan. Yes.

Mr. McDade. And if you want to make a recommendation, what you think is a realistic level for purposes of funding.

I sit on the committee that funds the Appalachian Commission, and I would like to have your recommendations about what you think is an adequate level. If you want to give me one, I will be glad to have it.

Mr. Corgan. Of course, you realize that the States themselves, the Appalachian States, are the ones who turn in the projects. They are the ones who suggest what should be undertaken. Because of that, they have a very large voice in how much money should be requested.

Mr. McDade. If you want to give it to me, all right. If you don't want to, that is all right too.

That is all, Madam Chairman, except to say I wish we could put up a memorial for what you people did on Cedar Avenue, because it was absolutely splendid.

Thank you, Madam Chairman.

Mrs. Hansen. Thank you.

STATE SPENDING UNDER APPALACHIA ACT

Will you also insert in the record the total that the States have expended in the whole Appalachia area and compare this with the Federal participation.

(The information follows:)

SUMMARY OF APPROVED APPALACHIAN MINING AREA RESTORATION PROJECTS, 1965–70

State and type of project	Number of projects	Total approved costs	Federal share of total costs	State share of total costs
Pennsylvania:				
Anthracite mine fires	8	$20,553,720	$15,415,290	$5,138,430
Bituminous mine fires	25	1,638,965	1,229,224	409,741
Subsidence	7	6,679,904	5,009,928	1,669,976
Surface restoration	4	610,119	457,589	152,530
Oil and gas well sealing	2	52,500	39,375	13,125
Subtotal	46	29,535,208	22,151,406	7,383,802
Ohio: Surface restoration	2	1,044,714	783,536	261,178
Virginia: Surface restoration	1	147,797	110,848	36,949
Maryland: Surface restoration	1	87,200	65,400	21,800
New York: Oil and gas well sealing	1	166,500	124,875	41,625
Total	51	30,981,419	23,236,065	7,745,354

Mrs. Hansen. Thank you very much.

THURSDAY, MARCH 5, 1970.

GEOLOGICAL SURVEY

WITNESSES

DR. WILLIAM T. PECORA, DIRECTOR
WILLIAM A. RADLINSKI, ASSOCIATE DIRECTOR
DR. JAMES R. BALSLEY, ASSISTANT DIRECTOR, RESEARCH
FRANK E. CLARKE, ASSISTANT DIRECTOR, ENGINEERING
JOEL M. JOHANSON, ASSISTANT DIRECTOR, PROGRAM
WILLARD F. McCORNACK, ASSISTANT DIRECTOR FOR ADMINISTRATION
ROBERT H. LYDDAN, CHIEF TOPOGRAPHIC ENGINEER
DR. HAROLD A. JAMES, CHIEF GEOLOGIST
ERNEST L. HENDRICKS, CHIEF HYDROLOGIST
DR. RUSSELL G. WAYLAND, CHIEF, CONSERVATION DIVISION
WILLIAM A. FISCHER, RESEARCH COORDINATOR, EROS PROGRAM
FREDERICK E. STEARNS, BUDGET OFFICER
RICHARD R. HITE, DIRECTOR OF BUDGET, INTERIOR DEPARTMENT

Mrs. HANSEN. This morning we have the Geological Survey. It is a particular pleasure to welcome you back, Dr. Pecora. We always enjoy your presentation and the information that is provided by the members of your bureau.

INTRODUCTION OF STAFF

Will you please introduce your staff?

Dr. PECORA. Thank you very much, Madam Chairman.

I would particularly like to present to the committee two new members of the Director's team, the new Associate Director, William A. Radlinski, who has succeeded Dr. Baker who retired. Mr. Radlinski is a well-known photogrammetrist, former president of the American Society of Photogrammetry. He is a very distinguished man in the application and research of photogrammetry.

Our second new member is Dr. James R. Balsley, Assistant Director for Research, who succeeded Dr. De Noyer who has gone to NASA as head of the earth resources satellite program, as you know, to help in the coordination of the earth resources program of NASA with the user agencies.

Mrs. HANSEN. Off the record.

(Discussion off the record.)

Dr. PECORA. Dr. Balsley is a very distinguished geologist, geophysicist, and one of the great pioneers in the development of sensor application in mineral development. He was in Government for a long time, then left for a university tour, and now has come back to join us again.

DUAL ROLE OF OFFICE

The other members of the team you know. Thank you for permitting me to introduce these two new members of the Director's team. We now have a well-balanced team to do as I have promised this committee, to use the Geological Survey as a major striking force in two

areas: First, in what we call our bread and butter programs, the usual and traditional studies of the land and water resources for the benefit of this country; and second, in the application of earth science technology, knowledge, and data to the major problems of the country. In other words, following the suggestion of this committee, not to wait for a problem to become unmanageable, but try to predict what the problem may be and get information which can help in the solution of the problem before it becomes unmanageable.

PREPARED STATEMENT

My prepared statement I would like to leave for the record.
(The statement follows:)

STATEMENT OF WILLIAM T. PECORA ON GEOLOGICAL SURVEY BUDGET FOR FISCAL YEAR 1971

In presenting our budget recommendations, I would like to call particular attention to several important trends which will be of increasing significance in future years. A great deal of attention has been given recently to the interacting problems of population growth, environmental quality, and resource demands of the Nation. There can be no question that as more and more Americans live each year within the finite boundaries of our Nation; as each demands more from the physical enviroment in the way of material things; and as we maintain our high expectations for a quality environment, we will have to choose more wisely, manage more effectively, and perceive more accurately the consequences of our actions.

The Secretary of the Interior has said many times that the next decade will be one of assessment, inventory, and cataloging of the Nation's resources and environmental values. This has been the business and basic purpose of the Geological Survey in the past. It will continue to be important business in the future.

The Secretary has also suggested that ". . . this is a good time to resolve that in the next decade our net national environment—and not our gross national product—will be the overriding objective of the Nation." I believe this comment accurately reflects both the Nation's mood and the essence of our circumstance. However, without doubt we will seek to achieve both the objectives of economic growth and of high environmental quality. As in the case of a prudent householder, or businessman trying to stretch a limited budget to satisfy many competing needs, this will require a much closer accounting of assets and liabilities.

We will need to know much better than we now do what choices are available to us and what results we may expect from alternative resource and environmental decisions. Inevitably, conflicts, tensions, and competition will arise. These are best evaluated, debated, and resolved from a platform of adequate knowledge.

The program which we present to you today is designed to extend our knowledge base in areas of particular concern and criticality. In a time of fiscal and budgetary constraints, we must necessarily propose only those measures of highest priority. Yet, our request will provide an improved base for future action to attain the more complete assessment of resources and environment to which the Secretary has so often referred.

TWO AVENUES OF RESPONSE TO NEED FOR KNOWLEDGE

Our program proposals can be viewed as falling into two general categories. First, our national program of investigations and mapping in topography, geology, water, and conservation. These are the "bread and butter" programs about which we have talked so often in the past. They are our basic source of environmental data.

The second category is completely dependent on the first and illustrates one of the unique and inherent strengths of Geological Survey. These are the programs in which we draw upon basic knowledge and expertise accumulated over

the years to provide an integrated attack on a particular troublesome or unique problem such as the trans-Alaska pipeline proposal, or to generate a promising new technical innovation as in the EROS program.

I believe the committee understands very well the significance of these two avenues of response to the Nation's need for resource and environmental knowledge. However, I wish to sharply underline this essential relationship because I feel it will be of increasing importance. We very clearly need to maintain and accelerate our systematic accumulation of basic data and knowledge of the physical environment. At the same time we must preserve and increasingly employ this unique capability of survey to bring together scientists from the different disciplines in a concerted attack on our critical and increasingly complex problems.

TOPOGRAPHIC MAPPING

May I now briefly summarize our proposals. In our topographic mapping program we propose an increase of slightly more than $1.1 million. These funds would be used primarily to accelerate our program to complete coverage of the Nation with maps of modern standard and to initiate a National Cartographic Information Center to facilitate access to map information developed by many public and private agencies, but difficult to obtain because of inadequate information of their existence, character, and location.

WATER RESOURCES INVESTIGATIONS

We propose increases aggregating $2.1 million to strengthen our program of water resources investigations. The major share of this increase will be used in conjunction with cooperating State and local agencies to acquire data needed by both State and Federal Governments. Another very important component of the water resources investigations program will be the initiation of studies to provide information for decisions with respect to subsurface storage of wastes, a subject of increasing importance throughout the Nation.

MINERAL LEASING ACTIVITIES

Funds amounting to nearly $800,000 are proposed to strengthen programs for the evaluation and management of oil and gas operations and mineral mining on the public lands, both on shore and on the Outer Continental Shelf.

PROBLEMS OF URBAN EXPANSION

Two program areas are directed quite specifically to the problems of urban growth and expansion. Within the past year the survey in cooperation with the Department of Housing and Urban Development has initiated a pilot study of the San Francisco Bay area to improve techniques and understandings concerning the use of physical environmental and resource data as a major component in the urban planning and development process. Two additional studies of a similar character, but in areas of different physical characteristics and having different developmental problems, are proposed to start in fiscal year 1971.

In addition our studies of geologic hazards, in particular, engineering geologic factors of particular significance in many of our rapidly expanding urban areas will be strengthened under the program which we are presenting to you today.

RESOURCES OF ARCTIC ALASKA

Supplemental funds were provided by the Congress in 1970 for initiation of investigations in connection with the Interior Department's consideration of a proposed trans-Alaska oil pipeline. We are proposing additional funds in 1971 to carry forward these investigations.

Additionally, recognizing the potential for further resource development in arctic Alaska as a result of improvement in logistical support and the availability of energy supplies, we are proposing a modest program of coordinated topographic, geologic, and hydrologic resource investigations. These studies would consider particularly the resources of the major Federal land holdings in the area to assure that the knowledge needed for their wise management and determination of policies with reference to them is available.

EARTH RESOURCES OBSERVATION SATELLITE (EROS) PROGRAM

An increase of $500,000 for a total of $1.6 million is proposed in 1971 for the Interior Department's earth resources observation satellite (EROS) program. This program has been carefully coordinated with related NASA satellite experiments and is designed to provide for effective experimentation in practical use of data acquired by NASA's ERTS satellites. The initial ERTS satellite is now expected to be launched early in calendar year 1972. Interior's program provides for the research to define further practical applications of the satellite data and training Interior personnel to use the data experimentally as it becomes available.

Dr. PECORA. The one highlight that I have mentioned is the utilization of this bureau in its dual role; I must thank this committee for its support and endorsement over the past few years which has permitted us to strike out into these new areas, because we believe it is in the national benefit.

Thank you, Madam Chairman.

Mrs. HANSEN. Thank you.

Your statement was one of best that we have received from the Department.

Dr. PECORA. Thank you.

GENERAL POLICY FOR FORMULATING 1971 BUDGET

Mrs. HANSEN. Very well done, and very succinctly done, which is not always the case for other bureaus.

Your bureau has many demands for its services. I am sure your program needs for 1971 exceeded available funds. Describe in general terms for the committee the general policy guidelines you followed for the formulation of your 1971 budget estimate.

Dr. PECORA. Yes.

What we have attempted to do, Madam Chairman, in accordance with the desire of the administration, is to move into this next decade with a balance of our resources and analyses applied throughout the country to a better understanding of the environment; this balance must continue into the future. The country will be in continuing short supply of basic mineral resources and usable water, and at the same time, there must be attention given to degradation of the environment. This can only be done with knowledge and attention to the land and its related domain of water and air.

Therefore, the Geological Survey, having traditional work in the solid earth sciences and having a traditional program for many decades in this area, is exceptionally well qualified to move into this area to acquire the data and knowledge which can be used as a basis for other kinds of decisions.

Our budget, therefore, was directed toward an increase in those basic areas such as topographic mapping, water resource studies, conservation, and lease management of our public lands and related problems. These programs will permit us to move forward into the next decade and to increase this data and knowledge gathering and synthesis for use of all people of the United States.

It was with this point in mind that we divided the effort among the several programs.

MEASURE OF GEOLOGICAL SURVEY BUDGET AGAINST VALUE OF LAND AND AREA ENCOMPASSED

Mrs. HANSEN. At this point in the record it might be well to equate the total budget for your Bureau with the value of the land and resources in the United States you administer.

Dr. PECORA. Our budget is for $106 million.

Mrs. HANSEN. $106 million. How many million acres of land?

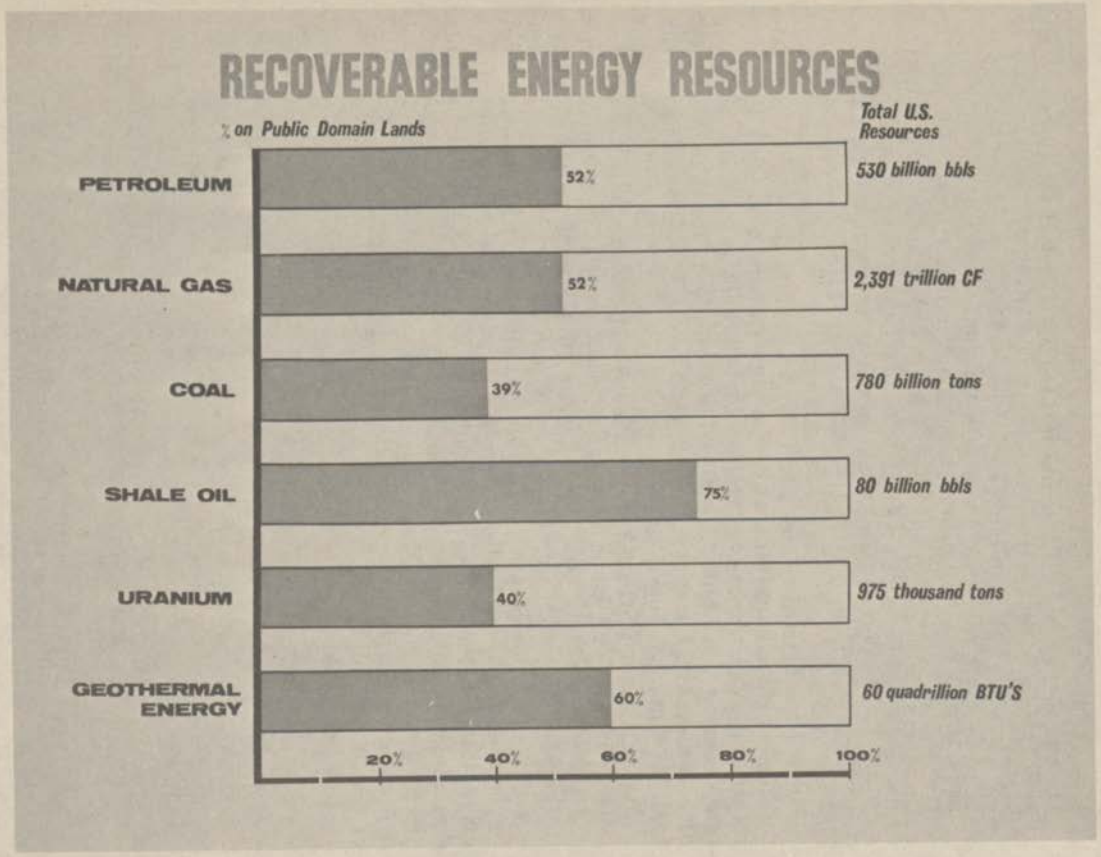
Dr. PECORA. The total area of the United States on land itself is in excess of 3½ million square miles. The Continental Shelf is an additional 1.2 million square miles. Roughly the total area is more than 4 million square miles. But the interesting statistic here is that half of that total area is in the public domain, that is, belongs to all of the people of the United States and is not in private ownership. The area offshore is about equal to that in the public domain on land. It is very interesting also to analyze the geologic potential of basic resources that occur in this public domain; for example, more than 50 percent of the potential energy resources, that is oil, gas—resources of this kind—are in the public domain.

Mrs. HANSEN. What would you estimate the value to be?

Dr. PECORA. This chart shows, first, that total U.S. resources, from a geologic potential point of view, is in the order of 530 barrels of liquid petroleum. Currently, the average price of crude oil throughout the country is $3 per barrel. The oil potential of the entire country is in excess of 500 billion barrels. Fifty-two percent of this, with a gross value in the ground of about $825 billion, is within the public domain lands, onshore and offshore.

The analysis in this chart also includes natural gas, of which 52 percent is estimated to be on public domain land; and coal, 39 percent of which is on public land.

(See chart below:)


RECOVERABLE ENERGY RESOURCES
% on Public Domain Lands
Total U.S. Resources
PETROLEUM
52%
530 billion bbls
NATURAL GAS
52%
2,391 trillion CF
COAL
39%
780 billion tons
SHALE OIL
75%
80 billion bbls
URANIUM
40%
975 thousand tons
GEOTHERMAL ENERGY
60%
60 quadrillion BTU'S
20%
40%
60%
80%
100%

VALUE OF NATURAL GAS RESOURCES

Mrs. HANSEN. What is the value of the natural gas resources?

Dr. PECORA. I would like to put it into the record, if I may.

Mrs. HANSEN. Please do.

Dr. PECORA. The numbers are very important here, and we want to be sure they are correct.

(The information follows:)

The gross value of natural gas in the ground on the public domain (52 percent of the national resource), at today's prices, is estimated to be about $215 billion.

COAL RESOURCES

Dr. PECORA. Thirty-nine percent of the Nation's coal is on the public lands. An interesting correlation can be made here. Of the total production of coal in the United States today, somewhere in the order of 2 to 3 percent is produced from the public lands. So, as you see, the big reserve of coal available as an energy resource for the future remains in the public lands for future development.

Mrs. HANSEN. Please insert in the record the dollar value of U.S. unmined coal resources.

Dr. PECORA. We shall do that.

(The information follows:)

The 39 percent of the Nation's unmined coal resources, which are estimated to be on public domain lands, has a gross value of about $1,400 billion.

Dr. PECORA. It is important that these coalbearing lands should be classified. They have not been thoroughly inventoried and classified by the Federal Government and the people of the United States do not really know where their coal deposits are in any detail.

OIL SHALE

In shale oil, there is a different relationship. We calculate that 75 percent of the oil which can be derived from oil shale in the Western States, is in the public domain. We have estimated that 80 billion barrels of oil might be recovered by some procedure in the future if we put costs aside. This is a resource that mankind needs to think of for the future.

OTHER ENERGY MINERALS RESOURCES

Even in the area of uranium, 40 percent of our reserve potential rests within the public domain. In the area of geothermal energy, which is becoming increasingly important in our thinking because it is a potential energy resource without pollution effects, 60 percent is within the public domain.

The point I am really making here, and I thank the Chair for permitting this discussion, is that as we look down the pike for the people of the United States we see a tremendous value in the public lands in mineral commodities and in energy sources, that must be considered for the welfare of this Nation in future decades.

The work that needs to be done to establish where these reserves are located and what is their character, is a large job that we should be getting at in great detail.

MINERAL LEASING RECEIPTS TO TREASURY

Apart from the actual potential of the reserves for future generations, the current mineral leasing receipts into the U.S. Treasury are interesting. The Geological Survey alone, in its supervision and management of public lands both onshore and offshore, has collected something on the order of $350 million this past year. Our budget before you of $106 million is less than a third of the total receipts that our work brings into the U.S. Treasury.

It is this relationship which I think bears a study by this committee, because as we continue to work in the public lands and continue to evaluate and earmark target areas for development, these receipts will increase in the future. It is money well spent and well invested in this primary work, because it will not only benefit the economy for the welfare of the people, but it will also mean tremendous receipts to the Treasury of the United States in the future.

Mrs. HANSEN. Have you worked closely with the Public Land Law Review Commission?

Dr. PECORA. We have met with them on a number of occasions. We have supplied information requested of us by this commission.

Mrs. HANSEN. Thank you.

FUNDS FOR EVALUATION OF MINERALS ON PUBLIC LANDS

It would be difficult to designate the single most important activity of your Bureau, but you know this committee, for several years, has urged you to give primary consideration to the evaluation of mineral content on Federal lands in order that the Federal Government would receive a just return in its leasing activities. Please comment on the extent to which your 1971 budget estimate accomplishes this purpose.

Dr. PECORA. In the 1971 budget before you we have shown an increase in the basic topographic mapping of the public and other lands which will provide base maps for reference, calculation, and identification in resource and other programs.

In addition to this we are asking you for an increase in funds for offshore evaluation of public lands and lease management.

REDUCED FUNDS FOR GEOLOGIC ANALYSIS

In the area of geological analysis, however, there is a decrease in an item in the Geologic Division program which will slow down the rate of geological analysis on land and off shore for the reconnaisance type of studies which traditionally has been one of our main programs.

Mrs. HANSEN. Do you consider this a wise reduction?

Dr. PECORA. It unfortunately was a decision that had to be made because the funds permitted for our program were not big enough to stretch. The decision was to defer this area of the program in order to permit the other ones to move ahead at this time.

DESIGNATION OF PRIORITIES

Mrs. HANSEN. Who sets the priorities?

Dr. PECORA. The initial priorities, of course, were first set by the Geological Survey. In our discussions with the Secretariat, general

agreements were reached as to the order of priorities. However, in later discussions within the administration about funds that would be available for the budget, there had to be some further retrenchment. We were compelled to make some pretty tough decisions.

Mrs. HANSEN. Expenditure controls were imposed when you needed so much information to develop our natural resources?

Dr. PECORA. I concur with the views of the committee in this area. All I can say, Mrs. Hansen, is that as we look forward over the next decade we would hope that we can move more deeply into these areas than we have been permitted this year with this budget before you.

Mrs. HANSEN. I think the people of the United States are going to demand expenditures to provide this necessary knowledge.

GEOLOGIC DATA NEEDED PRIOR TO LEASING

On October 22, 1969, an article appeared in the Wall Street Journal with the headline "Panel on Oil Spills Suggests U.S. Demand Firms' Geological Data Prior to Leasing." The panel suggested that such information might be obtained "through negotiation or purchase" as well as possible Federal order. Of course, the oil companies have strenuously opposed such action in the past.

I keep recalling some of our discussions 3 or 4 years ago. You made the comment that you have not had the funds to develop all the data which was necessary for proper leasing procedures. Isn't this correct?

Dr. PECORA. That is correct, Mrs. Hansen; that is certainly correct. We started our discussions in this area I think in my first appearance before you.

Mrs. HANSEN. That is right.

Dr. PECORA. Since that time, urged by the committee, we have been making a great many analyses into the kind of information we might need in order to best protect the public interest.

COMMENT ON WALL STREET JOURNAL ARTICLE

Mrs. HANSEN. May we have your comment on the Wall Street Journal article?

Dr. PECORA. I would like to comment on that, indeed.

In the area of the public domain, if any lands are put up or suggested to be put up for bidding, it is in the best interests of the people of the United States that we in the Department of the Interior who supervise this program have a good knowledge of the mineral value of those lands.

Quite frankly, we were in a much better position on land than we were offshore because we had had a much longer history in the development of information. As you first pointed out some years ago, we should learn more about our offshore lands before we lease them. We have been, with the help of this committee, putting funds into this area over the past several years.

OIL DRAINAGE FROM ADJACENT TRACTS

I wish to report to the committee that these funds are indeed very well spent. Not only must we protect the public interest in selecting

those lands which have the most immediate value, but we must advise the Bureau of Land Management, who acts as the landlord for the department, as to the order of leasing; as to the development of a drainage situation. Now, a drainage situation is money in the bank, inasmuch as it involves what I would consider the mother lode, good hard currency. Our scientists and engineers in reviewing a tract that is already under lease may come to a conclusion that some of the oil is being drained from an adjoining tract which is not yet under lease.

Although the U.S. Government gets the royalties for that oil, the value of the adjoining tract not yet put up for lease decreases because of oil that is being drained from it. When we recognize this situation, we immediately advise the Bureau of Land Management of this situation which can occur in many places at the same time. A drainage sale is immediately arranged and these tracts are put up for sale. Therefore the Government can get the highest return at the earliest opportunity.

The moneys allowed for this have been very successfully used. We have been extremely active in determining drainage sale situations and having them put up for public bid.

GREATER EFFORT NEEDED IN MARINE EVALUATION PROGRAM

Apart from the drainage situation, the information we need is also precedent to leasing. This is the area where this committee has urged us to acquire much more information at a more rapid pace, not only in the marine geology program which is the broad reconnaisance, but also in the evaluations preceding lease-sale decisions. The funds that you have provided us have given us a significant move forward over the last couple of years, and we have funds in this year's budget for that too.

We believe, however, and quite straight forwardly, that we should be at a much higher rate in this area, because the results are so beneficial. I refer not only to the evaluations of tracts precedent to and following lease sales, but also to the broad marine geology program which a sister division to the Conservation Division carries out. Both divisions work together in attempting to analyze the character of our Continental Shelf.

But again, as you have noted in the budget, there is no increase for the marine geology program. The increase has been restricted to lease management and lease sale tract evaluation. We are willing, Madam Chairman, to do the work we believe is in the best interest of the country, and we are willing to increase our efforts. We believe these programs worth while, but we must wait for a favorable budget situation in order to proceed.

Mrs. HANSEN. Problems don't wait.

Dr. PECORA. Problems are always with us.

GEOLOGICAL DATA NEEDS

Mrs. HANSEN. Will you please discuss for the committee the comment that was made in a newspaper article about requiring the oil companies to turn over to the Government, geological data on potential offshore drilling sites before the Department of Interior decides whether or not to offer leases on such sites for bid.

Dr. PECORA. This data acquisition is divisible into two parts, as I indicated. The first is precedent to leasing, and the other is following leasing. We have no problem getting information after the leases are issued, because the Mineral Leasing Act and the Secretary of the Interior's regulations require that all lessees give us that information.

But precedent to leasing the companies are reluctant, almost insistent on retaining their own information because of the strong competitive character that exists.

Mrs. HANSEN. This makes it mandatory that your Bureau acquire the knowledge, because you should have the same depth and wealth of knowledge as the oil companies.

Dr. PECORA. This is the position that we take in the Department, and the position which your committee has expressed on a number of occasions.

We believe that if we are to have information on the offshore, and if we are to respect the competitive character of the free enterprise system, we should get some information on our own to make our own evaluations. This is the traditional way of the Geological Survey.

So far I would say that the pace of funding for this program would not give us the level of information that I professionally believe we should have. We are operating, therefore, in certain areas of the program with a deficiency of information.

Mrs. HANSEN. Can't this be very costly?

Dr. PECORA. It can be costly in the sense of not utilizing the information in a timely fashion.

Mrs. HANSEN. That is what I mean.

Dr. PECORA. To produce the maximum income for the Federal Government.

Mrs. HANSEN. This is exactly what I mean.

This would also prevent some disasters.

Dr. PECORA. Yes. And even to recommend against certain lease sales for one reason or another. Let me give an example that I think would be very illustrative of the kind of information that is valuable in this program.

POTENTIAL GAS SHORTAGE

The Chairman of the Federal Power Commission last year made a statement in a speech of the impending gas shortage. Many of the pipeline companies recognized that within a few years there will be difficulty supplying sufficient gas to meet the demand in major cities of the country.

It is important for the Geological Survey to identify those areas on land or offshore which are potential gas producers, and indicate those areas which should be put up for lease-sale ahead of others.

Fortunately, in one case we do have enough information and we are recommending a general sale in the west Louisiana part of the gulf where we believe there is a large prospective gas potential.

It is this kind of information which makes us responsive to the needs of the country. If we did not have this information we would be flying blind.

It is important that we continue to obtain this kind of information so that we can be responsive to such problems before they arise.

PARTICIPATION IN MOON EXPLORATION

Mrs. HANSEN. Briefly summarize the extent of participation by your Bureau in the various moon explorations that have occurred during the past year.

Dr. PECORA. The Geological Survey has an organization which acts as an arm of NASA. NASA has set forth the objectives of the program and has funded this group completely. The group is located mainly in Flagstaff, Ariz. For a period of 10 years we have received in the order of $26 million by transfer from NASA for the purpose of analyzing the terrain on the moon, for recommendations as to landing sites, for astronaut training, and for analysis of data from past flights. We have acted as technical advisers to NASA in this major program.

As a matter of fact, in the Apollo 11 mission it was our team in Flagstaff who first determined where the LEM actually landed.

This close coordination between NASA and the Geological Survey in the lunar program has proved to be successful at relatively low cost to NASA. It is similar to the program in the earth resources satellite area of investigation in which NASA likewise considers the Geological Survey as an active scientific and technical arm, and funds have been transferred from NASA to the survey for work in this area.

Because the lunar program has been so successful as a joint team effort between NASA and the Survey, we were looking forward to a similar partnership in the earth resources satellite program.

SPILLOVER OF KNOWLEDGE FROM SPACE PROGRAM

Mrs. HANSEN. Dr. Pecora, there has been a great deal of discussion in this country, because of inflation, to curtail our space program. Can you give the committee some examples of knowledge that is acquired from the space program that is valuable to other ongoing activities of the United States?

Dr. PECORA. Yes, we could give a number of these, Madam Chairman.

I would like to cite these specifically for the record so that you would have a more complete list.

Mrs. HANSEN. If you please.

(The information follows:)

Spillover or spin off from the space program that has been valuable to the ongoing activities of the United States and particularly to those activities with which the Geological Survey and the EROS program are concerned are as follows:

1. Remote sensor technology that has been developed for the exploration of the moon and other planets has proven to be very beneficial in directing our activities in remote sensing of the earth.

2. Methods of data processing from remote sensors, including both hardware and computer software, developed in the space programs, including the meteorological satellite programs, are directly applicable to use in the same sensing techniques for earth exploration.

3. The methods of systems analysis that have been developed by NASA for management of space programs have proven applicable to management of environmental programs.

4. The photographs taken on the manned spaceflights of the earth have proven valuable in forming and proving many of the hypotheses that have been devel-

oped about the earth environment and have provided not only a foretaste of the type of data to be collected in the future from such satellites as ERTS–A, but have aided in formulating the concepts by which future remote sensing of the earth from space will be done.

5. Because of the above sighted spin off, the engineering community that has planned, designed, and operated space programs has become more aware of environmental problems and is learning more of the need and means of turning these programs to the solution of environmental problems.

6. Data communications by the use of data relay satellites, such as applications technology satellite, are turning our plans in the direction of determining the feasibility of such communications for scientific and environmental data. Indeed some experiments of this type are in our plans at the present time.

Dr. PECORA. There are a great number which have come out of this. I for one would not be in favor of dissipating the space program of the United States. I think it has been extremely important, not only in development of science and technology, but will yield tremendous benefits beyond the Comsat communications system, beyond weather classification and prediction of temperatures. It is leading into the areas with which we are directly concerned in the Department of the Interior, the application of all these techniques and sensors to observing and analyzing the earth itself, where we in the Department of the Interior do our work.

Mrs. HANSEN. Thank you.

COORDINATION WITH ESSA IN EXPLORATION OF CONTINENTAL SHELF MINERALS

How are you and ESSA getting along with regard to duplication of effort in the exploration of Continental Shelf mineral resources?

Dr. PECORA. I recall this committee referred to this on an earlier occasion.

As a result of discussions between the Administrator of ESSA, Dr. White, and myself, we have developed a group of joint programs where we have utilized the ESSA oceanographic vessels and our personnel and some of our equipment, and I think have concluded some very successful enterprises.

For example, in the North Bering Sea, the Coast and Geodetic Survey and the Geological Survey joined in an effort of sea bottom analysis. In this program, the committee may have read some preliminary results that we have uncovered great basins of sedimentary accumulation of the character that should be explored for potential petroleum and gas resources in the future.

We have worked with ESSA in the Caribbean area off Puerto Rico in trying to get some bottom profiling necessary for us in our cooperative work with Puerto Rico.

I believe that the situation has ameliorated quite a bit because of these joint efforts.

RELATIONS WITH ESSA ON EARTHQUAKE STUDIES

Mrs. HANSEN. From time to time the committee has received reports on duplication of effort between you and ESSA on earthquake studies. May we have your comments?

Dr. PECORA. The Coast and Geodetic Survey in earthquake analysis is responsible for strong-motion measurements on a worldwide scale. Our work has been in the response of the land and the geologic units

to the earthquake events. In effect both of us are working on the same general problem, but I think the amount of duplication of the two groups has probably been overstressed. Working together on the interagency earthquake working group, we have been able to identify elements of principal interest and relationship, and I think have avoided unwarranted duplication. I would say the duplication, if it exists, is minimal; and it is a warranted relationship for ESSA to continue to operate its worldwide network of major seismograph stations.

INVOLVEMENT WITH AEC AT AMCHITKA

Mrs. HANSEN. What has been your Bureau's involvement in Amchitka?

Dr. PECORA. The Geological Survey has for many years served as a consultant to the Atomic Energy Commission in all of its testing, both for geological analysis and for analysis of potential water pollution.

In the Amchitka studies we provided reports on the expected land response to the blast; we indicated the range of responses on the land, as well as the character of the subsurface that would be affected.

For all of the planned nuclear explosions, the opinion and reports of the Geological Survey in both of these areas are requested by the Atomic Energy Commission. In considering potential sites for nuclear power, again the Geological Survey serves as a scientific and technical consultant to AEC in appraising the response of the environment and the land.

I would not want this changed, Madam Chairman.

The Atomic Energy Commission can get a great number of consultants, and it does, from the outside, who are very well qualified; but I believe that in the areas of public interest, particularly on the public domain, that we should continue in the Geological Survey to supply very careful analyses.

Mrs. HANSEN. I agree.

CONCERN OVER SUBTERRANEAN BLASTS EFFECTS AT AMCHITKA

Do you have any further comments on Amchitka? As you are well aware, there are many people on the west coast that are very disturbed by the testing going on at Amchitka? The professor of environmental sciences at the University of Washington has written me a number of times concerning this testing. I would like to have your comments.

Dr. PECORA. I think the principal area of concern in Amchitka is that a large-scale blast might induce a secondary earthquake——

Mrs. HANSEN. This is right.

Dr. PECORA (continuing). Which could, itself, induce a seismic wave, a tsunami, which could spread seaward and affect the coastline, and hence endanger people on the coast.

Our analysis of the earlier blast was that a tsunami would not result, that the amount of land displacement would be minimal. We indicated that it would be less than 3 feet vertical displacement, if any occurred. As it turned out, it was a matter of inches. So we were playing it very safe.

It is true that the Aleutian area is an active seismic area. There are earthquakes there every day, thousands throughout the year. Never-

theless, one should not put aside lightly that some major subterranean blast could coincide with a natural event and might possibly accelerate the effect.

Mrs. HANSEN. That is what I was just about to ask you.

Dr. PECORA. The Aleutian Islands earthquakes occur below the very deep water in the trench and at greater depth in the crust of the earth than the zero position or site of emplacement of the device.

We feel that because we are dealing in a planted nuclear device with one-point source, that the effect is different than would occur in a natural earthquake, which is a broad planar source of great depth.

We did not predict and could not calculate any of the dangers that had been set forth by public speakers on this event. However, I should be very straightforward and tell you that each case must be decided on its own merits. If other blasts are decided on here or elsewhere, the same kind of a depth analysis should be made to foresee and predict the potential limits of response from the blast.

POTENTIAL EARTHQUAKE AT SAME TIME AS BLAST

Mrs. HANSEN. Have there been any indication from your studies that an earthquake could occur at the same time as a blast?

Dr. PECORA. From a probability point of view you would have to say yes to that question, that an earthquake could occur in the deep trench at the same time the blast is taking place.

However, in the monitoring of the blast the seismic records of the region are studied very carefully. If there is any premonition of a natural earthquake, this would have some indication in the preshocks that occur.

Mrs. HANSEN. Did you have any prior indications, a few years ago, that we would have an earthquake in Alaska?

DIFFICULTY OF PREDICTING EARTHQUAKES

Dr. BALSLEY. This is one of the areas that scientists all over the world are investigating. In some instances, particularly in Japan, scientists have been successful in predicting some small earthquakes. But in general it is very difficult to predict an earthquake. This is one of the functions of our National Center for Earthquake Research. We are monitoring earthquakes in the California area with just this sort of question in mind. The Japanese have been doing the same thing. To the best of my knowledge, there was no premonition of the Alaskan earthquake.

Mr. HANSEN. When I first became a member of this committee we were discussing the problem of land movement in Montana and the frequency of earthquakes occurring in Colorado. We asked the Department at that time, when they were doing to study the effects of atomic blasts on earthquakes.

Since Amchitka is in an earthquake-prone area, people have been understandably concerned about the securtiy of the whole western coast.

Dr. PECORA. We recognize this problem, Madam Chairman. As I said earlier, each event must be studied in depth and on its own merits and analyzed.

Mrs. HANSEN. Will your Bureau be called in for consultation before blasts?

Dr. PECORA. That is our agreement; yes.

Mrs. HANSEN. Mr. McDade, do you have any questions?

Mr. MCDADE. Not right now.

MINERAL STUDIES DURING PAST YEAR

Mrs. HANSEN. During the past year what exciting mineral studies have you participated in, if any?

Dr. PECORA. A great many. Let me mention a few, and we could place into the record a summary so that the committee can have information in greater detail.

(The information follows:)

During the past year the Geological Survey has participated in a variety of ways in mineral resource developments, as indicated by the following examples:

North Slope oil discovery.—The discovery of what is likely to be one of the greatest oil provinces of North America was to a considerable degree based on Geological Survey studies of northern Alaska, particularly that of Naval Petroleum Reserve 4. The success of a symposium organized and presented by the Survey in February of this year and attended by nearly 700 specialists from all over the world is evidence of Survey leadership.

**Intensified exploration activity.*—As a result of Survey publications arising from the Heavy Metals program, exploration activity, particularly in Nevada and Alaska, has greatly increased. In Alaska, for example, expenditures probably doubled in 1969 over 1968, and probably will double again in 1970.

**Gold discovery in Nevada.*—It has been announced that Newmont Mining Company has discovered a new disseminated gold deposit north of their Carlin Mine, which itself was discovered as a result of Survey studies. The new discovery was based on concepts developed from research on the Carlin deposit by Survey and company geologists.

**Platinum in Montana.*—Geochemical studies by the Survey have shown that a chromite layer of great extent in the Stillwater complex of southwest Montana contains significant amounts of platinum—possibly enough to make this previously known, but economically submarginal chromite resource profitable to mine. If so, the need for imports of two critical metals in short supply could be drastically reduced.

Titanium placer deposits in Virginia.—Recently published Survey Bulletin 1312–F points to potentially valuable placer deposits in the famous Roseland district. Industry interest is high and exploration is expected to start immediately.

Lead-zinc discovery in Utah.—In October 1969, the Trixie Mine became the second producing mine discovered and developed in the East Tintic district as a result of Geological Survey research. This mine opens up a potential producing zone about 2 miles long and 1 mile wide that previously was not considered to have ore possibilities. Other discoveries can be expected.

Ocean mineral resources.—The Survey has supplied the technical leadership for the U.S. delegation to the United Nations study of world ocean resources and their jurisdiction. To contribute to the understanding, the Survey prepared and published a series of four maps showing known and potential subsea mineral resources of the world.

**Geochemical exploration techniques.*—The Survey has always been one of the leaders in the world in the development of new techniques needed to cope with the increasingly difficult problem of locating hidden mineral deposits. Activities in the past year included:

Discovery that distribution of minor elements such as tellurium in the Coeur d'Alene district of Idaho are a guide to deeply buried deposits of silver and lead.

Further development of an airborne mercury detector. Mercury, and possibly tellurium, is now known to form a halo above many kinds of deposits and to be present in sufficient quantities as to be detectable in the air above

*Significant developments from heavy metals research.

such deposits. This could develop into an exploration technique of major importance.

Discovery that spectral reflectance, measured by remote sensors from aircraft, of certain trees growing on mineralized ground in Maine differ from those growing on barren ground could lead to an exploration technique appropriate for this heavily wooded region.

Development of an extremely sensitive method for determination of mercury in water will have applications not only to mineral search but to the monitoring of environmental pollution caused by mercury-bearing fungicides.

Further development of the use of californium-252, a potent source of neutrons, in mineral exploration. Two companies—Schlumberger Technology Corporation and Geosensors, Inc.—have recently obtained supplies of this rare element and have sought advice on its application to drill hole logging systems.

COPPER DEPOSITS IN PUERTO RICO

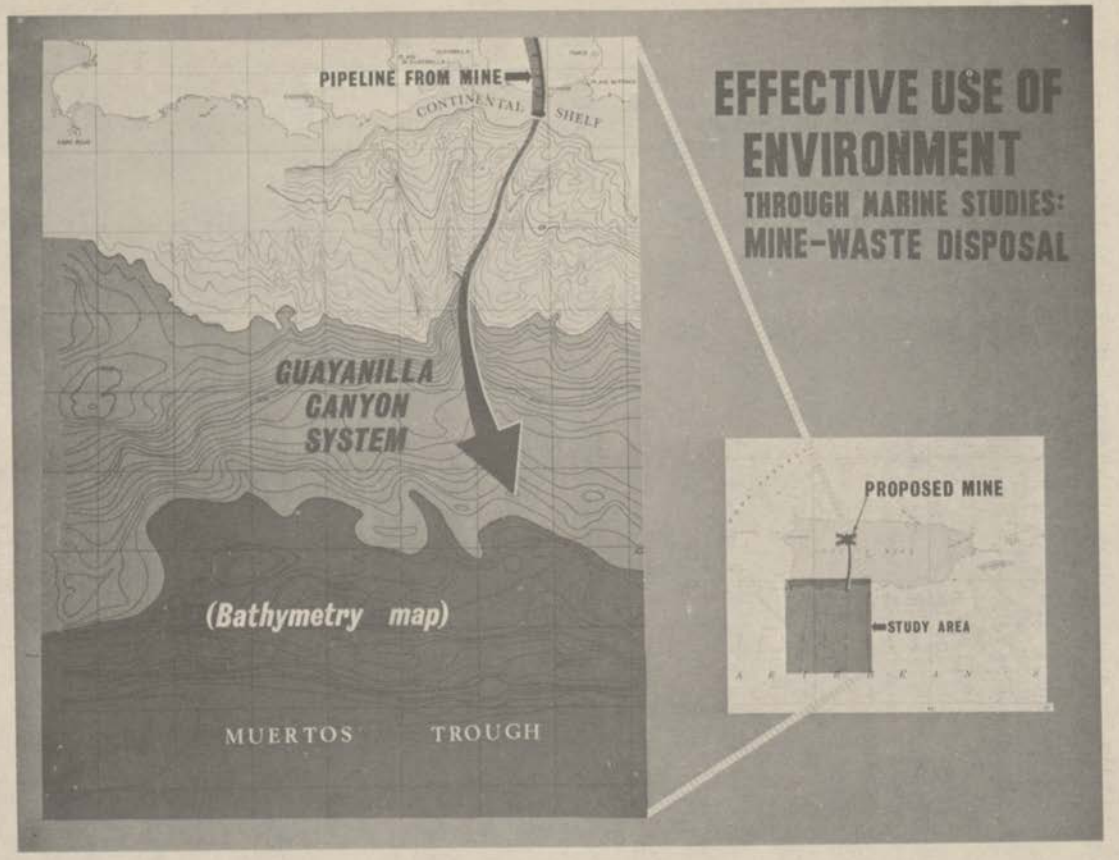
Dr. PECORA. In the past year, in a cooperative project, the Geological Survey and the Government of Puerto Rico have considered problems related to development of a major copper deposit in Puerto Rico. The problem involved here is that although the value of this deposit is recognized, there does not appear to be suitable space for waste disposal. So the project has been slowed down. Quite fortunately our marine geology program has been making an offshore study with Puerto Rico.

Mrs. HANSEN. Won't this same problem of limited land space also arise in the United States?

Dr. PECORA. That is it exactly, Madam Chairman. We have talked about this at earlier meetings before this committee, and this is why we say the environment or land use can only be evaluated by the kind of work we do, which is a thorough analysis of the land and its relationship.

DEEP-SEA DISPOSAL OF MINE WASTES

This chart shows the south coast of Puerto Rico, the shelf, the area of moderate depth of water, and the area of the deep trough (see chart below:).


PIPELINE FROM MINE
CONTINENTAL SHELF
GUAYANILLA CANYON SYSTEM
(Bathymetry map)
MUERTOS TROUGH
EFFECTIVE USE OF ENVIRONMENT
THROUGH MARINE STUDIES:
MINE-WASTE DISPOSAL
PROPOSED MINE
STUDY AREA

We suggest that the mine wastes and fine material could be transported as a slurry by a pipeline to a canyon which we have located and thence into the deep offshore trough. The canyon is underlain by hard bedrock. Therefore, the mine waste can be moved into the deep sea environment where there would be no effect on the ecology.

Mrs. HANSEN. It would have no effect on the marine life?

Dr. PECORA. No, it would not have any effect on the marine life because it is in the deep water and is spread out in the deep trough.

I mention this merely as an example of the kind of problem that can be solved if one studies the entire land-water relationship.

HEAVY METALS PROGRAM: REPORTS ON POTENTIAL MINERAL DEPOSITS

The heavy metals program which we have been pursuing for a few years has resulted in publication of a number of reports describing areas of potential mineral deposits; some 39 areas have been described as mineral exploration targets. We rely on the private sector to pursue the drilling and discovery of mineral deposits. We do not do the drilling on the Government side. This is appropriate to our system of Government.

We have learned that 31 of these 39 are being actively explored by the private sector. Any discovery in any of these areas will increase the mineral resource supply of the Nation, it will improve the economic welfare of the Nation, and will increase Federal income, in the form of taxes to the Treasury.

Mr. MCDADE. You say you don't drill. How did you decide where these areas were?

Dr. PECORA. By making geologic, topographic, geochemical, and hydrologic maps, we have delineated areas where there are higher concentrations of metallic elements and certain structural features which would be favorable. This information is published.

Mr. MCDADE. Where do you publish it?

Dr. PECORA. We publish it in our own series and make a public announcement for the important ones, so that the entire country hears about them at the same time. They are public releases, some in open file, others as circulars, bulletins, and professional papers. It is important for us to make this information available to the whole country at the same time, because otherwise we might be accused of favoring one company or another.

GOLD PRODUCTION AND RESERVES

We are very happy to note an article recently issued in a technical journal that showed that the Cortez Gold Mine in Nevada in its first year of production yielded profit in excess of $2 million. This is after the first year of production. This, of course, permitted payback to the capital investment which was in the order of $10 million. This Cortez deposit is one of these 39 targets that I referred to in my statement. There are others that are being investigated.

As a result of the gold program the Treasury has been able to get information on a continuing basis regarding deposits of gold at different concentrations throughout the country, so that at least it could deal with other countries with the knowledge that the United States was

not short of gold. It is a question of whether we wanted to get it out of the ground or let it stay there.

I have heard some people make the statement that as long as we know the gold is there on the basis of geological studies, we might just as well leave it in the ground as put it in Fort Knox.

Mr. McDade. It is a lot cheaper, too.

Dr. Pecora. Yes.

Dr. Balsley. Safer.

Dr. Pecora. It has helped the United States develop its posture in international monetary affairs.

There are other discoveries which I would be happy to place in the record.

(Note: See information supplied on p. 986.)

Mrs. Hansen. Please do. The committee is always interested in your developments.

COOPERATIVE WATER RESOURCES INVESTIGATIONS

You have been conducting a cooperative water resources investigation program with the States for many years. Please place in the record the total amounts available for this program for each fiscal year during the past 10 fiscal years.

Dr. Pecora. I shall do that.

(The information follows:)

Fiscal year:	*Federal-State program*
1960	$7,450,000
1961	7,620,000
1962	8,430,000
1963	8,886,000
1964	10,150,000
1965	11,420,000
1966	11,924,000
1967	13,170,000
1968	14,645,000
1969	15,250,000
1970	[1] 16,630,000

[1] Includes $1,020,000 request for pay raise cost.

MAJOR BENEFITS FROM PROGRAM

Mrs. Hansen. What, in your opinion, are some of the major benefits accruing from this program during the past few years?

Dr. Pecora. I would like to make a few general comments and then ask our chief hydrologist, Mr. Hendricks, to extend my remarks.

The problem we are facing in water data, water use, water knowledge, is really overwhelming us these days.

Looking at it from the point of view of the Department of the Interior, first, there are three general areas of water work which you are probably familiar with: One in the area where water is used for a specific purpose, such as irrigation or in reclamation projects. This has one assistant secretary overlooking it. A second, where water is being cleaned up for use again; this is in the water quality area, particularly salt water reclamation and water pollution control. This activity has another assistant secretary in charge of it.

The third area, under a third assistant secretary looks upon water as a basic resource. Once a drop of water hits the ground it is a resource for the people of the country. Therefore, we need to have knowledge as to the amount of water available on the surface, in the ground, and the character of the water, for the use of these other two broad areas as well as for other agencies in government, such as the Soil Conservation Service, the Weather Bureau in forecasting floods, and throughout the country for the various groups in the States and regional areas.

In our Federal-State cooperative program we are attempting to build up a national water data network system to provide primary information on water for the use of everybody, including data on both quantity and quality of water.

USE AND REUSE OF WATER

In addition, we are trying to evaluate the amount of use that water is being put to, and the reuse. In one study——

Mrs. HANSEN. How much is the water being reused at the present time?

Dr. PECORA. This is the startling part of our study, We found that water is practically indestructable; it can be used and reused if it can be scrubbed and cleaned as the case may require.

We found in one study in the Ohio River Basin, that the water was being reused 17 times; in many places at least two or three times. In some places it cannot be used a second time because of its condition.

We feel that in considering this whole problem, which we have had for many decades, of acquiring information on the location of the water, in addition to the quantity and quality of it, we now need to think of the use and reuse of it, so that we can calculate how much water can be available for purposes of planning. Inevitably, water is going to be the key issue in any future planning, regional or local.

Mrs. HANSEN. Water has been a key issue in the West for some time.

Dr. PECORA. Yes.

AMOUNT OF WATER ON PLANET

Mr. MCDADE. Is it a correct statement that there isn't one new drop of water in the world since creation?

Dr. PECORA. If you ask me on such a small part as a drop I would say it is not true, because the volcanic activity that has been going on for 4 billion years, the life of the planet, has been taking material that forms water by chemical combination from the interior of the earth and this moves upward and joins the atmosphere or the ocean. We believe that the quantity of water in the ocean over the 4-billion-year history of the planet has been increasing.

There is, however, a loss at the same time, because when this water vaporizes into the atmosphere, some of it is hit by cosmic and other particles in the atmosphere and dissipates and disappears from the planet.

But the sum total net effect is an increase in the water budget of the earth. So in direct answer to your question, it is not a fixed amount over the history of the planet.

But I wonder if our chief hydrologist now may extend my remarks to specifically refer to some of the recent work.

Mrs. HANSEN. Please do.

STATE RESPONSIBILITY FOR ADMINISTRATION OF WATER

Mr. HENDRICKS. I should like, Madam Chairman, to extend Dr. Pecora's remarks by calling attention to the fact that in the administration of water, as well as in the detailed local level planning for the development of water, the States have the prime responsibility.

Now, in the discharge of those responsibilities they require vast amounts of water information. The traditional pattern over the years has been for them to look to this cooperative program with the Geological Survey as the principal source of that kind of information.

Now, of all of the kinds of information which I am going to cite to you in some statistics, of all of this kind of information that is generated by anybody in the United States, private, Federal, State or other sources, the Geological Survey generates in the order of magnitude of 90 percent of it in our programs.

I would like to give you some statistics: We collect continuous records of the flow of streams at 10,000 separate sites in the United States; 95 percent of that program is financed by this Federal-State cooperative program.

We collect records, at an additional 10,000 river sites, of a partial character, high flow, low flow, certain specific kinds of flow parameters.

Thus, a total of nearly 20,000 individual river sites in the United States are gaged completely or partially by the Geological Survey. Also, we measure the water quality, the chemical and organic constituents in the water, temperature, some of these other vital quality parameters, at over 4,000 locations in the United States. Only 15 percent of that program is financed outside the co-op program; 85 percent, then, of the water quality information is generated in the Federal-State cooperative program.

Mr. MCDADE. What is the situation on the other two you mentioned?

FUNDING RATIO

Mr. HENDRICKS. Five percent from other sources of funds, other Federal agencies or direct Federal program, 95 percent of it is financed in the Federal-State water co-op.

Mr. MCDADE. In what ratio between the State and Federal?

Mr. HENDRICKS. The provision of the co-op program is 50-50.

Mr. MCDADE. Thank you.

INVESTIGATION CURRENTLY UNDERWAY

Mr. HENDRICKS. The States have to investigate specific problems in certain areas, and we classify these special investigations as "projects." Under the Federal-State cooperative program we now have 770 such investigations underway.

The total area that we are covering in the United States with special area investigations aggregates just under half a million square miles at the present moment.

Madam Chairman, I cite those statistics to give you some perspective of how vast this program really is and the importance of the Federal-State program in generating this information.

RIVER BASIN PROBLEMS

Mrs. HANSEN. Isn't it true at the present time that all river basins have some problems in supplying our total water needs?

I was in Philadelphia one day when the water in the river was extremely low due to the climate of the summer. The local authorities were requesting the people to limit even the amount of water they drank.

I also was on the Columbia River the day the John Day Dam was filled. As we flew down the river that day you could see barges and boats stuck all along the river banks.

Do you have complete knowledge about the supply of all river basins and the terrain around them, so that they can be used effectively?

Dr. PECORA. The answer to that question is unequivocally "No." We do not have this kind of information in detail.

BALANCE BETWEEN SURFACE AND SUBSURFACE WATERS

For example, there is in some places loss of surface water to the underground system. So visible water seeps in underground, becomes invisible. We don't know in many, many places where this water is going. We can see where it may be coming out in a spring someplace, but we don't know, for many places, what the system hydrodynamics are. This has to be studied in every river basin. A river exists because the ground is full with water at that point. If the ground water were desiccated and at a lower level, the river water would seep entirely into the ground and disappear, and there would be no river. This is why in so many places in the West there are intermittent streams; they flow some part of the year and don't flow the rest of the year.

It seems to me that part of our national water program should include a detailed balanced study between surface and subsurface waters, so that one can project and predict the needs that might be met in any given river basin system or any given region.

At the present time I do think we have a tremendous amount of data on the amount of flowing water in streams. Over a long enough period, also, so that we have long-term information on cyclic changes in the water, we have the 50-year flood defined for many places, for example; and we have the 100-year flood concept. For surface water flow, I think we are now getting enough information to get a handle on it, but the related information for the underground system is still very sparse. That is part of every drainage system, because something like 90 pecent of the total water storage is underground.

WORK WITH NON-FEDERAL ADVISORS

Mrs. HANSEN. Are you working with the River Basin Commission?

Dr. PECORA. Yes, we do indeed, as well as the western state engineers, and, as you may know, the Geological Survey in this general

program looks to an outside advisory committee composed of non-Federal advisors, State and regional and industrial and university representatives, who advise the Geological Survey in this whole problem of water data acquisition, water use information, publication of results, the method of handling our data in the computer so that we can get it back out to them so they can use it immediately.

This is a very strong and very good advisory service that is available to us.

Mrs. HANSEN. Mr. McDade.

RIVER POLLUTION FROM ACID MINE DRAINAGE

Mr. MCDADE. This question is brought about by what you were just discussing.

I have a river in my district that is incredibly polluted because during the period of early development in our country it was decided that this river would be defined as a "clean stream" because it has acid mine water in it, and the acid mine water neutralized anything else that went in.

We now have tremendous sums being expended to establish treatment facilities along the river, which is going to leave us with one beautifully polluted river, because of acid mine water coming from underground sources.

What can the Geological Survey do to determine the sources of that underground water and to make recommendations about how this problem can be attacked? This river will never be cleaned until the flow of acid mine water from underground is stopped. Some people claim that really there are voids in the earth that let water drain through and it becomes acid water and empties into the system. Others claim that actually these are waters that are generated underground like streams and flow out.

What can the Geological Survey do to answer that question?

ACID ASSOCIATED WITH COAL DEPOSITS

Dr. PECORA. This problem is completely within the domain of the Geological Survey, because we are dealing with the third dimension, the rocks below the surface. I think it would be very fair to say that your part of the country, because of its blessing with tremendous coal deposits, has been subjected to acid introduction into the streams throughout geologic time, that is since those deposits have been in place.

As a matter of fact, one of the early methods of discovering coal seams was by testing the acidity of the water which led early explorers to the outcrops. The reason for the acid, as you know, is the decomposition of iron sulfide, which was part of the original deposition in the old swamps which millions of years later became the coal deposits.

What the Geological Survey can do is determine how much of this decomposition is a natural subsurface process, and how much has been induced by the coal mining that has taken place over the last several decades.

In other words, the opening up of some of the coal mines and the putting of tailings into dumps has freshened up some iron sulfide for decay, and thus has increased the amount of acid moving into the streams. I think the proper kind of a program can be carried on, first to evaluate these two processes, and, second, to indicate which are higher acid bearing geological horizons and determine whether or not they are contributing to the drainage basin, and if they are, what can be done or what cannot be done.

EVALUATION NEEDED OF ACID-BEARING GEOLOGICAL HORIZONS

I think we need an evaluation, which we haven't done. We made a proposal to the Appalachian Regional Commission at one time, and I think the problem was referred to another department or another agency, and we were unable to pursue this research proposal.

But I believe quite frankly, Mr. Congressman, that this kind of a study is completely within the domain of the expertise of the Geological Survey to carry out here or anywhere else in the country.

Mr. McDade. Within your present resources?

Dr. Pecora. We could not do it with our present funding. As you know, we were part of a large program of coal resource analysis in your part of the State and as the primary jobs of making the maps and analyses were finished, the products were turned over to the State government for their local use and our people were reassigned to other projects. So that basically in the area of work in your part of the State there has been, rather than an increase of effort, a slow decrease of effort after the original project was accomplished.

Mrs. Hansen. Dr. Pecora, as we move into heavier land use and heavier use of the facilities for recreation, isn't it going to be necessary to make some of these determinations?

Dr. Pecora. Absolutely.

Mrs. Hansen. People will continue to talk about environment, but our environment cannot be cleaned up unless the necessary funds are provided.

Dr. Pecora. Absolutely; this is my point.

COST OF TREATMENT FACILITIES

Mr. McDade. It is a little bit distressing, too, when you see treatment facilities which are so incredibly costly. There is probably $40 million being spent by the two principal communities along this river to begin now to treat raw wastes. But we have another problem: What do you do about the acid that is going to remain there?

Dr. Pecora. My general reaction is that we can live with some acid in the water.

Mr. McDade. I am talking about billions of gallons.

Dr. Pecora. Yes, but this is a high rate of acid discharge.

Mr. McDade. I have seen rocks actually yellow in the river.

Dr. Pecora. Exactly.

Mr. Clarke, our Assistant Director of Engineering and Water, may have some comments, because he has been making a special study on this point.

TREATMENT OF ENTIRE RIVER

Mr. CLARKE. The Congressman has brought up a very good point. One of the most difficult tasks is to treat the entire river. This is the approach being taken. Mr. Hendricks, the Chief Hydrologist, and I have both done research on acid mine wastes, and we have always contended that you must do one of two things. You must study and cope with the hydrology of the situation, prevent the water, as you mentioned a minute ago, from pouring into the mines and flushing out the acid. You must determine why certain mines are acid and certain others are not, and study their catalytic processes.

POSSIBLE PREVENTION OF MINE ACID GENERATION

We are certain that there are geochemical catalytic effects that if properly understood could be used to inhibit this acid generation. There have been some very learned papers on this subject, but there have been very few dollars to follow up on the high-risk research that would be required to determine whether or not one can prevent acid mine generation.

I for one think it can be done, but it can't be done without resources.

Mr. MCDADE. Of course not.

Thank you very much.

LACKAWANNA RIVER BASIN POPULATION

Mrs. HANSEN. How many people live in and around the Lackawanna River?

Mr. MCDADE. About 1 million people.

May I say that the Susquehanna, which is the major river in the East, flows from Cooperstown, N.Y., and just south of the city of Scranton, is intersected by this small Lackawanna River, which carries all of this acid directly, and everything else, into the Susquehanna and pollutes it from the city of Wilkes-Barre far to the south. But it is one tributary, one finger with about 1 million people living in the valley, and its effects are felt probably by another million as it pollutes the Susquehanna as she flows towards the Chesapeake.

Dr. PECORA. In addition this is merely one river of several in the Appalachians where coal regions have produced problems.

AMOUNT OF WORLD'S ANTHRACITE MINED IN AREA

Mr. MCDADE. Yes. But this is the capital. This is where 98 percent of the world's anthracite was mined. It is not being mined any more. I don't have anybody, I am happy to say, in that industry in my district. There are some below us a little bit. But it isn't a question of how you deal with the function of industry, what do you do, because there aren't any, from Scranton north there isn't anybody in the coal industry. What we have now is this tremendous underground system with acids flowing into what was once considered a clean stream because of the acid. Now 40 millions of dollars are about to be spent to treat raw sewage, and billions of gallons of acids, turning the rocks

yellow, flowing down the Susquehanna and polluting it for untold miles—I guess you and I had better have some conversation.

Dr. PECORA. It is a deplorable situation.

Mr. MCDADE. We have to do something about it. I am going to be talking to you.

Dr. PECORA. Yes, sir.

FEDERAL MAPPING ACTIVITIES

Mrs. HANSEN. In past years there has been considerable discussion and study with regard to the duplication of effort involved in mapping activities of the Federal Government. The Bureau of the Budget was supposed to straighten out this mess. What progress has been made?

Dr. PECORA. Madam Chairman, I believe that this problem of alleged duplication, if it existed, has essentially disappeared.

In the area of geodetic control, discussions over some years with the help of the Bureau of the Budget on the geodetic network of the country has now been worked out on a satisfactory basis between these two organizations.

With respect to the making of maps of other bureaus, our Chief Topographic Engineer, Mr. Lyddan, has been personally involved in a number of these discussions, and perhaps he will be ready to speak now.

Mr. LYDDAN. At the close of the Second World War there were several agencies, Federal and others, involved in topographic mapping for the Federal Government. They were pulled into this activity before the war when the military people became concerned because we didn't have adequate map coverage, particularly in the coastal areas.

There was a period after the war during which there was competition between various Federal agencies as to which one was going to have primary responsibility for this work. That has been worked out, as the Director has said.

One of the agencies involved was the Coast and Geodetic Survey, which not only needs maps for some of its work, but also engages in or did engage in topographic mapmaking. There is practically no topographic mapping done by that agency now. We are usually able to meet their needs. The Forest Service still engages in topographic mapping, but only in those areas where we simply can't provide the maps they need at the time they need them. They conduct mapping operations in those cases. We get the results of their efforts and incorporate them into the quadrangle maps which we publish and distribute.

Mrs. HANSEN. The committee encounters private mapping people who are very opposed to the mapping items in your budget. Do you have a comment on that?

Mr. LYDDAN. The private mapping organizations do a lot of work. It is growing; I think it should continue to grow. To the extent that general-purpose maps are provided, of the kind we make, there will be some lessening of needs for special work which the private mappers might be asked to do. In this connection I frequently recall an experi-

ence I had when I was younger and doing topographic mapping in Maine. I had occasion to spend some time in the hunting country and lived with a hunting guide up there. He didn't like the mapping program because it would mean that some people could find their way into and out of that country with a map and wouldn't need his services. I think a similar attitude is being reflected by some of the commercial mapping organizations. If there are good, general-purpose maps extensively available, then they are going to be called on a little more frequently for special-purpose mapping.

What we must do is work with them so that their efforts complement and mesh logically with the general-purpose work which the Federal Government is responsible for doing.

Dr. PECORA. I should like to extend Mr. Lyddan's remarks to refer to the fact that the group which made its protest last year did not understand thoroughly the nature of our budget request. We have had several discussions with them since that protest and we are told by them, after several discussions, that they are 100 percent in favor of our 1/24,000-scale regular mapping program. They had misunderstood the nature of what we attempted to do.

PHOTOGRAPHIC MAPPING TECHNIQUES

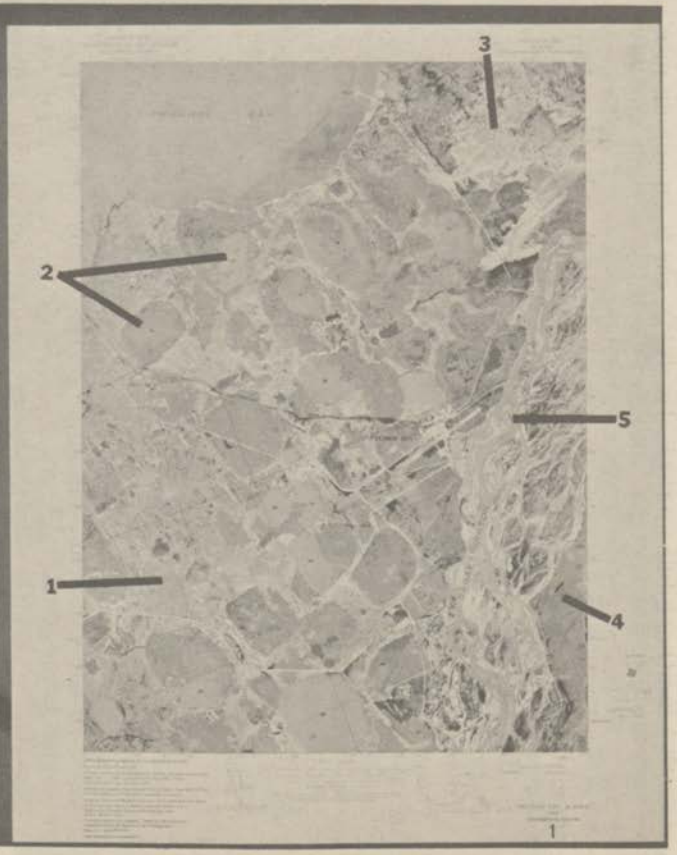
In the area of photogeological and photogrammetric coverage of an area we need to develop a technique, there is no question about it. The country does not have a good technique for good rapid maps which may not have all of the detailed engineering requirements for construction, but nevertheless have some very useful information. I have a map which is an example of what can come out of this agency, in the Prudhoe Bay area.

(See map below:)

PRUDHOE BAY ALASKA

ORTHOPHOTOMAP

1. Frozen Swamp
2. Thaw Lakes
3. Sand Dunes
4. Ice Wedges
5. Gravel



Dr. PECORA. This 1/24,000 scale quadrangle map shows the Beaufort Sea part of the Arctic Ocean on the north and the coastline and the location of what we call the Sag River No. 1 petroleum development, that red spot No. 5. The Sag River moving northward is a source of the sand and gravel which serves as the pad for construction, because in the Arctic we have found that you cannot put construction directly on the tundra. You will melt your bottom and fall in.

So the creation of a pad is very important for airports and surface construction.

This map also shows——

Mrs. HANSEN. Didn't you have some difficulties with school buildings in that area?

EFFECTS OF PERMAFROST ON CONSTRUCTION

Dr. PECORA. Several buildings caved in, in many places. As a matter of fact, at Point Barrow, as a result of several years of work——

Mrs. HANSEN. Didn't they seek advice from you before they located the school buildings?

Dr. PECORA. They did better than that. The chief scientist at Point Barrow was formerly of the Geological Survey. So they borrowed him and kept him.

Dr. Brewer is a truly outstanding person in this field.

This is merely to show the effect of the permafrost, as the committee has brought out.

ALASKA PIPELINE ACTIVITIES

Mrs. HANSEN. We will get into more detail later on in the hearing, but I think it would be well for you to give a general statement at this time with regard to your activity in connection with the Alaska pipeline. We should like to hear what you have accomplished to date, and what your plans are for fiscal year 1971.

While I am on this subject, I would like to compliment you on your very informative presentation at the supplemental hearing.

Dr. PECORA. Thank you.

Mrs. HANSEN. It was the best presentation the committee heard.

Dr. PECORA. Thank you very much, Madam Chairman. You are very kind, as always, and I appreciate it, because our fellows really work hard to try to get our material prepared.

Mrs. HANSEN. Off the record.

(Discussion off the record.)

Dr. PECORA. Madam Chairman, with respect to the TAPS pipeline, I consider this a beautiful example of how long-term work becomes important down the pike, and at the same time, how by maintaining expertise in various fields it is possible immediately to move into a problem and put some topnotch people on it.

For example, we have had for more than 20 years a group of people working in the outstretches of the United States, way up in the northland of Alaska, learning about the terrain, the nature of the permafrost, the nature of the formations and the river systems.

As a result, when the pipeline system was proposed we could immediately draw upon past publications of this group and their knowledge and make immediate recommendations for a study program.

If the pipeline system had been proposed for the lower 48, there would have been no problem. They would have probably gotten a permit and would have started their pipeline construction.

However, our scientists and engineers who had expertise in the permafrost of Alaska put up a warning signal.

INVESTMENT IN PERMAFROST STUDIES

Mrs. HANSEN. Please insert in the record the total amount of funds that have been expended on your permafrost studies. Also, include in the record the current estimated oil reserves and indicate, in relation to the total dollar amounts of the oil reserves, what percent the permafrost studies will cost.

Dr. PECORA. I think this would be a very good relationship.

(The information follows:)

Our knowledge of permafrost conditions in Alaska has been built up from more than 70 years of geologic studies in Alaska. However, specific studies of permafrost problems in Alaska were started in 1948 and have been continued ever since. Approximately $3,145,000 has been spent on these studies. This includes funds transferred to the Geological Survey from other agencies.

Current estimates of oil reserves on the north slope of Alaska range from 25 billion barrels to 60 billion barrels. Assuming the higher figure, the cost of our permafrost studies is less than two thousandths of 1 percent of the value of the oil.

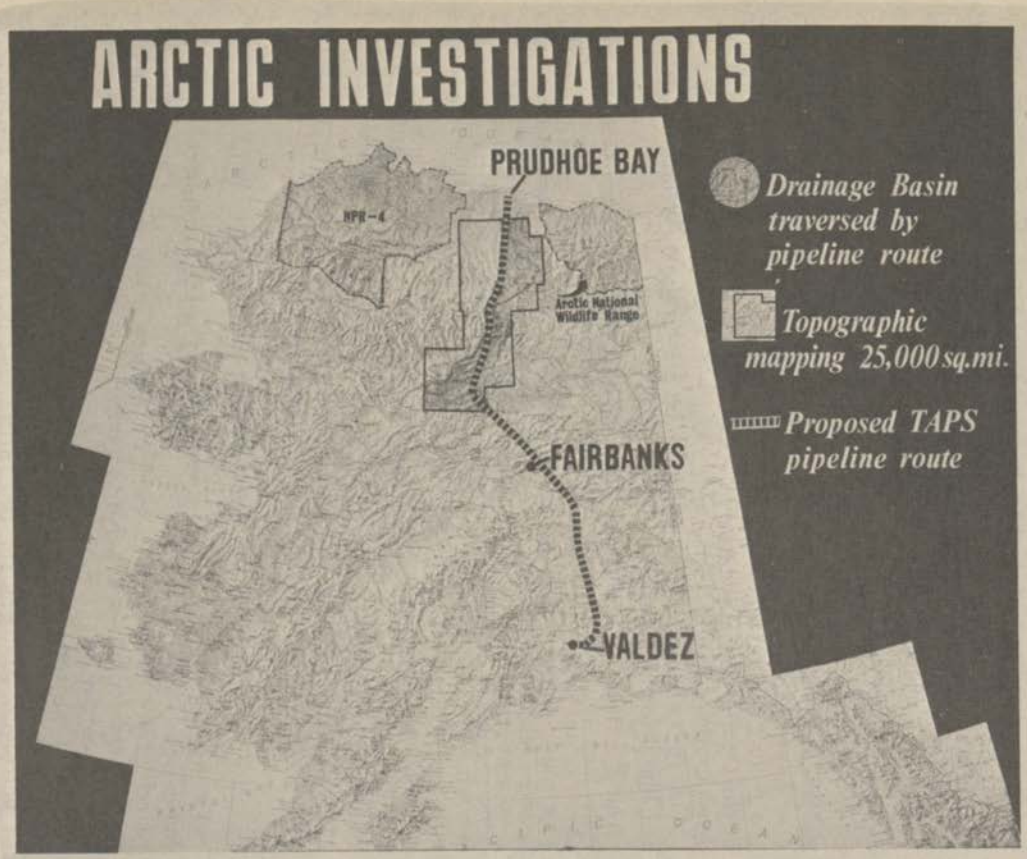
Mrs. HANSEN. I am afraid sometimes that when you are securing information you fail to relate it to the total activity so that it gives us a valid reason for the expenditure.

Dr. PECORA. Thank you very much, Madam Chairman. I shall be very happy to prepare such a summary statement.

EARLY WORK IN NAVAL PETROLEUM RESERVE NO. 4

Let me highlight it at the present time for the committee. The Geological Survey, in cooperation with the U.S. Navy Petroleum Research group did extensive work in the late 1940's and early 1950's on naval petroleum reserve No. 4, shown on this map, in the northwestern corner of the State of Alaska. These geological studies by our organization were financed by the Navy, and over a decade this would be in the order of $5 million. They located not only sizable reserves of petroleum and gas for the future use, but also gave a geological analysis of the three-dimensional jigsaw puzzle which is this part of Alaska below the surface.

(See map below:)


ARCTIC INVESTIGATIONS
PRUDHOE BAY
NPR-4
Arctic National Wildlife Range
FAIRBANKS
VALDEZ
Drainage Basin traversed by pipeline route
Topographic mapping 25,000 sq.mi.
Proposed TAPS pipeline route

Dr. PECORA. At the same time our airborne magnetometer surveys and other remote sensor surveys—incidentally, under the leadership at that time of Dr. Balsley—made studies to show the depth and the thickness of the sedimentary formations and the depth to the basement. This led the private sector then to move eastward from NPR–4 to the stretch of ground between NPR–4 and the Arctic Wildlife Range. The seismic surveys of that area showed structures that were explored and this is where the discovery of petroleum and natural gas has been made. Public records of various companies have indicated there is in excess of 10 billion barrels of oil.

Mrs. HANSEN. Does this relationship hold true in the Arctic?

Dr. PECORA. This is the interesting relationship. Anlyses being made by our scientists indicate that we are dealing with a major petroleum province, which we would call the North American Arctic Province. It includes some natural gas fields at Point Barrow, and the portion of the range across the Prudhoe Bay strip now claimed by the State. It crosses the upper portion of the Arctic Wildlife Range and extends into the Canadian Archipelago. In part, it is offshore. It also goes westward into the Siberian Peninsula, in the Soviet area.

EXTENT OF OFFSHORE SHELF IN ALASKA

Mrs. HANSEN. How much offshore shelf do you have in Alaska?

Dr. PECORA. The total Alaskan shelf is two-thirds of the shelf of the United States. We can go northward here for some 30 miles, and the water is still less than 100 feet deep. It is a very shallow shelf area, but the pack ice makes it difficult to explore. We did some joint work with the Coast Guard in the Bering Sea with satisfactory results. We intend to do some additional work with the Coast Guard in the north shelf area; in fact a project was programed for last summer, but the Arctic ice kept us out.

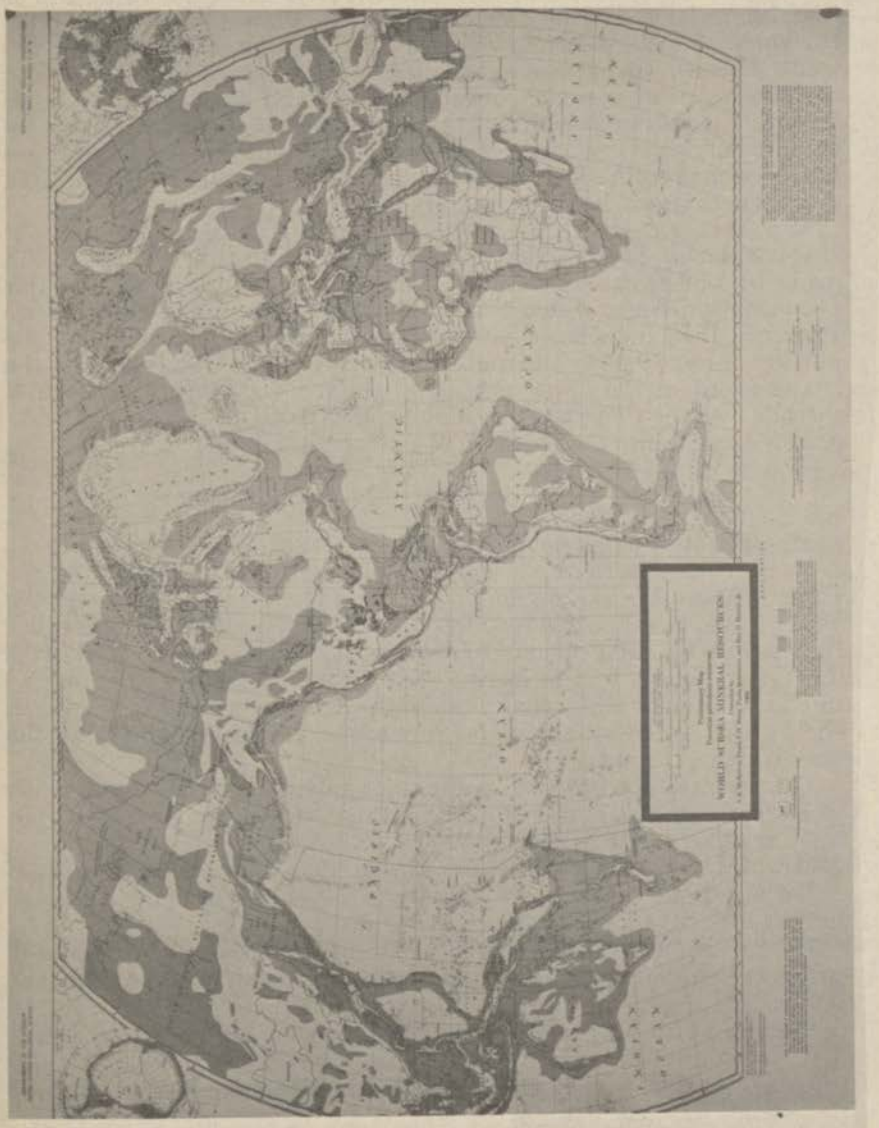
The potential for future discovery, not only in the NPR–4 and south in Federal domain, but also north into the offshore area and east into the Canadian Arctic, is great.

Mr. MCDADE. How would you compare that potential offshore area in terms of miles that are available as against the miles of offshore area in the lower 48? Can you relate that for me?

Dr. PECORA. The offshore potential for oil and gas in the Arctic is as prospectively valuable as any equivalent area off the coast of the lower 48.

For example, this recently published chart is a map of the world that shows the Continental Shelf areas of the world. The U.S. Continental Shelf is just as potentially productive as any other part of the bordering continent.

(See chart below:)


WORLD OF IRON MINERAL RESOURCES
ATLANTIC OCEAN
PACIFIC OCEAN
INDIAN OCEAN
ARCTIC OCEAN

The Outer Continental Shelf is prospectively of very great potential for the development of energy resources. As I mentioned earlier, we look upon the Outer Continental Shelf as a yet undeveloped resource area. Only about 2 percent of the area of the total U.S. shelf has been adequately studied to date.

This map before you ——

SIZE OF OUTER CONTINENTAL SHELF

Mrs. HANSEN. How many acres does this encompass?

Dr. PECORA. The U.S. area of jurisdiction includes 1.2 million square miles of Outer Continental Shelf available for future exploration.

INCREASED MINERAL PRODUCTION IN OUTER CONTINENTAL SHELF

At the present time the total petroleum production from the Outer Continental Shelf yields 8 percent of the U.S. production. For the next decade or two this will be going up at an exponential rate because the domestic land production will be declining.

Mr. MCDADE. Eight percent of the United States, but only 2 percent of the Continental Shelf being utilized; is that what you said?

Dr. PECORA. That is right.

POLLUTION FROM OPERATIONS IN OUTER CONTINENTAL SHELF

We look upon the total resource of petroleum in the Outer Continental Shelf to be equal to the potential on land. Therefore, it is a tremendous province that lies before us which is under fire at the present time. It is under fire because many coastal residents feel that their environment is being degraded by the existence of offshore platforms and the potential threat of pollution.

There is no question about it. You can't have a major program of drilling, of production, of transportation of oil by tankers or through pipelines, or have a main tank farm storage system without expecting some pollution. Man has got to look at his trade-off values. If he wants energy, and he needs this form of energy, he has to face the fact that he cannot have a 100-percent clean environment, just as the Congressman from Pennsylvania faces the fact that if you are in a coal mining region you can't have pure water. There has to be some acid in it, because nature produces this.

Mrs. HANSEN. Are you developing techniques to reduce this type of pollution?

Dr. PECORA. Yes, indeed; not only are the techniques being developed at the present time, but the Secretary has invoked tighter regulations for not only exploration but also for offshore drilling and production.

Mrs. HANSEN. Will this also minimize the kind of situation that occurred in Santa Barbara?

Dr. PECORA. It will minimize and perhaps prevent. But in order to enforce these regulations we need a larger force, a larger staff; we need greater mobility through helicopters and boats to survey and properly monitor the offshore operations.

BUDGET REQUIREMENTS FOR ADEQUATE OUTER CONTINENTAL SHELF MONITORING AND SURVEILLANCE

Mrs. HANSEN. How much will the total program cost?

Dr. PECORA. We have a modest increase in our budget this year. We made a study as a result of a question you put to us, Madam Chairman, a few years ago.

We have made an analysis of this entire program, and estimated that under optimum conditions, at the present time, where we should be if we were to do the proper monitoring and surveillance of this entire offshore production activity. Our budget before you for offshore lease management only is $1.7 million. We feel this should be three times higher in order to do the kind of a job that any responsible landowner would do to protect his interests. We hope that we can step this up to the level required to adequately manage and supervise the OCS activity; I would hope, therefore, I would be permitted to come before you with another increase next year to further improve this inspection and evaluation capability.

Mrs. HANSEN. The committee has long considered the funds requested in your budget estimates to be inadequate. This goes back over several years, for the kind of management job which was highlighted by the results of Santa Barbara.

Dr. PECORA. Yes. But you foresaw this yourself, Madam Chairman, in the questions you put to us 3 or 4 years ago.

Mrs. HANSEN. I know.

Dr. PECORA. As a matter of fact, it seems to me you made the example at the time that: If you were a landowner, would you manage your own land this way? The answer is "No." You would be sure to have analyses, evaluations, and surveillance. I must confess that if I were operating in the business world as an agent for a large landowner I could probably demand and get 5 or 10 percent of the total income as my fee for managing that estate for him. Yet a very small percentage of the income from the OCS estate is going back into the kind of management that your committee would like to see our agency do.

I think we recognize the problem.

CONTRACTUAL RIGHTS OF SECRETARY OF INTERIOR TO ALTER OPERATING REGULATIONS

Mr. WYATT. Dr. Pecora, talking about the contracts that were made by the U.S. Government, the drilling contracts in Santa Barbara and elsewhere, prior to the big spill, I am interested in what discretion and control the Secretary of the Interior has to alter the control conditions. In other words, is he limited in the extent that he can regulate the drilling as a result of the preexisting contracts?

Dr. PECORA. The Secretary of the Interior has the right to make reasonable changes in the operating regulations, and for items of safety I feel we have unlimited power to request changes in regulations.

Mr. WYATT. For pollution safety?

Dr. PECORA. I feel that we have unlimited authority to specify requirements to provide safety against pollution, blowouts, uncontrolled flow, and to prescribe safety devices.

However, the contracts as signed do not permit the Secretary discretionary or any kind of power to stop an operation if it is shown to be conducted in accordance with the regulations.

For example, if, within the contract frame of 5 years a company wishes to put an exploratory well on its tract, having won this in open bid, it has the right to do this, because that is what the contract terms are.

We mean to be sure that if the well is put down it will be drilled properly with adequate casing, proper safety-devices, and with proper restoration of the area upon departure from the scene after the well is completed.

In this area also the Secretary has demanded all information, predominately subsurface data, before any drilling is done, again as a safety measure.

So I feel that we are now in a good position to implement the safety work.

PROBLEMS WITH OCS OIL RESERVE

Nevertheless, the program on the Outer Continental Shelf is under fire in more ways than one.

On the west coast, for example, there are two major areas where there are sedimentary basins with great potential for petroleum on land that extend off-shore where there is great potential for petroleum. One is the Los Angeles Basin, which is being explored and developed; the other is the Ventura Basin, half of which is on land and half in the Santa Barbara Channel.

The State of California has large energy requirements and only 62 percent is available to it from domestic production. It is only natural that the California petroleum industry should pursue offshore development just as has been done in the Gulf of Mexico. So it is a natural development to seek petroleum offshore where there is a shortage and where there is a limited area for exploration.

The entire Atlantic coast has not been drilled at the present time. One can foresee the hue and cry of coastal people who may not want this to take place. We must, as a Nation, understand that if we require hydrocarbons, gas, and petroleum as an energy source, and do not permit exploration in those areas where oil and gas may exist, then we have a national policy question, as to where we get our basic resources.

We can make analyses for the policymakers in the U.S. Government or the people of the United States as to where oil and gas may occur throughout the world and in what quantity. But the basic policy decision must be at a very high level in the Government of the United States.

MARINE RESOURCES A UNITED NATIONS PROBLEM

The Geological Survey has prepared a map of the world showing the petroleum potential in the outer continental shelves of the world, because this very same issue is being discussed in the United Nations, has been for the past 3 years. The Geological Survey, fortunately, is considered as part of the U.S. team in the technical analysis portion of this major issue.

The question before the United Nations is whether there should be an international region where resources within certain boundaries belong to the people of the world, apart from that portion of the shelf which belongs to the people of any particular adjacent country.

This map of the world (see page 1004) shows the petroleum potential and its distribution offshore. One can easily see by referring to the continental land masses and the areas immediately offshore that the big potential for energy resources is in the Continental Shelf area, not in the deep ocean.

The international boundary question becomes a very important issue.

(Discussion off the record.)

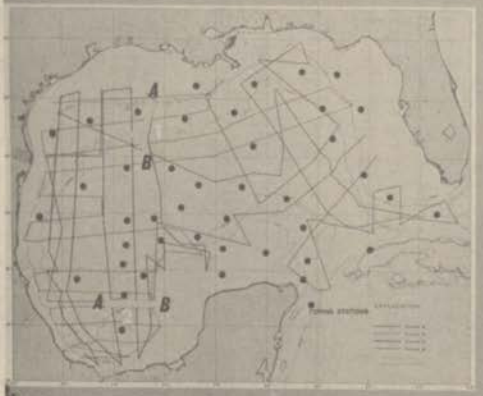
PETROLEUM DEPOSITS IN DEEP WATER AREAS

Dr. PECORA. The U.S. Navy and the U.S. Geological Survey joined in a geophysical survey in the Gulf of Mexico for the purposes of determining the characteristics of the rocks under the sea in the gulf. A very complex series of survey lines were established by the two working groups to make an analysis of the third dimension below the sea bottom. A remarkable outcome of the study is that those structures near the coastline known as piercement domes—salt domes—exist in many places in the gulf. Therefore, the entire Gulf of Mexico, instead of just the portion near the shore, now becomes a prospectively valuable province for oil and gas development.

The National Science Foundation supported the JOIDES program, (Joint Oceanographic Institutions deep earth sampling), which is run by oceanographic institutions with participation by the Geological Survey personnel. The JOIDES program drilled in the deep water areas of the Gulf of Mexico last year in what is known as the Sigsbee Knolls. These are on the bottom of the ocean, which were previously identified by fathometer surveys and interpreted as possibly indicating some structure below the surface. The JOIDES programs have shown that, in fact, these structures do exist. The drill core obtained revealed hydrocarbon-bearing sediments at about 450 to 500 feet below the sea floor.

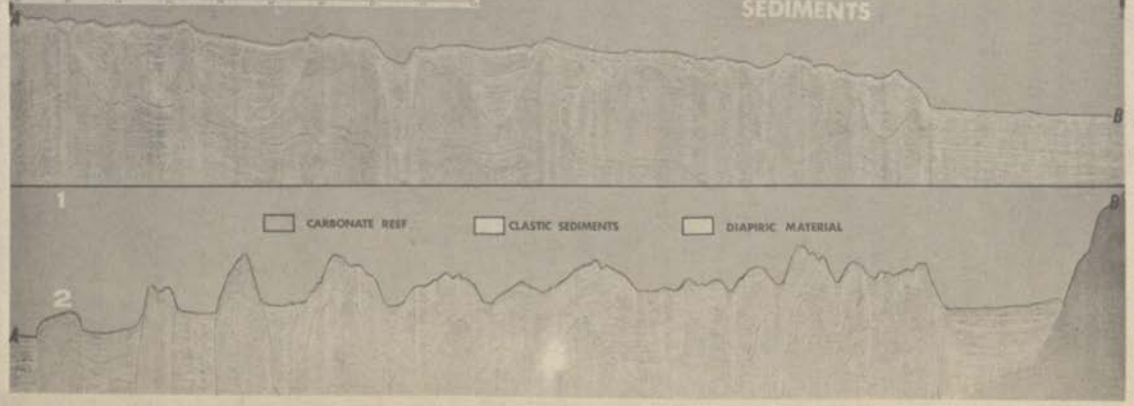
(See chart below:)

STUDIES OF SMALL OCEAN BASINS: GULF OF MEXICO



A JOINT EFFORT OF THE
GEOLOGICAL SURVEY
AND
THE NAVAL OCEANOGRAPHIC OFFICE

STRUCTURE
SEDIMENTS



Dr. PECORA. We are convinced that the kind of offshore study program that we are doing with other agencies with a minimum amount of funding on our part, but using the joint efforts of other institutions, are gaining a great deal of knowledge of the Outer Continental Shelf, well beyond the objectives of pure science, for the practical missions of planning our future exploration program offshore.

PROPOSED TRANS-ALASKA PIPELINE

Mrs. HANSEN. Will you please return to your previous discussion of TAPS pipeline.

Dr. PECORA. In the discussion on the TAPS pipeline I pointed out in summary that the earlier work of many years led to indications of a petroleum-rich province. We in this country now know and can remain comfortable in the knowledge that the reserves here are vast and that the natural resource in this northern Alaskan region can support a major industry for many, many years.

We are now comfortable that here is a major resource and that the activity will not be shortlived.

How does the petroleum get transported out of this region? We in the Survey are convinced that the problems of short facilities, pack ice, and submarine topography are such that the cheapest way would not be by tanker, because one would need tank farms, major facilities, and ready year-round access. We are further convinced that the best route for transportation of this resource is by pipeline overland from the Prudhoe Bay country down to some south coast port which would be open all year round

The industry has selected Valdez as that port because of many advantages in turnaround position, absence of ice, hard rock near shore for emplacement of their tank farms which would be their receiving point for oil from the north via pipeline, and the dispensing point for oil into the tankers.

With the background that we had built up in arctic geology and permafrost, we recognized that a project of this dimension which involves 800 miles of pipeline construction, 48 inches in diameter, at a cost probably in excess of $1 billion and a timeframe for construction probably in the order of 3 years, would be a project of major dimensions.

The industry at first hoped to construct a pipeline to transport cold oil. Since then it has been announced that the oil would have to be hot because of the pumping station requirements. Under such conditions they cannot put an underground pipeline in permafrosted soil areas because the rate of thaw would create problems that would have serious consequences.

The effect of a hot pipeline in permafrost was immediately analyzed by our scientists who for a number of years had studied the permafrost problem. The Department is now trying to determine under what conditions a pipeline can be buried in permafrost materials and what are the criteria for decision to go above ground.

We are convinced as a result of our study that the pipeline can be constructed above ground with the proper precautions and engineering design criteria. But it has been estimated that aboveground construction would be three times the cost of below-ground construction

and that this would increase the well head price of oil that would have to be costed out by the companies.

Mrs. HANSEN. Wouldn't this also raise environmental problems?

Dr. PECORA. Yes, indeed.

Mr. MCDADE. How much would it affect costs?

COST FACTORS FOR ABOVE GROUND PIPELINE

Dr. PECORA. A factor of three times. They figure $1 billion, which might have to go up to $2 or $3 billion.

OIL PRICE PER BARREL COMPARED

Mr. MCDADE. I have seen estimates that the price of oil out of that area would be below the continental U.S. price, which is what, $1.40?

Dr. PECORA. Yes, about that.

Mr MCDADE. Middle East oil is about $3.

Dr. PECORA. Middle East oil could come into the United States at a price lower than $3.

Mr. MCDADE. So this increases what the per-barrel cost is estimated to be at this point, which is what?

Mr. PECORA. I don't have the figures, Mr. Congressman.

I remember that there were discussions that the cost, just for the pipline, might be in the order of magnitude of $1 a barrel. That might not make Alaskan oil competitive with other oil if the influx in foreign oil were permitted. So this is a sensitive area, and I don't have the economics at my fingertips.

Mrs. HANSEN. Is this being discussed in connection with the import studies which have been done by the President?

Dr. PECORA. This is part of their area of study and has not been released yet, as I understand it.

Mr. MCDADE. I had the figures transposed.

Dr. PECORA. Yes.

Mr. MCDADE. I was saying that U.S. is $1.40; that is, Mid East. U.S. is $3 per barrel; Mid East is $1.40 per barrel. I had the figures transposed.

My understanding is that a lot of people have estimated that this Prudhoe Bay oil can be gotten into the United States at below-Mid East prices, which is about $1.40 per barrel.

Dr. PECORA. I would tend to doubt that, myself, but not having the economics——

Mr. MCDADE. They would certainly be below the U.S. price currently, which is about $3 per barrel.

Dr. PECORA. This is the hope of the Trans-Alaska Pipeline System, but the cost of the pipeline is excessive, it may not be possible that they can charge off enough. Cost is a factor.

ENVIRONMENTAL FACTORS

Secondly, an aboveground pipeline—in the words of the Secretary—would be a Great Wall of China, and this decision to build should not be made lightly. There should be public hearings to determine if that is the route; there should be additional public hearings

so the people know what is being agreed upon or suggested as the course of action. But above everything else, the Secretary has posted the statement: "I want the safest pipeline for the longest period of time."

He is less interested in costs and the other problems than he is in safety, because if at sometime in the future, these consequences that we feel can be predicted do show up and the pipeline gets cracked, there will be a flood of oil that is not as degradable here as it is in a warmer climate. Oil comes originally from tiny animals and plants in the sea, but it is not easily destroyed. In a warm climate the rate of degradation is faster. In the Arctic one is fearful that any major spill of oil may be trapped and do great damage because of the slow rate of degradation.

If there were an oil spill, some of the streams would be affected, particularly in the spawning areas.

So there is a sensitive relationship here to the total environment.

But we should have the safest pipeline possible, and we will be proposing the maximum protection both to the environment and to the security of the pipeline itself. Here is a case where we must do immediate work, not only on the nature of the terrain that will be traversed by the pipeline, but also on the environmental analysis of the entire development corridor.

LIFE EXPECTANCY OF PIPELINE

Mr. McDade. What would be the expected useful life of that pipeline if completed as predicted?

Dr. Pecora. In the Gulf of Mexico we have pipelines that have been operating for 20 years. So that from the point of view of the natural resource reserve, there are decades of oil production that can be expected. Whether this pipeline can stand many decades of use without local replacement of sections is another matter. So that your question really has two parts to it. There is enough oil to use a pipeline or more than one pipeline for oil and gas in the future for many decades.

The physical constants of steel being formulated today are stronger and more long lasting than available 25 years ago, so I would imagine——

Mrs. Hansen. Aren't the conditions different for the Alaskan pipeline area because of the cold environment?

Dr. Pecora. Yes. Therefore, if there is any disruption in the subsurface by reason of compaction, melting, disappearance of water, or flowage of mud, the stresses on the pipe will be great.

EARTHQUAKE HAZARDS TO PIPELINE

Mrs. Hansen. Will the earthquakes pose a problem for the pipeline?

Dr. Pecora. This pipeline will traverse three earthquake areas, one of which, the Chugach zone, is just as active as the San Andreas Fault. We must determine the design criteria for construction across these earthquake zones, for example, for cutoff valves; but we also will need a seismic net to monitor what is happening along these earthquake belts. I feel that the Geological Survey is being called upon to make a major analysis, and the Secretary of the Interior rightly is

holding back any permit for a right-of-way, and certainly any authorization for construction, until he feels sure that his scientists and technical people believe that the criteria have been identified, the consequences can be predicted, and engineering can be provided.

We have been accused of dragging our feet. If this is foot dragging, then I am very happy that the people of the United States are being protected by this kind of foot dragging. I don't think it is foot dragging; I think it is a necessary analysis of the terrain.

Mrs. HANSEN. The people responsible for the construction of the pipeline should be very grateful that you supplied them with the necessary knowledge so that they can prevent a major catastrophe which might destroy the whole program.

Dr. PECORA. Yes. This is a very good point.

UNFORESEEN EARTHQUAKE HAZARDS

Mrs. HANSEN. What safety precautions have you instituted if an earthquake destroys part of the pipeline and there is a major oil spill that affects the fish spawning in the rivers and the water supply for Alaska?

Dr. PECORA. I believe our Secretary in the past year has recognized the need for concern with these questions.

I am very pleased that our organization is given such tasks as these—TAPS, the offshore analysis, the Everglades problem. These problems require a depth of intellectual and applied knowledge, and I am very pleased that science and technology, which have made tremendous progress in the last few decades, are now being called upon to help identify some of these consequences and problems in the environment and what might be suggested to offset them or to minimize them.

But this task, as you know, takes some old pros, and it takes the learning of some youngsters who have to come into the system. Without a funded program we are going to run out of old pros in a few years.

PLANS FOR 1971

Mrs. HANSEN. What are your plans in Alaska for fiscal year 1971?

Dr. PECORA. It is our intent this summer to begin the work in the general transportation corridor of the pipeline which will also be used for roads and is a potential location for a railroad in the future.

For this development corridor we need to produce the topographic maps of the type that I showed this committee earlier for the entire development region.

In the past our topographic program has been deferring into the future coverage of this part of Alaska at this scale. Suddenly we realized that it becomes all important. So we are directing efforts in the topographic area, and for that coverage this will involve, Mr. Lyddan——

Mr. LYDDAN. 25,000 square miles in the total area, of which 10,000 is outside the inner corridor.

Dr. PECORA. So that the topographic base mapping program is composed of both our engineering standard maps which would be used for calculations, and the orthophoto map. Both of them would be extremely useful in terrain analysis.

EXPENDITURES FROM SUPPLEMENTAL APPROPRIATIONS

Mrs. HANSEN. What expenditures have been made so far from your supplemental appropriation?

Dr. PECORA. The $700,000 supplemental was to begin advance contracts for photography for the topobase mapping, and for field work beginning late spring and summer.

I don't have the figure as to how much has been expended since you have allotted us the money, but we will make this analysis and put it in the record.

Mrs. HANSEN. Please do.

(The information follows:)

Obligations to date total about $31,000 for planning, review of data needs, and speedup on a permafrost report, including $4,000 for helicopter support and aerial photography.

It is anticipated that an additional $90,000 will have been obligated in March and $300,000 in April for helicopter support, aerial photography, gasoline caches, and camp supplies preparatory for the summer field season.

Mrs. HANSEN. The committee will resume at 1:15.

AFTERNOON SESSION

SURVEYS, INVESTIGATIONS, AND RESEARCH

Mrs. HANSEN. Insert justification pages 1 through 7 in the record.

(The information follows:)

Funding of Geological Survey Programs (Obligations)

	Actual 1969	Estimate 1970	Estimate 1971
Special resource and environmental projects:			
Direct appropriation	-	-	$ 1,500,000
Department of Housing and Urban Development	-	$ 224,000	432,000
Total	-	224,000	1,932,000
Alaska pipeline related investigations:			
Direct appropriation	-	700,000	1,300,000
Topographic surveys and mapping:			
Direct appropriation	$25,509,093	27,772,000	28,903,000
States, counties and municipalities	3,954,686	4,450,000	4,200,000
Miscellaneous non-Federal sources	286,859	230,000	240,000
Bureau of Reclamation	965,655	1,065,000	886,000
Office of Territories	72,694	102,000	100,000
National Aeronautics and Space Administration	105,428	519,000	150,000
National Science Foundation	323,822	358,000	350,000
Miscellaneous Federal agencies	343,418	290,000	290,000
Total	31,561,655	34,786,000	35,119,000
Geologic and mineral resource surveys and mapping:			
Direct appropriation	28,347,353	29,872,000	29,200,000
States, counties, and municipalities	1,114,865	1,278,000	1,300,000
Kingdom of Saudi Arabia	1,257,901	1,163,000	1,500,000
Miscellaneous non-Federal sources	18,817	6,000	5,000
Department of Defense:			
Military	1,981,821	1,938,000	1,850,000
Civil	193,380	215,000	150,000
Agency for International Development	1,408,952	1,348,000	1,500,000
Atomic Energy Commission	1,906,429	2,083,000	2,000,000
National Aeronautics and Space Administration	4,976,134	5,025,000	4,500,000
National Science Foundation	59,824	100,000	100,000
Alaska Power Administration	16,587	33,000	300,000
Office of Emergency Planning	153,812	96,000	-
Miscellaneous Federal agencies	150,765	94,000	50,000
Total	41,586,640	43,251,000	42,455,000
Minerals discovery loan program:			
Direct appropriation	979,031	403,000	524,415

	Actual 1969	Estimate 1970	Estimate 1971
Water resources investigations:			
Direct appropriation	$27,872,104	$30,701,852	$32,542,000
States, counties and municipalities:			
Matched Federal funds	14,722,076	15,610,000	17,867,000
Unmatched	1,445,928	1,550,000	1,600,000
Permittees and licensees of the Federal Power Commission	469,357	500,000	500,000
Miscellaneous non-Federal sources	60,551	76,000	76,000
Bureau of Reclamation	1,307,341	1,490,000	1,281,000
Federal Water Pollution Control Administration	106,691	578,000	1,050,000
National Park Service	397,140	345,000	330,000
Office of the Secretary	129,603	117,000	118,000
Department of Agriculture	303,165	265,000	267,000
Department of Defense:			
Military	349,045	245,000	240,000
Civil	3,555,077	3,783,000	3,815,000
Department of State	195,303	202,000	204,000
Agency for International Development	697,041	600,000	600,000
Atomic Energy Commission	1,377,766	1,393,000	1,400,000
National Aeronautics and Space Administration	619,413	608,000	402,000
Office of Emergency Planning	-	126,000	-
Tennessee Valley Authority	172,822	199,000	191,000
Miscellaneous Federal agencies	365,462	397,000	443,000
Total	54,145,885	58,785,852	62,926,000
Conservation of lands and minerals:			
Direct appropriation	5,651,901	7,076,000	7,855,000
Miscellaneous non-Federal sources	2,637	4,000	4,000
Miscellaneous Federal agencies	26,555	31,000	31,000
Total	5,681,093	7,111,000	7,890,000
Earth Resources Observation Satellite:			
Direct appropriation	198,723	1,100,000	1,600,000
National Aeronautics and Space Administration	164,730	290,000	200,000
Total	363,453	1,390,000	1,800,000
General administration:			
Direct appropriation	2,413,616	2,613,000	2,604,000

	Actual 1969	Estimate 1970	Estimate 1971
Miscellaneous services to other accounts:			
Miscellaneous non-Federal sources	31,426	23,000	24,000
National Aeronautics and Space Administration	661,286	778,000	520,000
Computer services for other bureaus and agencies	1,379,954	1,216,000	1,605,000
Miscellaneous Federal agencies	511,728	546,000	629,000
Total	2,584,394	2,563,000	2,778,000
Summary:			
Direct appropriation	90,971,821	100,237,852	106,028,415
States, counties and municipalities	21,237,555	22,888,000	24,967,000
Miscellaneous non-Federal sources	2,127,548	2,002,000	2,349,000
Other Federal agencies	24,978,843	26,699,000	25,984,000
Total	139,315,767	151,826,852	159,328,415

DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

Surveys, Investigations, and Research

Appropriation, 1969	$ 88,675,000	
Second supplemental appropriation, 1969	2,242,000	
Total appropriation, 1969		$ 90,917,000
Appropriation, 1970	95,755,000	
Supplemental appropriation, 1970	700,000	
Pay cost supplemental	1,287,000	
Total appropriation, 1970		97,742,000
Transferred from "Operating expenses, Public Buildings Service", General Services Administration		+ 22,852
Transferred from "Lead and zinc stabilization program" (proposed for pay increases)		+ 2,023,000
Total available, 1970		99,787,852

Summary of Increases and Decreases, 1971

	Base for 1971	Increase 1971	
Special resource and environmental projects:			
To initiate interdisciplinary pilot area studies in one or two urban areas	-	+ 900,000	
For coordinated program of topographic, geologic, hydrologic, and resource evaluation and management investigations in the Arctic	-	+ 600,000	+ 1,500,000
Alaska pipeline related investigations:			
For geologic, hydrologic, and topographic investigations necessitated by proposed construction of a trans-Alaska oil pipeline	$ 700,000	+ 600,000	+ 600,000
Topographic surveys and mapping:			
Standard quadrangle mapping - increase in standard 1:24,000 scale mapping and initiate a National Cartographic Information Center	21,812,000	+ 1,016,000	
Map revision and maintenance - mapping in Trust Territory of Pacific Islands	4,105,000	+ 115,000	+ 1,131,000

Geologic and mineral resource surveys and mapping:			
To obtain data on geologic hazards in rapidly developing urban areas	$ 792,000	$+ 400,000	
To reduce studies of gold and potential gold-bearing regions	7,410,000	- 1,000,000	
For general program reduction	21,670,000	- 72,000	$- 672,000
Water resources investigations:			
To begin field level coordination necessary to the preparation of a Federal Plan for water-data acquisition	542,000	+ 100,000	
To initiate a program for systematically collecting water-use data of uniform reliability for the Nation as a whole	-	+ 107,000	
To develop information and research base for subsurface storage of wastes and utilization of saline acquifers	-	+ 400,000	
To publish highest-priority manuscripts from publications backlog	1,397,000	+ 99,784	
To match an equivalent increase in State offerings for water data of mutual interest to both State and Federal governments	16,630,000	+ 1,398,000	
For reimbursement to Bureau of Employees' Compensation	184,144	+ 35,364	+ 2,140,148
Conservation of lands and minerals:			
To expand lease management, supervision and inspection of rapidly growing OCS oil and gas operations	1,326,000	+ 419,000	
To acquire and evaluate OCS geophysical data for pre-sale tract selection evaluation and safety of operations	428,000	+ 97,000	
To improve lease management and supervision of oil and gas operations on Federal and Indian leases onshore	2,754,000	+ 166,000	
To improve lease management and supervision of mineral prospecting and mining operations on Federal and Indian leases	1,014,000	+ 97,000	+ 779,000
Earth resources observation satellite:			
To establish a capability to experiment with ERTS-A satellite data and to conduct environmental remote-sensing research	1,100,000	+ 500,000	+ 500,000
General administration:			
For general program reduction	2,613,000	- 9,000	- 9,000
Net increase, 1971			+ 5,969,148
Budget estimate, 1971			105,757,000

SURVEYS, INVESTIGATIONS, AND RESEARCH

Analysis by Activities

Activity	Fiscal Year 1969 Amount Available	Fiscal Year 1970 Total Appropriation	Pay Cost Supplemental	Transfers[a]	Amount Available
1. Special resource and environmental projects	-	-	-	-	-
2. Alaska pipeline related investigations	-	$ 700,000	-	-	$ 700,000
3. Topographic surveys and mapping	$ 25,509,093	26,796,000	$ 379,000	$+ 597,000	27,772,000
4. Geologic and mineral resource surveys and mapping	28,347,353	28,891,000	381,000	+ 600,000	29,872,000
5. Minerals discovery loan program	501,469	246,000	3,000	+ 4,000	253,000
6. Water resources investigations	28,172,104	29,382,000	388,000	+ 631,852 [b]	30,401,852
7. Conservation of lands and minerals	5,651,901	6,830,000	96,000	+ 150,000	7,076,000
8. Earth resources observation satellite	198,723	1,100,000	-	-	1,100,000
9. General administration	2,413,616	2,510,000	40,000	+ 63,000	2,613,000
Unobligated balance lapsing	122,741	-	-	-	-
Total	90,917,000	96,455,000	1,287,000	+ 2,045,852	99,787,852

[a] Proposed transfer for pay increases, except as otherwise noted.
[b] Includes $22,852 transferred from GSA to consolidate financing of lease at Columbus, Ohio.

SURVEYS, INVESTIGATIONS, AND RESEARCH

Analysis by Activities

Activity	F.Y. 1969 Amount Available	F.Y. 1970 Amount Available	F. Y. 1971 Estimate	Increase (+) or Decrease (-) 1971 Compared with 1970	Page Reference
1. Special resource and environmental projects	-	-	$ 1,500,000	$+ 1,500,000	8
2. Alaska pipeline related investigations	-	$ 700,000	1,300,000	+ 600,000	14
3. Topographic surveys and mapping	$ 25,509,093	27,772,000	28,903,000	+ 1,131,000	16
4. Geologic and mineral resource surveys and mapping	28,347,353	29,872,000	29,200,000	- 672,000	23
5. Minerals discovery loan program	501,469	253,000	253,000	-	34
6. Water resources investigations	28,172,104	30,401,852	32,542,000	+ 2,140,148	35
7. Conservation of lands and minerals	5,651,901	7,076,000	7,855,000	+ 779,000	47
8. Earth resources observation satellite	198,723	1,100,000	1,600,000	+ 500,000	56
9. General administration	2,413,616	2,613,000	2,604,000	- 9,000	58
Unobligated balance lapsing	122,741	-	-	-	
Total	90,917,000	99,787,852	105,757,000	+ 5,969,148	

FUNDS FROM ATOMIC ENERGY COMMISSION

Mrs. HANSEN. You receive about $3.5 million a year from the Atomic Energy Commission. What type of work does this cover?

Dr. PECORA. The work is advisory services in geology, ground response, and hydrology at locations where testing is to be done.

In addition to this, studies are made of the environmental conditions in places where atomic powerplants are being contemplated or where applications are being made for powerplant installations. These are the two principal areas of our association with the Atomic Energy Commission.

The Atomic Energy Commission transfers funds to repay us for the work done in their behalf.

Mrs. HANSEN. Will you be doing any work on AEC proposed thermonuclear plants?

Dr. PECORA. Once the plant site has been proposed, we are asked to make a study of the terrain in relation to the safety of that site, whether it be let's say in the earthquake country of California or slope terrain or coastal area country.

Our job is to analyze the terrestrial and water environment that would be affected by the plant and conversely to define those factors that would affect the plant's safety of operation.

Mrs. HANSEN. Do you partcipate in the work that's going on in the Biscayne Bay plant at Turkey Point?

Mr. HENDRICKS. I am sorry, I can't give you the detail on that. I do know that a few days ago our people were called on to testify in one of these public hearings with respect to the information we had pertinent to that problem, but I couldn't go any further than that at the moment.

FUNDS FOR INCREASED PAY COSTS

Mrs. HANSEN. I notice you propose a transfer of about $2 million from the lead and zinc stabilization program for pay increase costs. Is this the only program activity from which transfers will be made to cover your pay increase costs?

Dr. PECORA. Our budget officer, Mr. Hite.

Mr. HITE. To my knowledge this is the only transfer on the initiative of the Bureau, the only transfer from program to pay on the Bureau's initiative.

Mr. JOHANSON. It is my understanding that the proposed application of the lead and zinc balance to pay has been determined not possible under the legislation that applies, Madam Chairman.

This was a different view of the situation than is reflected in the budget.

Mrs. HANSEN. The legislation doesn't allow you to transfer the funds for pay costs?

EROS PROGRAM FUNDS APPLIED TO PAY INCREASE

Mr. JOHANSON. That is right. The other application of funds to pay from program is the $3 million from the EROS appropriation, which would be applied to pay in 1970.

Mrs. HANSEN. Didn't Congress appropriate funds specifically for EROS?

Mr. JOHANSON. Yes, ma'am. There was an appropriation of $4.1 million for 1970.

Mrs. HANSEN. I am going to say, as I said yesterday, that this isn't a very honest procedure to request funds for a specific project and then reprogram these funds to cover additional pay costs.

What was your total appropriation for EROS?

Dr. PECORA. $4.1 million in 1970; it is reduced to $1.1 million for this current fiscal year, so that $3 million had not been apportioned.

Mrs. HANSEN. $3 million had not been apportioned?

Mr. HITE. This is correct.

Let me emphasize this was not done on Dr. Pecora's initiative. It was not done on the initiative of the department.

Mrs. HANSEN. I understand that.

Mr. HITE. Yes, ma'am.

DIVERSION OF APPROPRIATED FUNDS BY EXECUTIVE BRANCH

Mrs. HANSEN. It is easy to see how a department's programs can be changed entirely by another agency of the Federal Government.

If this type of activity is continued then you might just as well not have appropriation hearings. You immediately have an accounting device where, before the money can be spent upon the designated activity, you are putting in your priorities and the priorities established by the Congress are ignored. You will recall that the President's amended budget did not delay the EROS program.

Mr. HITE. That is right.

Mrs. HANSEN. We therefore presumed that the EROS program was to proceed.

Mr. HITE. The diversion of these funds for pay was accomplished as a part of the formulation of the 1971 budget. It is not directly analogous to what we discussed yesterday, but it has the same effect.

Mrs. HANSEN. It has the same effect. It was my understanding, after a lengthy discussion last year in this committee on the benefits of the earth resources satellite, that this program was to be of great benefit to mankind and was needed not 20 years from now but needed as rapidly as possible.

Mr. REIFEL. Madam Chairman, may I ask a question here?

Mrs. HANSEN. Surely.

Mr. REIFEL. Unfortunately, I had to leave to get to another committee when Dr. Pecora was presenting his opening statement. Was there any discussion with respect to the earth resources observation satellite following your presentation?

Dr. PECORA. Not at that time.

Mr. REIFEL. NASA is going to launch this satellite early in calendar 1972. What facilities will then be available to interpret any information they pick up?

Dr. PECORA. This was part of our discussion last year and the year before, that if the experimental satellite were put into orbit, NASA

would be able to fully process a very small percentage of the data as an experimental sample to test the validity of the system, to test the experiment, see whether it was working or not.

However, the intent of our appropriation request and passage of it by the committee would enable the Department, with its part of the budget, to get into the user capability of that data. We would be setting up a major user center by direction of the budget, and also working with a great variety of other user institutions, State governments, local governments, universities, regional institutions, in order to apply the data to its maximum use as early as possible.

Now, while the 1971 budget was under discussion the whole system of ERTS experiments and the user capability of the Department were being considered in tandem.

It was determined that the ERTS satellite experiment would go from the NASA end, but that the part of the budget which would enable us to maximize our user capability would be deferred in part by a lower budget than had been previously passed by the Congress.

IMPACT ON ANTI-POLLUTION CAMPAIGN

Mr. Reifel. If the resources satellite were launched, including the program that you had in mind, what impact would this have on the antipollution campaign that is now being waged in this country?

Dr. Pecora. If the experiment were aloft and if we were in maximum capability status and posture as proposed by last year's budget, we would be able to monitor and give surveillance to pollution all over our land and water. We would be able with this capability to monitor, let's say, oil spills off the coast and on a continuing basis monitor the direction of motion of the pollutant and the characteristics of the oceans so that we would get some idea as to which direction normally the hydrodynamics of the ocean would take the pollution. It would also be used for similar purposes in the Great Lakes and in other bodies of water such as estuaries.

REDUCED CAPABILITY FOR MONITORING

This is one of the several monitoring uses that we have considered. Volcanic activity was another variation; floods, another kind of monitoring.

We can go on for a great number. Forest fires, for example, would be another. There are many of this kind.

But all I can say is that we are reduced in our capability to do this kind of monitoring, even though the ERTS satellite will in fact be aloft on schedule.

Mr. Reifel. I understood you to say as far as the plan, to your knowledge NASA would be doing a very small amount of this sort of thing on an experimental basis?

Dr. Pecora. NASA would be merely fully processing about 5 percent of the data that could be acquired. Therefore, there would be a minimal usability of the data for that great variety of users throughout the Nation that need this kind of data to continue their kind of work.

Mr. REIFEL. With the additional $1.6 million proposed in 1971, if this were made available—first let me say if it is appropriated, would it wind up in the same shelf that last year's appropriation was placed?

Dr. PECORA. The increase of $500,000, I would have to say I hope has a good stability in the budget, because this would be an absolute minimum for us to try to get the information that we want to get aboard.

Mr. REIFEL. This would not in any way be a step toward establishing the interpretive center that you had in mind?

DEFERRAL OF NATIONAL USER DATA CENTER

Dr. PECORA. Absolutely, Mr. Congressman. These funds for 1970 or 1971 would make it impossible for the Department of the Interior to move into the area of a national user data center, which was the consideration of both this committee and your counterpart committee in the Senate last year.

Mrs. HANSEN. Why do you need a satellite if you can't use the information it supplies?

Dr. PECORA. This has been discussed, also. As you remember, in earlier meetings where you all agreed that it wasn't for generating data that we are in this business, we are in the business to use the data.

Mrs. HANSEN. That is right.

Dr. PECORA. It was in that regard that we felt our user capability should be maximized as quickly as possible. I would have to respond quite frankly to say that I am in the business to use data. We use data in the work that we do and in the work that our counterparts do throughout the Nation.

Mr. REIFEL. In an estimate, which would probably necessarily have to be a very rough one, if the satellite were launched and you were prepared to do the full interpretation of all of the material that could be obtained, you say now if it is launched it would be only 5 percent of the total. In your judgment how much in man-years, or however you want to measure it, if we weren't prepared to have the interpretation center, how much would this cost the antipollution program in attempting to try to get some of this information that would otherwise not be available?

Dr. PECORA. Whatever figure we would come up with there would be merely one small part of the total, because you are giving up other areas of usability at the same time.

Mr. REIFEL. I see.

COST OF DEFERRING USER DATA CENTER

Dr. PECORA. It would seem to me that in the benefit relationship of maximum capability for using the data you are dealing in areas of benefit with hundreds of millions of dollars to the economy down the pike.

We have had a few studies made on benefits of such a program to the user group throughout the Nation. We are very favorably impressed by the validity of these user group studies made for the Government by other agencies. But in response to your question, the user

center concept envisioned the central control of the information that would be acquired for immediate dispersion to all the users, not only to the Department of the Interior, but also to other organizations of the country.

Mrs. HANSEN. I am reminded in this connection of two things. It is like building a powerplant and having no transmission lines. It is also like building a battleship in a crate so small that you can't get the battleship out of the crate after you have built it.

LEAD AND ZINC STABILIZATION FUND

Mr. HITE. What will the balance in the lead and zinc stabilization fund be after the pay increase transfer?

Mr. HITE. I would like to yield to Mr. Johanson on that, if you have it.

Mr. JOHANSON. $2.2 million.

Mrs. HANSEN. Since legislation for this program expired December 31, 1969, you will have no further costs in this connection, will you?

Mr. JOHANSON. No, ma'am.

Mr. HITE. That is correct.

Mrs. HANSEN. How will the remaining funds be used?

Mr. JOHANSON. These funds will be returned to the Treasury by condition of the law, as I understand it.

Mrs. HANSEN. You might suggest to the Bureau of the Budget that they read this record.

Mr. HITE. They will read the record, I am sure.

SPECIAL RESOURCES AND ENVIRONMENTAL PROJECTS

Mrs. HANSEN. Please insert pages 8 through 13 of the justifications in the record.

(The information follows:)

1. Special Resource and Environmental Projects

FY 1970, $0; FY 1971, $1,500,000; increase, $1,500,000. The increase consists of:

	Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1)	$+900,000	+10	$900,000	10	Initiate interdisciplinary pilot area studies in one or two urban areas.
(2)	+600,000	+11	600,000	11	Coordinated program of topographic, geologic, hydrologic, and resource evaluation and management investigations in the Arctic.
	+1,500,000	+21			

Cost Factors Involved in Increases

(1) Ten permanent positions for an average of 9 months, $131,000; travel and transportation, $25,000; utilities, supplies, and equipment, $13,000; and aerial photography and other contractual services approximately $731,000.

(2) Eleven permanent positions at average annual rate of $14,000, $154,000; helicopter services, 600 hours at $250 per hour, $150,000; travel, transportation, and subsistence, $100,000; and supplies, equipment, wages for field assistants, and sundry expenses essential to Survey work, $196,000.

Analysis by Subactivities

Subactivity	FY 1969 Amount Available	FY 1970 Amount Available	FY 1971 Estimate	Increase (+) or Decrease (-) 1971 Compared with 1970	Page Reference
(a) Urban pilot area studies ----------	-	-	$ 900,000	$ + 900,000	10
(b) Arctic Alaska resource investigations	-	-	600,000	+ 600,000	11
Total ----------	-	-	1,500,000	+1,500,000	

(a) Urban pilot area studies: FY 1970, $0; FY 1971, $900,000; increase, $900,000.

Need for increase: The increase will initiate one or two interdisciplinary pilot area urban studies required to reduce the barriers to the wider beneficial use of physical environmental and resource data in urban planning and development.

Program of work: By assembling a comprehensive array of data for a group of representative urban regions and by experimenting with different approaches in data presentation and use, we expect to a) develop a wider appreciation of the value of environmental resource data in urban decision-making; b) determine which data are the most useful and how to best present the data nationally for general use; c) advance significantly the "state of the art", and d) improve the effectiveness of environmental data programs and environmental planning efforts generally.

The areas to be studied will be selected on the basis of a variety of environmental and institutional factors and the actual study tailored to those circumstances to provide a representative sample of the problems and testing of potential solutions.

It is expected that a single study will take from three to five years, and that the entire series will be completed by 1975. While final cost estimates will depend upon actual areas selected, the preliminary estimate for the total series is $11.3 million with individual area study costs ranging from $1.0 to $3.0 million.

Although the nature and products of the pilot area studies will vary from area to area, examples of the data to be produced and studied may include: standard topographic maps; orthophotomaps; small scale base maps; slope maps; geologic maps; topical studies of geologic hazards, mineral resources, engineering properties, and construction material distribution; surface and subsurface water distribution, quantity, and quality; and present and potential water use.

Status of program: By year 2000, 80 percent of our population will live in urban-dominated areas embracing 338,000 square miles--nearly 11 percent of the Nation's land area. To efficiently provide the necessary facilities to meet this growth and to maintain an acceptable level of environmental quality, greater understanding is needed of the physical environment and its interrelationship with man's activities.

Failure to consider environmental hazards and advantages increases the cost of urban development; man-triggered landslides, under-or over-designed storm sewers, deterioration of water supplies, sand and gravel deposits "buried" under subdivisions, and foundation and septic tank failures are but examples. Urban development also has had an adverse impact on the environment--pollution; erosion, and loss of open space, lakes, forests, and vistas--all of which degrade the quality of urban life.

When the physical environment and its interrelation with man is known and understood, the cost of urban growth can be minimized and the quality of urban life and the environment can be improved, even as urban development occurs. Land-use planning and development can capitalize upon the landscape's opportunities and avoid its hazards. Subsurface water supplies can be protected and developed. Needed gravel deposits can be systematically mined, the cavities utilized in certain circumstances for waste disposal, or as lakes, and the rehabilitated land used for parks, industry or housing. Areas subject to landslides, subsidence, flooding, or severe earthquake damage can be delineated, and developed in a manner compatible with the hazard.

As their importance is recognized, physical environmental and resource data are being used increasingly as major data components in urban planning. However,

several barriers limit their wider use: 1) general inadequacy of available data; 2) a lack of understanding of their use by many urban planners, engineers, and others, and 3) problems of presenting environmental data in forms most readily usable by the potential non-scientific users. The pilot area programs is intended to devise ways of reducing those barriers.

While expecting that Interior will take the lead in the pilot area program, HUD had authority and funding in FY 1970 which could be used to expedite the pilot area study effort. Recognizing the desirability of early initiation of the pilot area program, Interior and HUD entered into a three-year agreement for a project in the San Francisco Bay Region to initiate the pilot area sequence. Geological Survey already had under way a substantial data acquisition program in this area. Building on this ongoing work the HUD funding of $1.2 million over a 3 year period (about 40 percent of the total cost) will permit data acquisition work to be expanded; provide for determination (in consultation with regional data users) of effective methods of data interpretation and evaluation; and test the use of data by Bay area urban planners and decision-makers. Contact with Bay area data users during the study will be facilitated by a Consultative Panel established by Survey and HUD and comprised of a cross-section of local agencies. The cooperative study actually started about January 1, 1970 and will be completed over a three-year period. The evaluation phase will extend over an additional period to provide sufficient time to demonstrate the effect of the data in practical use.

The remaining pilot areas will be selected in the near future--to permit starting actual work on one or two areas in FY 1971--on the basis of a variety of factors, including the kind of environmental problems and factors involved, availability of data, and local willingness to cooperate. An illustrative list would include, in addition to San Francisco, Seattle/Puget Sound area, Pittsburgh, Connecticut Valley, Denver, Washington-Baltimore, and Atlanta or Miami.

(b) Arctic Alaska resource investigations: FY 1970, $0; FY 1971, $600,000; increase, $600,000.

Need for increase: The requested $600,000 increase is required to provide coordinated topographic, hydrologic, geologic, and resources management data needed for the critical decisions to protect the environment, manage public lands and resources, and locate and construct a variety of facilities in Arctic Alaska. Excluded are those investigations specifically related to potential trans-Alaska pipeline permits, construction, or operation. The rapid economic development on the North Slope triggered by the oil discoveries is continuing to create a diverse array of problems, in addition to those of a potential pipeline, that require decisions to discharge the Federal responsibilities in the Arctic.

Program of work: The FY 1971 program focuses on providing data required by the Federal Government to make critical management decisions necessary to protect the Arctic environment, and to wisely manage those lands and minerals remaining under continued Federal ownership and trust which will be made accessible by the petroleum development and pipeline related activities. (Geologic, hydrologic and topographic investigations related specifically to issuance of Federal permits for right-of-way survey and potential construction of a trans-Alaska pipeline, and the actual survey and construction of that pipeline are provided for separately in activity number 2, "Alaska pipeline related investigations".)

1) Topographic surveys and mapping - Provide advance map copy for about half, and begin field control operations on the remainder, of a 10,000 square mile area not presently mapped at 1:63,360 scale. The mapping will provide the detailed topographic map data necessary for (a) transportation and communications feasibility investigations; (b) management of Federal lands; (c) exploration and development of natural resources; and (d) protection of wildlife and preservation of the Arctic environment.

2) Geologic investigations - Multipurpose surficial and bedrock geologic

mapping of areas other than the potential trans-Alaska pipeline route to evaluate mineral resource potential and to define the extent, character, and thermal regime of permafrost and other geologic hazards to economic development.

3) Federal resource management - Monitor oil exploration and production activities on the North Slope to protect petroleum resources on Federal lands. This will involve monitoring petroleum operations on State lands that may affect Federal lands through unitization, as well as geophysical operations and core drilling on the OCS.

4) Water resources investigations - Investigate water availability and quality, and engineering problems related to water resources in potential areas of development in the Arctic excluding the probable trans-Alaska pipeline route: a) quantity, quality and biological characteristics of lakes and streams concerning their potential use for water supply and/or waste disposal; b) stages, discharges, and ice-jam characteristics of major Arctic rivers; c) sedimentation and gullying processes in permafrost to develop protective measures, and d) water environment monitoring to detect undesirable and irreversible changes resulting from development.

Status of program: The 1968 Prudhoe Bay oil discoveries have induced a high level of intensive, mechanized and varied human activity in what has been a largely uninhabited Arctic wilderness. The previous lack of activity in the Arctic resulted in few Survey investigations of the area. This sudden development of the Arctic is now occurring without the basic topographic, geologic, and hydrologic data that generally are available elsewhere in the country. Petroleum discoveries, and the eventual production will trigger a variety of activities affecting the environment, Federal lands and resources, public health, and general commerce and transportation. These activities require an array of Federal decisions for protection of the environment, management of publicly-owned resources and land, and location, design, and construction of a variety of facilities.

Among the variety of potential developments--excluding the trans-Alaska pipeline--that will affect Federal lands or the general welfare are: a) investigations of proposed extension of the Federal Alaska Railroad across public lands north from Fairbanks to Prudhoe Bay and/or west along the southern slope of the Brooks Range; b) possible discovery and development of other oil fields on the North Slope and the Continental Shelf including the OCS, NPR-4, and the Arctic Wildlife Range--these would involve additional roads, airports, and communities; c) transportation facilities and local energy supplies will stimulate further exploration and development of known Arctic mineral resources on Federal lands, in particular, coking coal for West Coast and Japanese markets; d) the growth of Arctic communities and the general improvement of their living conditions including water supply, sewage, housing, and transportation facilities; and e) the development of petroleum handling facilities across the North Slope including feeder pipelines, off-shore tanker loading facilities and possibly a pipeline traversing Alaska and Canada to directly serve the Mid-West. The standard investigations of the Geological Survey in the fields of topography, geology, and water resources relate specifically or indirectly to all of these activities.

In response to these activities and the need for Federal decisions, the Survey redirected certain ongoing activities in late FY 1969 and FY 1970 to initiate a variety of standard Survey programs in Arctic Alaska. The requested FY 1971 increase of $600,000 will provide a minimum, specifically funded program to cope with the data needs in the Arctic without continuing to redirect funds from other high priority programs in the rest of the country.

While general development of Arctic Alaska is not inevitable, neither is it improbable. Though the Federal involvement may be reduced with the eventual lifting of the "land freeze" and native and State selection of lands on the North Slope, the Federal Government will continue to hold significant lands and resources including those of NPR-4, the Arctic Wildlife Range and the OCS. Finally, though the Arctic is far from the American urban centers, protection of the fragile Arctic ecology is a basic concern of all Americans and is the vested concern of the Federal Government. The fore-described program is directed towards providing the essential data to permit the Federal Government to intelligently discharge its responsibilities.

INTERDISCIPLINARY PILOT URBAN AREA STUDIES

Mrs. HANSEN. $900,000 is requested to initiate interdisciplinary pilot area studies in one or two urban areas. Just what is involved here?

Dr. PECORA. Madam Chairman, this has been a subject that this committee and our bureau has had under discussion for a few years. That is the application of our kind of technique across the board as a major striking force in a broad urban area.

For example, in the San Francisco Bay region covering nine counties, an attempt is being made at the present time by the Geological Survey to direct what had been separate projects into a master project with a common name; to apply all of our techniques in mapping, water analysis, hazards analysis, toward the planning relationship of the region so that we can impart to the people immediately the benefit of our data and knowledge.

In this project, which is a pilot project, being the first of its kind, HUD has joined with the Geological Survey and is contributing over a 3-year period $1.2 million as its portion of the "kitty" which will bring in the local and regional planners so that our kind of information is used immediately and translated into applied decisions by the local groups.

We believe this is going to be extremely successful. We have already had some success which I will bring out later.

INITIATION OF OTHER REGIONAL STUDIES

The intent of the program is to start two other regional studies of this kind in other urban areas. Although we have not yet selected these two, the list we are considering is the Puget Sound area, the Pittsburgh area, the Connecticut Valley, the Denver area, the Washington-Baltimore area and Atlanta or Miami. There may be others before we are finished.

It is our intention that if the Congress appropriates us this money that we would then have a bargaining basis to go to these areas and discuss with their principals—members of the Governor's staff, their planners, regional level groups, our counterparts in the Geological Survey, et cetera—and determine whether or not they wish to join us on a cooperative project. Now, you know the long-term attitude of the Survey, and your committee, is to get the most for our public dollar. So that we feel that if we can get some matching funds it would improve the study and make the study truly a cooperative study.

Mrs. HANSEN. Will this be a duplication of other urban studies?

Dr. PECORA. No. This would be a base-line study with the primary data accumulated by the Geological Survey in the area of base mapping, hydrology, land use, hazards, and planning of the proper land for the proper use.

A good example of the use of such data occurred recently in the Portola Valley of California. A geologic map of a given area was made by a geologic consultant to the community indicating that a major development plan had best be revised because proper consideration was not being given to the hazards, slope, and other characteristics of the land.

In the revision of the development plan, utilizing that basic study, the developers planned a satisfactory number of houses for the area, but achieved also a better distribution of recreation, green areas, and housing location with respect to hazards.

Let me show the committee, if I may, a few illustrations of the kind of thing that can come out of this study.

STABILITY OF SLOPES

One of the characteristics of land use is the stability of slopes. Therefore, a slope map study is an important contribution to any regional planning.

In the bay area this illustration shows different kinds of slopes. The metropolitan or urban development here is largely in flatlands. This is the extension of the bay area where the slope is less than 5 percent. There are some high areas where the slope angle is over 50 percent and we would interpret such an area as being rather dangerous for construction because of the instability of slopes in this particular region.

So we would indicate these high slope areas on a map as places to avoid for major construction, but to be utilized for scenic, open space, and use of this kind.

Mrs. HANSEN. Isn't this possibly the only way to utilize this land?

Dr. PECORA. Exactly.

This is particularly important in the slope country of California, because when added to——

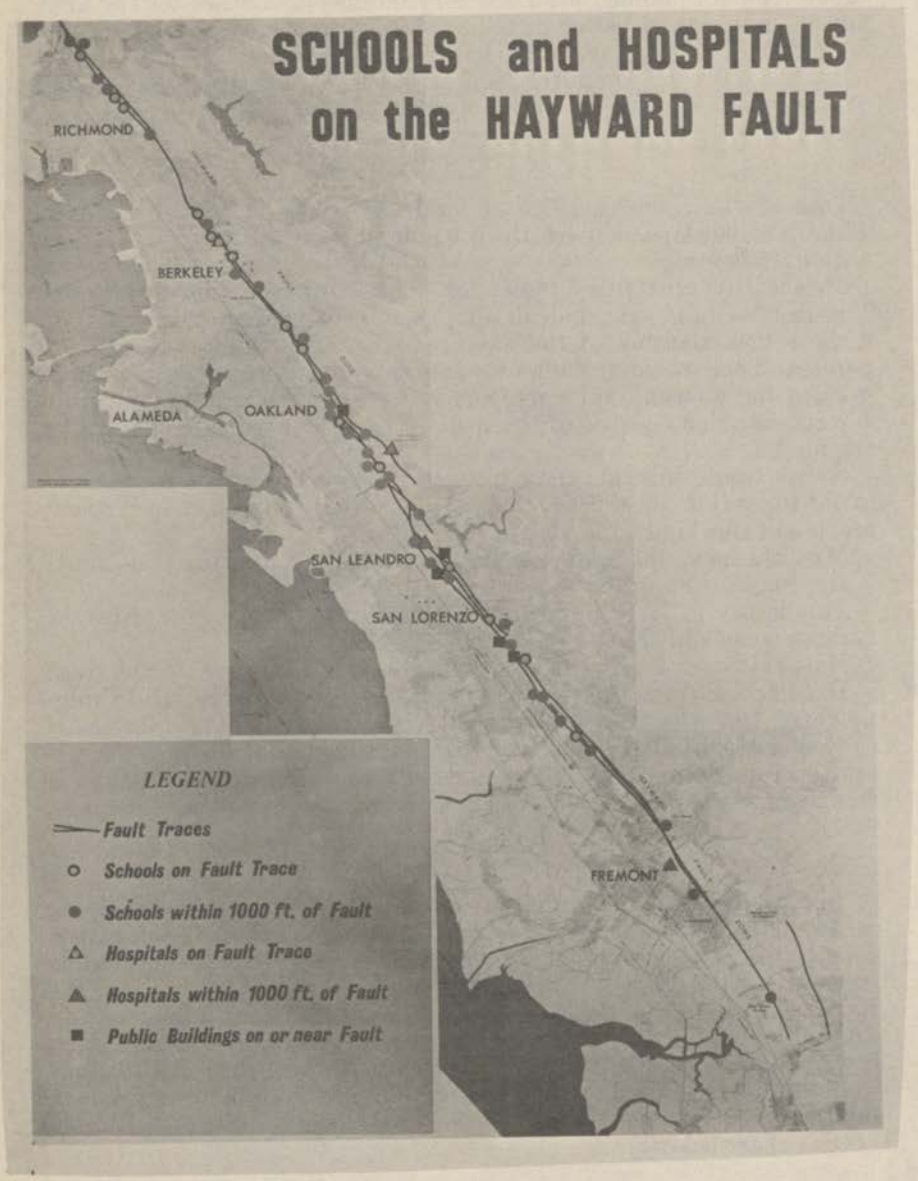
Mrs. HANSEN. Doesn't it also go north into the Puget Sound area?

Dr. PECORA. Yes. But you have more solid rock, more solid things up there. But when you add a heavy rainfall system, as is climatically characteristic of California, and then put an earthquake into the system on top of that, then these normally unstable slopes become extremely unstable and might create a tremendous amount of damage.

CONSTRUCTION ALONG FAULT LINES

In another area of locating, for example, public construction along zones of hazard, we have shown on this chart one fault which is parallel to the San Andreas, known as the Hayward Fault, immediately eastward of the San Andreas Fault across San Francisco Bay. We have indicated the schools and hospitals on this fault. One can see, although there are schools and hospitals elsewhere in the area, that if we had knowledge of this zone when construction was being planned we would have advised against putting public schools and hospitals in such a hazardous zone.

(See chart below:)

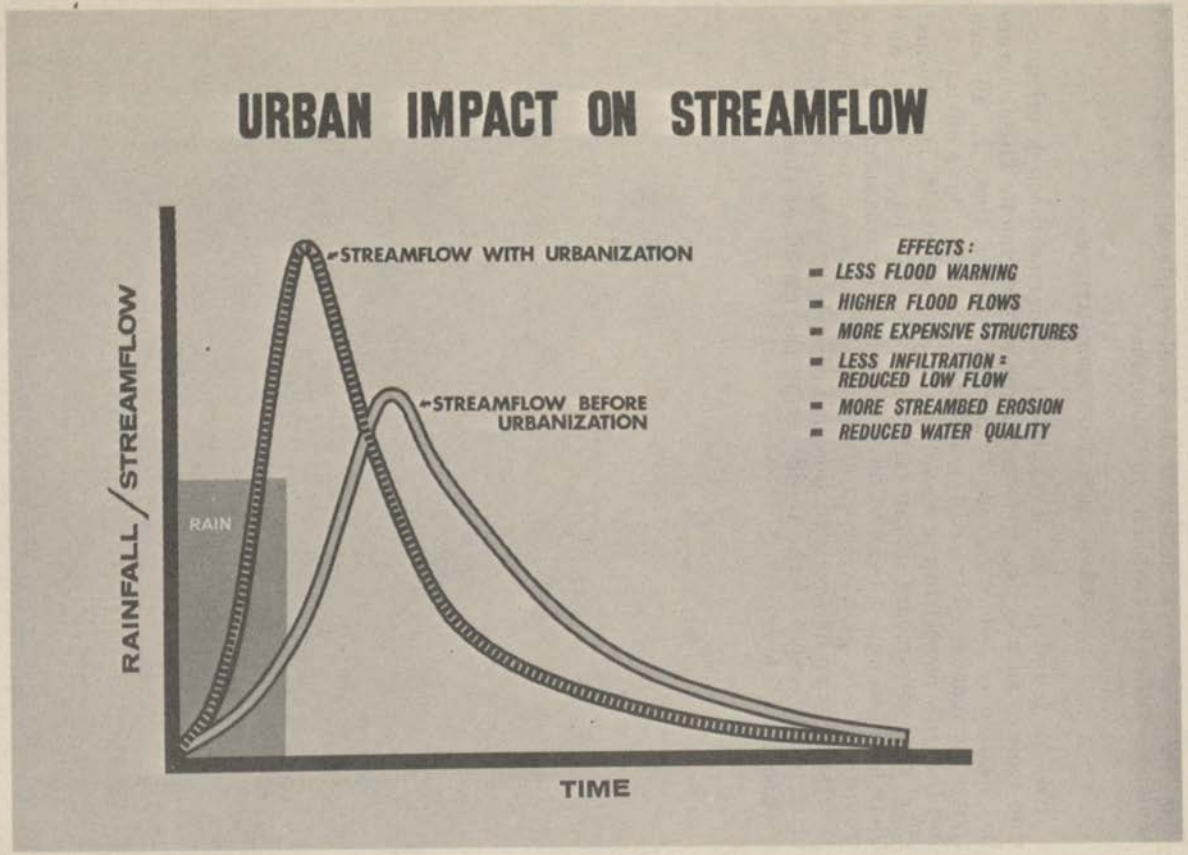

SCHOOLS and HOSPITALS
on the HAYWARD FAULT
RICHMOND
BERKELEY
ALAMEDA
OAKLAND
SAN LEANDRO
SAN LORENZO
FREMONT
LEGEND
Fault Traces
Schools on Fault Trace
Schools within 1000 ft. of Fault
Hospitals on Fault Trace
Hospitals within 1000 ft. of Fault
Public Buildings on or near Fault

Dr. PECORA. So that, as a result of this study, and having outlined this potential disaster zone, we would recommend to the planners that any major construction of this kind be placed away from this fault zone and be located in more stable areas.

URBAN IMPACT ON STREAMFLOW

We also found that in development of regions through urbanization there is an effect on the streamflow or the runoff. This diagram has two curves, showing runoff plotted against time. In an area that is extremely urbanized the amount of rainfall flows off rapidly in time with respect to the actual rainfall period, itself. In a normal rural zone the amount of rainfall runoff time is a longer period and there is not as high a peak of flow. Therefore, in urbanized areas one would have to plan very carefully the streamflow control, storm sewerage design and construction immediately downstream from the urban area because of the rapid rise in the runoff of the flow.

(See chart below:)


URBAN IMPACT ON STREAMFLOW
STREAMFLOW WITH URBANIZATION
STREAMFLOW BEFORE URBANIZATION
RAIN
RAINFALL / STREAMFLOW
TIME
EFFECTS :
- LESS FLOOD WARNING
- HIGHER FLOOD FLOWS
- MORE EXPENSIVE STRUCTURES
- LESS INFILTRATION = REDUCED LOW FLOW
- MORE STREAMBED EROSION
- REDUCED WATER QUALITY

Mrs. HANSEN. You must carefully plan how you are going to utilize your open spaces.

Dr. PECORA. Yes. What this does really is to retain those open spaces which are needed in order to control some of these effects of nature.

URBAN AREA PROJECTED TO YEAR 2000

Mrs. HANSEN. Will you please insert in the record the statement of Dr. Jerome Pickard concerning the population of urban areas by the year 2000.

Dr. PECORA. Indeed, Madam Chairman.

(The information follows:)

Dr. Jerome Pickard (HUD) in his "Dimensions of Metropolitanism" (Urban Land Institute, 1967), projected to year 2000 those areas of the United States that would be dominated by urban activities. He estimated that the current three such urban regions (Norfolk to Boston, Milwaukee to Rochester, and San Diego to Santa Barbara) would grow to 23 by year 2000. These 23 regions would cover 338,000 square miles and contain a total population of 242,438,000. Within these 23 regions would be 43 cities of over 1 million population each or over half of the national population.

Dr. PECORA. Let me say also that as people begin to move out from their present environment, they are moving more and more into the hazardous and less desirable areas because of the lack of room.

Therefore, they will be moving into areas that have less water, areas that have more flood possibility, areas that have more regional disaster potential. So we had better plan ahead for them so that we can reduce the effects of hazards through the planning program.

BUDGET ESTIMATES FOR CONTRACTUAL SERVICES

Mrs. HANSEN. $731,000 is requested for aerial photography and other contractual services. How much have you budgeted for aerial photography and what will the other contractual services involve?

Mr. LYDDAN. There must be some error. That figure doesn't even sound close to right for aerial photography for either of those programs.

Mr. JOHANSON. I think the figures that are shown are for the two projects, the urban on the one hand, and the Arctic resource investigations on the other. The costs here are not apportioned between the two. I don't know whether we have that detail or not.

Mrs. HANSEN. Please insert the information in the record.

Dr. PECORA. Very well.

(The information follows.)

The $731,000 estimate for contractual services for the urban areas program includes $50,000 for basic aerial photography; $25,000 for research contracts; and $656,000 for other services. The comparatively large component for "other services" provides the flexibility required for a study of this type. Only when the areas are selected for study, determinations made of the data available for the selected regions, and a specific work plan developed with appropriate participation by various Department of Interior organizations, universities, and local or State bodies, can these costs be more precisely defined as to their character.

PROGRAM EFFECT ON URBAN PLANNING

Mrs. HANSEN. What assurance do you have that your studies will have an appreciable effect on urban planning when they are put up against other considerations that shape the future of our cities?

Dr. PECORA. Madam Chairman, I am happy to respond to this, because, as you know, I believe that any institution that doesn't have a basic philosophy lacks direction. The direction that we have had in the Geological Survey is that the total knowledge of the land and water is more than just resources for the economy. It is a utilization concept and understanding. It seems to me that if man expands just because he needs to expand and doesn't pay attention to the area into which he is moving or the effects of his construction in the area into which he has moved, he will run into trouble over and over again. This history has shown.

It is our intent by being a sort of eyes and ears of the people and describer of the land, to make knowledge available about the land so that we can utilize the land with maximum effectiveness and still reduce the chances of destroying the quality of the land.

Now, I think it is utterly absurd for mankind to expect that it is going to utilize the land, withdraw the resources from the land, renewable or nonrenewable, and not change the face of the land, because man is part of his ecosystem, and the land will have to be modified to accommodate man.

By utilizing the knowledge we acquire by these programs, the best we can do is to give man the most out of the land and minimize the degradation or modification. It is the best you can do. To say that we can maintain environmental quality unchanged and still withdraw from the crust of the earth the things we need is utterly absurd. I think we have to face that very frankly and straightforwardly.

There are a great number of doomsday prophets and witchhunts going on continually. Man has got to make his accommodation with his environment and his tradeoffs, but based on rational knowledge.

Mrs. HANSEN. The knowledge is necessary now, because the basic structure of the urban society is changing.

Dr. PECORA. Has to go into the system.

Mr. Johanson, who has helped us in this urban planning program, should add some comments at this time if you would permit it.

Mrs. HANSEN. Surely.

Mr. JOHANSON. Madam Chairman, I think there are two factors that give us great confidence that this information will be used.

In the first place, currently within the planning profession there is a rapidly increasing awareness that physical factors as opposed to economic, social, and other factors long considered by the planner need to be an early input into the planning process. There is a lot of encouraging evidence of this in the planning profession right now.

The second factor is that the Department of Housing and Urban Development is aware of and is encouraging this trend, and it was with this in mind that they joined with us very early in our planning process and participated actively in the designing and planning of our pilot cities program.

In addition to this, it is their plan that in each case, except for the San Francisco project, we would fund the gathering of the data, its interpretation and evaluation and preparation for use; they would, through their processes, attempt to strengthen and assure the active participation of the planning community in taking our data and putting it to use.

Mrs. HANSEN. Can the Department force them to do this?

Dr. PECORA. Yes; they have money behind them.

PARTICIPATION BY DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

I believe this is the trend we see ahead of us for many years, where a group like HUD, being interested and desirous of maximum use, will need to call more and more upon agencies like ours.

Mrs. HANSEN. Please insert in the record total appropriations by fiscal year received by HUD for this purpose, the amount included in the 1971 budget estimate, and the cost projection through 1975.

(The information follows:)

It is expected that HUD will contribute funds to only the San Francisco pilot area study. This cost-sharing arrangement was viewed by both agencies as an expedient to get the first study underway in fiscal year 1970. The existing agreement between HUD and USGS for that study envisions a total transfer of $1,200,000 divided as follows:

Fiscal year 1970	$224,000
Fiscal year 1971	432,000
Fiscal year 1972	377,000
Fiscal year 1973	167,000
Fiscal year 1974	0
Fiscal year 1975	0

Mrs. HANSEN. When you split funding between agencies it makes it very difficult to ascertain the total cost of the various activities.

Dr. PECORA. Yes, indeed.

Mrs. HANSEN. Has the authority to do this project been divided?

Dr. PECORA. As I understand the project, the Geological Survey will be completely in charge in the acquisition of the data and knowledge and the synthesis of the data.

We are jointly aiming at discussions with the planning groups at the local and regional level.

ARCTIC ALASKA RESOURCE INVESTIGATIONS

Mrs. HANSEN. $600,000 is requested for Arctic Alaska resource investigations. Your justifications indicated no funds available for this purpose in 1970. Have you not been doing some resource investigation work in Alaska for the past several years?

Dr. PECORA. Yes, indeed, Madam Chairman.

The budget presentation on the Alaska work has shown up in a couple of different areas in our justifications. What I would like to do is put them all in a better perspective for the committee.

TAPS FUNDING

We have had an ongoing Alaskan program which was funded in the different line items. In calendar 1969, in response to the need for infor-

mation for the pipeline and the development corridor we redirected some funds from our ongoing program in order to get something started. When we came before you for a supplemental some months ago we indicated that was the best we could do with existing funds, and this committee allotted us a supplemental to continue the work so that we could get a head start this summer.

Now, that supplemental is shown in another part of the budget for TAPS, not the one before you, which we define as the Arctic Alaska resource investigations.

RESOURCE STUDIES IN PIPELINE AREA

What we have done here is to show that we would like to begin in fiscal year 1971 a resource investigations program that is not at all related to the TAPS pipeline problem, but yet within the same region. It would involve topographic mapping, geologic studies, hydrologic studies. So that if we encounter other resources they would be made available through this development corridor, and it would be an excellent auxiliary study.

Mrs. HANSEN. How did you determine that you need $600,000 for this activity?

Dr. PECORA. I must admit I am in a little bit of a bind here, Madam Chairman, because it was arrived at not independently but in consonance with what is shown as the next item, the Alaska Pipeline Related Investigations.

What we attempted to do was to isolate a series of projects and the amount of work which amounted to $600,000, which was absolutely beyond any question our regular kind of program, separate from the pipeline itself.

PIPELINE COSTS

Mr. HITE. Madam Chairman, I am afraid that budget technicians such as myself have gotten Dr. Pecora in this bind. In our effort to isolate those costs which we felt would be attributable to the pipeline construction we displayed them separately.

Mrs. HANSEN. The committee understands. It is important that you have a separation of the costs.

Dr. PECORA. Yes.

Because I made my statement before you when I appeared for our supplemental, I should have to say that in the Alaska pipeline-related investigations which is shown in this budget before you for an increase of $600,000, a total of $1.3 million, that some parts of this work are in fact in the same category as that which I have just described as regular work. It is my opinion, and I have to be honest about this, that, for example, the topographic mapping program, although very necessary for pipeline work and very necessary for consideration of a development corridor, I see as part of the national topographic map series.

I would like to have some comfort in reviewing this at some later date so that I can be very truthful and say that this portion of the work is in fact related to the pipeline exactly and this other portion of the work is really the work of the national topographic or geological survey. I don't want to be put in this bind at this time because the budget technicians put me there.

I want to be sure that the statements here are not considered in conflict with statements I made to you when I appeared before you in support of the supplementary justification.

Mr. HITE. Right. This is connected, Madam Chairman, with the information we gave you at the Bureau of Land Management hearings. We will go over these costs very closely with Dr. Pecora and his counterparts, and we will submit this for your hearing appendix.

Mrs. HANSEN. I think this is something the Members of Congress must have to continue the review of the built-in costs of the Alaskan pipeline.

ALASKA PIPELINE RELATED INVESTIGATIONS

Mrs. HANSEN. Please insert in the record pages 14 and 15 of the justifications.

(The information follows:)

2. Alaska Pipeline Related Investigations

FY 1970, $700,000; FY 1971, $1,300,000; increase, $600,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
$+600,000	0	$1,300,000	47	Geologic, hydrologic and topographic investigations necessitated by proposed construction of a trans-Alaska oil pipeline.

Cost Factors Involved in Increase

Thirty-six man-years at average annual rate of $14,000, resulting from full year program implementation, $500,000; and annualization of other operating costs for full year program implementation including travel and subsistence ($50,000), supplies, equipment, wages for field assistants, and sundry expenses essential to Survey work ($50,000).

Need for increase: The requested increase is required for geologic and hydrologic investigations and topographic surveys and mapping, in the Transportation Corridor, necessitated by the requirement to evaluate environmental and engineering conditions pertaining to a requested right-of-way permit for the construction of a trans-Alaska oil pipeline. The budget envisions that all such costs be reimbursed by the pipeline right-of-way applicants if the permit is issued.

Program of work: The FY 1971 program focuses on providing the topographic, geologic, and hydrologic data needed by the Federal Government for critical management decisions concerning possible right-of-way permits and pipeline construction (route, design characteristic, and construction practices) necessary to protect the Arctic environment and the public lands. These pipeline related investigations, which are not substantively different from standard Survey investigations, fall into three categories:

1) Topographic surveys and mapping - Using the aerial photography obtained in 1970, complete the horizontal and vertical geodetic control, map compilation and preparation of advance copies of topographic maps (1:63,360) for approximately half of a 15,000 square mile area affecting the pipeline route. Begin field control operations on the remaining half of this area. The region is not presently mapped at scales larger than 1:250,000 and larger scale mapping is necessary for hydrologic studies in the drainage basins to be traversed by the pipeline, and the pipeline-related geologic and permafrost investigations aimed at assuring the engineering integrity of the pipeline and consequently protection of the Arctic environment.

2) Geological investigations - Define the extent, character, and thermal regime of permafrost in surficial deposits along the probable pipeline route between Prudhoe Bay and Valdez in order to assess the potential consequences of disrupting the existing thermal equilibrium; define potential geologic hazards to a pipeline of tectonic activity and landslides along the potential pipeline route; and delimit the occurrence of construction materials along the potential pipeline route.

3) Water resource investigations - Investigations in drainage basins traversed by the probable pipeline route, including studies of a) stages, discharges, and ice-jam characteristics of major Arctic rivers at probable pipeline

crossings, relative to safe design of structures; b) sedimentation and gullying processes in permafrost to enable the development of protective measures, and c) quantity, quality, and biological characteristics of lakes and streams at probable construction camp and maintenance stations for their potential use for water supply and/or waste disposal. In addition, monitoring of the water environment along the probable pipeline route will be initiated to provide a "base" from which changes resulting from development can be detected.

Status of program: The 1968 Prudhoe Bay oil discoveries introduced a variety of intensive, highly-mechanized human activity in what had been a largely uninhabited Arctic wilderness. This influx of petroleum activity on the North Slope and the accompanying Arctic development, requires an array of decisions for protection of the environment, management of publicly-owned land and resources, and location, design, and construction of a variety of facilities. Of particular concern is the cluster of decisions regarding a right-of-way permit for the possible construction of an oil pipeline from Prudhoe Bay across largely Federal lands to Valdez. Selection of a route, source of borrow material, design concepts compatible with the environment, and adequate safeguards against possible pollution and environmental damage are critical facets of the problem.

In response to the increasing activity in the Arctic and the need for Federal decisions concerning environmental protection and management of the public lands and resources, the Geological Survey redirected ongoing activities in late FY 1969 and FY 1970 to start basic investigations in the Arctic. In addition, the $700,000 supplemental appropriation for FY 1970 will permit the Survey to take full advantage of the 1970 summer work season to gather data related specifically to potential trans-Alaska pipeline routes. The $1,300,000 FY 1971 program is the second year of the investigations required to satisfactorily answer the topographic, geologic, and hydrologic questions related to granting a right-of-way permit without jeopardizing the Arctic environment or the public lands and resources which are a continuing trust and vested concern of the Federal Government.

TAPS ROUTING SURVEY

Mrs. HANSEN. What progress have you made to date in determining the route of the pipeline?

Dr. PECORA. We have divided this work into four parts: topographic mapping, geologic investigations, water investigations, and outside and related investigations and research. Our intent in 1971 is to assign about $400,000 to our topographic mapping program to cover 15,000 square miles, and about $50,000 for special orthophoto maps for special purposes and for special studies in specific areas.

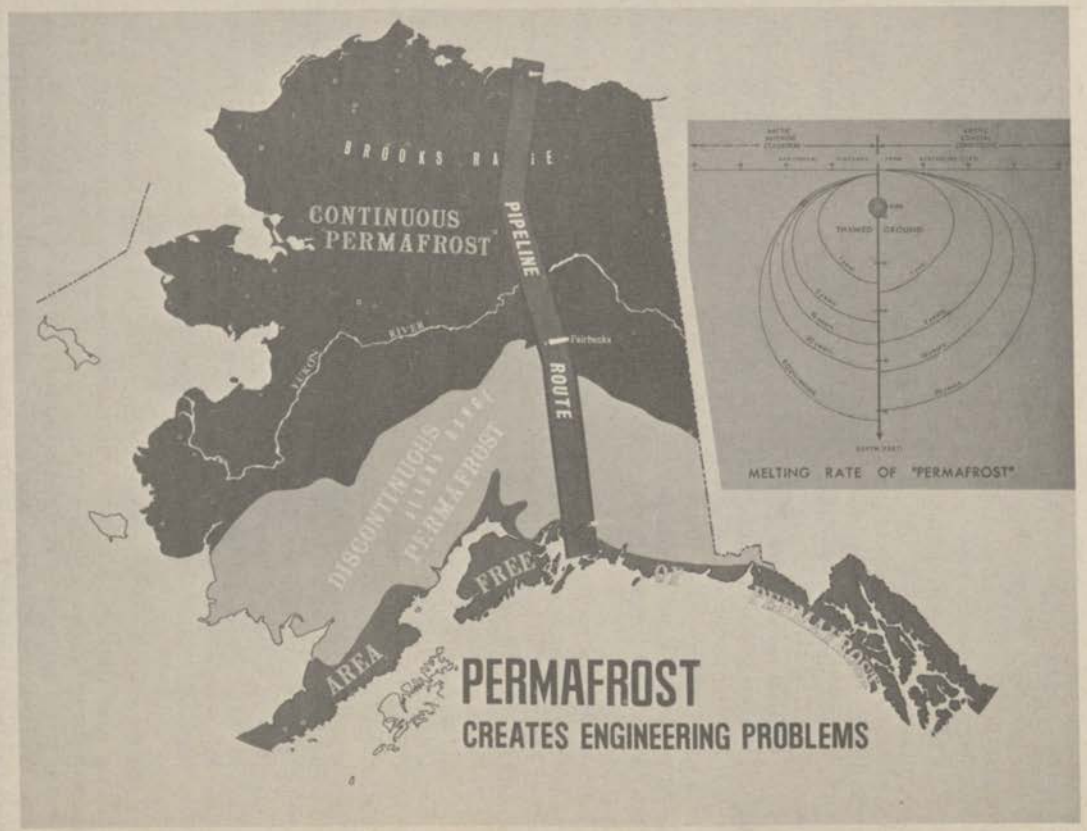
It is our intent to extend our permafrost studies from Fairbanks to Prudhoe Bay. In the past year we have been specializing in the area between Fairbanks south to Valdez, particularly in the Copper River Basin where the permafrost soils are quite extensive.

Mrs. HANSEN. Is this where you had some difficulties?

Dr. PECORA. Exactly.

The State of Alaska, as with most of the area in the Arctic and sub-Arctic, is underlain by frozen ground as a result of the last ice age, and it hasn't thawed out yet. In the area of this diagram, shown in purple is the area of continuous permafrost; downward in some places deeper than 1,200 feet it is completely frozen; water appears as ice in that zone. It is adjoined on the south by a discontinuous permafrost zone. This is one of the pieces of information we needed to have across the Copper River Basin, whether the permafrost in fact was there and how deep and what was the ice content.

(See chart below:)


CONTINUOUS
PERMAFROST
PIPELINE
ROUTE
Fairbanks
DISCONTINUOUS
PERMAFROST
FREE
AREA
MELTING RATE OF "PERMAFROST"
PERMAFROST
CREATES ENGINEERING PROBLEMS

CONSEQUENCES OF RAPID THAW OF PERMAFROST

Mrs. HANSEN. What would be the consequence if the permafrost melted rapidly?

Dr. PECORA. The very melting of the ice itself is not the important matter, because this will happen in time, but the consequences of the rapid thaw.

We have made an analysis of this through our geophysical and geological studies, and it was published and copies were distributed to the committee, to show that if a hot pipeline of the kind planned in this case were fully operative, that within 2 years the ice in the ground for about 20 to 30 feet would be completely melted, and that within 10 or 20 years the depth of thaw would extend to a few hundred feet.

Under these conditions, if the water escaped from the system immediately, the problem then is compaction and stress on the pipe. The mere transformation of ice to water is a volume change in itself. Even if the water remained in the system, then the soils behave like a slurry. If there is any slight gradient this slurry could flow like a very slow mud flow with tremendous force behind it and could disrupt part of the pipeline.

So our studies along the pipeline route are to determine the character of the permafrost and require TAPS——

Mrs. HANSEN. What would be the effect of such an impact on the area beyond the pipeline?

Dr. PECORA. Adjoining?

Mrs. HANSEN. Yes.

Dr. PECORA. It is our feeling that if a pipeline were placed on a hill slope, for example, in permafrost area, that the thawing would create a soft condition and that the slurry could move laterally down the hill slope, because of mudflow or solifluction.

If the area of ice-rich soil were being melted, the fringe would constantly migrate outward, so that we would have, as shown in this diagram before you, a very irregular surface, a ditch filled with water which eventually would be dried out because of the dessication process of the hot water.

DRILL CORE SAMPLINGS

In any event, one can predict the reaction of the soil if through drilling and drill core information one can determine what is there beneath the surface of the ground.

So often man makes his plans merely by what he sees at the surface. We believe in the arctic and subarctic that the permafrost is so important a part of any planning feature that one should have drill cores in the third dimension at least 200 feet deep, because the ice could have an effect when it is melted in that kind of a vertical zone.

We are requiring the TAPS people therefore to give us a complete drill core coverage of their pipeline route where it traverses permafrosted soils. This is slowing up the right-of-way permit because the Secretary does not wish to be committed to a specific route unless in fact it is the safest route.

Mrs. HANSEN. How many miles of the total route have you examined to date?

Dr. PECORA. I would estimate in detail some 300 miles between Fairbanks and Valdez. In reconnaissance fashion our fieldmen have gone over the route north of Fairbanks, not only last year, but they have had earlier expeditions in the area. It is truly remote country. Have you been there?

Mrs. HANSEN. I have flown over the area.

Dr. PECORA. It is fantastic country. I would not like to be dropped by an airplane and forgotten up in that country, I will tell you.

Mrs. HANSEN. I agree with you, that is some of the most lonesome and remote land.

TAPS ROUTE NORTH OF FAIRBANKS

Dr. PECORA. North of Fairbanks the pipeline corridor that has been selected by the Trans-Alaska Pipeline System traverses only one village, maximum population of 12, and does not intersect any other human population in that whole stretch of 400 or 500 miles.

It is extremely remote country, but nevertheless, as one develops the country normally, because of the vast mineral resources that can be extracted, one must foresee development in the future. That is what our work is setting the stage for.

Mrs. HANSEN. You are well aware of the scars left on the land from some of the gold adventurers.

Dr. PECORA. Yes, indeed.

GEOLOGICAL INFORMATION FROM OIL COMPANIES

Mrs. HANSEN. To what extent are you depending on the geological information furnished by the oil companies? You already said that you are asking them to provide core samples. What other information is being furnished by the oil companies?

Dr. PECORA. The oil companies have furnished us copies of photographs, their own analysis of the terrain, all of the data provided to the companies by the consultants in their terrain studies, the analyses and reports by consultants in their seismic studies.

Quite frankly, the companies have not withheld anything from us that is available to them, except the oil reserves underground in the north country. This is their own domain.

AUTHORITY TO DETERMINE PIPELINE ROUTE

Mrs. HANSEN. What is the degree of your final authority in determining the route of the pipeline?

Dr. PECORA. I would say that from the point of view of safety the Secretary is relying completely on our working group in selecting the safest route.

Secretary Hickel has formed within the department task force a technical advisory board. He has asked me to serve as chairman of that group. Representatives from other bureaus are on this review board.

Mrs. HANSEN. What other bureaus?

Dr. PECORA. Bureau of Land Management, Federal Water Pollution Control Administration, and the Geological Survey are the three basic participants at this time.

We have asked the Cold Region Research Laboratory of the Corps of Engineers to supply some of their engineers who have had tremendous experience in permafrost to work with our working group by agreement between the Secretary and General Clark of the Corps.

This has been arranged, and we will be able thereby to get some of this kind of expertise in actual engineering design that we do not have within the Department.

In addition, I have arranged with the Director of the Research Laboratory at Point Barrow to seek the help of Dr. Brewer or his staff whenever we may need them.

Throughout all of our negotiations we have had complete cooperation from everyone. I think it is necessary for all of our science and technology to become integrated toward resolution of the problem: Can it be done safely? Can it be done safely underground in parts or must it be aboveground in other places.

SURVEY REACTION TO TAPS PROPOSAL

Mrs. HANSEN. In your work on this project to date, have you encountered any surprises, unforeseen difficulties, or modification of anticipated problems?

Dr. PECORA. Because we had 100 man-years of background as a minimum in permafrost studies in Alaska we did not encounter any surprises when we heard that the pipeline was going to be a hot pipeline. We were not at all too concerned when we learned of the first plan, which was to be a cold pipeline above ground. But when the plane changed to a hot pipeline we immediately became concerned, because we knew the effects of rapid thaw on permafrost. Of course, because of our earlier knowledge of the seismic structure, and seismic zones in Alaska and areas of slope instability, we were ready to direct ourselves to the specific problems.

I believe quite frankly that when it came to the ground consideration that the Geological Survey was probably the most knowledgeable of the problems that might be encountered.

TOPOGRAPHIC SURVEYS AND MAPPING

Mrs. HANSEN. Please insert justification pages 16 through 22 in the record.

(The information follow:)

3. Topographic Surveys and Mapping

FY 1970, $27,772,000; FY 1971, $28,903,000; increase $1,131,000. The increase consists of:

	Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation of increase
(1)	$+1,016,000	0	$22,828,000	1,402	Standard quadrangle mapping-Increase standard 1:24,000-scale mapping and initiate a National Cartographic Information Center.
(2)	+115,000	0	4,220,000	261	Map revision and maintenance - Mapping in Trust Territory of Pacific Islands.
	+1,131,000				

Cost Factors Involved in Increases

(1) In the standard quadrangle mapping program gains in productivity will permit the accomplishment of this small expansion without additional positions. Of the total increase, $700,000 is for heavier personnel expenses of within-grade advancements, and the attendant increase in average salary rates that occurs with a fairly stable work force. An important factor in reaching this stability has been the gradual personnel reduction in this Division since 1964. Other increases are: aerial photography contracts, $50,000; supplies (mostly photographic) $100,000; equipment, $75,000; and per diem $91,000.

(2) In the revision and maintenance program, increased pay costs for within-grade and other promotions will cost about $115,000. Gains in productivity will permit the accomplishment of the slightly expanded program without additional positions.

Analysis by Subactivities

Subactivity	FY 1969 Amount Available	FY 1970 Amount Available	FY 1971 Estimate	Increase (+) or Decrease (-) 1971 Compared with 1970	Page Reference
(a) Standard quadrangle mapping -------	$20,061,780	$21,812,000	$22,828,000	$+1,016,000	18
(b) Map revision and maintenance ------	3,863,088	4,105,000	4,220,000	+ 115,000	20
(c) Small scale and special mapping ---	1,584,225	1,855,000	1,855,000	-	21
Total ----------	25,509,093	27,772,000	28,903,000	+1,131,000	

a) Standard Quadrangle Mapping*: FY 1970, $21,812,000; FY 1971, $22,828,000; increase, $1,016,000.

Need for increase: The increase will permit (1) initiation of mapping on 275 standard 1:24,000-scale quadrangles in high-priority areas and (2) the initial planning and organization of a National Cartographic Information Center.

The emerging drive to improve and protect the environment makes the availability of good, general-purpose maps more important than ever. Land-use policies based on long-range plans rather than short-term economic consideration will probably require more intensive study of all the factors. Industry may be encouraged to locate new plants away from crowded cities to avoid compounding further the problems of the large metropolitan areas. Congested transportation facilities will have to be relieved by the development of new and more effective transportation systems--new highways to relieve existing networks; and new airports, further removed from densely populated areas. Selecting land for parks and recreational areas and studying the movement of water in connection with pollution control, and other activities that call for adequate base maps.

Program of work: With the requested increase, there will be a total of about 1,805 new starts in FY 1971. This added effort will help significantly toward the goal of complete 1:24,000-scale mapping. The total FY 1971 program for standard quadrangle mapping involves work in all States not completely mapped at 1:24,000 scale. The areas programed are those that have the highest composite priority as determined from the requirements of more than 24 Federal agencies and the added consideration of State and local map user needs.

	Direct Appropriation	State Coop programs (50% State and 50% Federal funds)	Missouri River Basin Program (transfer from Bureau of Reclamation)	Total
New starts	1,385	350	70	1,805
Continuation of work underway	6,150	2,250	370	8,770
Total 7½' quads	7,535	2,600	440	10,575

Of the $1,016,000 it is proposed to allocate about $866,000 for 1:24,000-scale mapping starts on 275 selected quadrangles. Requests for completing this type of mapping for the entire country are increasing sharply. The topographic mapping of the country should be completed at 1:24,000 scale as soon as possible on an orderly schedule.

Allocation of about $150,000 is proposed for planning and organizing the National Cartographic Information Center. Much cartographic data (maps, geodetic control, aerial photographs, etc.) is now held by local government organizations and industry, and is not readily available to all users. Strong support for an improved means of accumulating and disseminating such cartographic data was developed from the 30 Federal agencies that participated in a recent Federal Mapping Coordination Conference, and from contacts with professional mapping societies.

*Standard mapping is compiled at a scale of 1:24,000 in 7½-minute quadrangle units. At this scale, one inch on the map equals 2,000 feet on the ground. An average 7½-minute map covers about 57 square miles.

Status of program: The primary objective of the National Topographic Program is to complete the nationwide map coverage at scales most useful for planning the development and management of natural resources and other programs requiring extensive knowledge of the earth's surface and to accomplish this mapping as quickly as possible so that the economic benefits from using the mapping will be more fully realized.

Federal agencies, States, counties, cities, planning commissions, and commercial, consulting, professional, and educational organizations rely heavily upon the general-purpose topographic quadrangle maps of the Geological Survey for many purposes. This was confirmed quite positively in the 1968 Analysis of the National Topographic Program by the System Development Corporation. This study determined that when USGS topographic maps were not available, users were required to use county and State maps, commercial maps, aerial photographs, and other types of maps which generally were of less utility. In-house surveying and mapping or purchase of these services when an appropriate USGS maps is not available lead to duplication of effort without contribution to the completion of standard map coverage of the Nation. Also as a result of not having topographic maps, important Federal, State or local projects are often delayed.

Some of the other major findings of the SDC study which justify early completion of 1:24,000-scale mapping are:

-- The 1:24,000-scale series mapping is the most useful to the majority of map users.

-- The benefit/cost ratio of topographic mapping was indicated as being very favorable.

-- The most important map features are hypsography (contours, bench marks and spot elevations) and hydrography, best depicted on 1:24,000 scale topographic maps. Both are extremely important in resource studies.

-- The most important activities involving map use have to do with water resources, comprehensive planning, transportation, and mineral resources, in that order. These activities apply to both public and private map users.

-- Completion of topographic mapping coverage of the Nation should be one of the highest priority programs.

Currently general-purpose topographic map coverage of the country is not adequate to meet today's demand for optimum use of the Nation's resources.

At the end of FY 1969, 45.2 percent of the conterminous United States and outlying areas1/ was covered with published maps at 1:24,000-scale standards. Mapping was available as advance copy for another 9.1 percent. An additional 25.4 percent is mapped at the less detailed 1:62,500 scale. Of the remaining 20.3 percent 7.3 percent is in the early stage of preparation, and the remainder neither available nor in progress. The urban mapping for FY 1971 will continue at or above the previous year for cities over 50,000 population not now mapped at 1:24,000 scale. Mapping coverage at 1:24,000 scale for all cities over 50,000 should be available about 1975.

In its assigned role as a national center for cartographic information the Map Information Office collects and disseminates to Federal agencies and the public available survey and mapping data. Within its resources, the Map Information Office is providing much of the federally produced cartographic information, very little of that produced by agencies outside the Federal

1/Alaska is presently being mapped at 1:63,360 scale. See activity "Special resource and environmental projects."

government but supported by Federal funds, and still less of the State or local information.

It is apparent that it is now practical to assemble a vast amount of existing cartographic data by using modern data processing systems. A more complete and responsive central source of cartographic information is needed not only by Federal agencies but State and local agencies and the private mapping sector. The increase requested will be used to plan and organize a National Cartographic Information Center for acquiring, processing, and disseminating cartographic information on an expanded basis. The Map Information Office presently operated by the Geological Survey will provide the foundation on which to build. Accurate inventory of the available Federal map and cartographic data will be emphasized, but it is planned to evaluate the desirability of including cartographic information available from State sources and private mapping firms.

b) Map Revision and Maintenance: FY 1970, $4,105,000; FY 1971, $4,220,000; increase, $115,000.

Need for increase: An increase of $115,000 will provide the funding needed in FY 1971 for mapping in the Trust Territory of the Pacific Islands (Act of 9/23/58, 72 Stat 837) and permit this work to be carried on without reducing similar on-going programs in the United States. The present maps are about 25 years old and were prepared for military use. The new, more accurate and up-to-date topographic maps of the islands will provide the necessary base for planning economic and social improvement for the people of the islands.

Program of work: In 1971, actual map compilation will be undertaken to provide needed mapping in support of land utilization and other programs vital to the welfare of the Trust Territory. It is estimated that at least the $115,000 increase will be required for this effort in FY 1971 and even more may be required if mapping support of these programs must be expedited.

The need for map revision throughout the United States will increase as map coverage of the country continues toward completion. In order to maintain better program balance and eliminate maps with substandard bases and inaccuracies, a mixed program of normal and interim revision will be maintained. About 700 maps will be revised in FY 1971,

Status of program: Mapping of the Trust Territory of the Pacific Islands began in FY 1969 under a cooperative agreement between the Geological Survey and the Trust Territory. Initial funding was provided by the Trust Territory to accomplish the ground-survey control work. The welfare of the Micronesian people depends upon factors such as airfield construction, docking facilities, development of sanitary systems and water supply, ecological and environmental research, and adequate facilities to handle the increasing tourism in this area. All of these require accurate maps to serve as a base of studies, plans, construction, and other development. Production schedules for mapping in the Trust Territory are dependent upon climatic and logistic contingencies, especially in procurement of aerial photography. Completion of these maps is scheduled for FY 1974, but this schedule may need to be accelerated to furnish earlier support to Trust Territory development programs.

Increases for the National map revision program will be required in subsequent years to maintain the topographic map coverage of the Nation in an up-to-date condition if optimum usefulness is to be obtained from the maps. At the end of FY 1969 there were more than 7,500 1:24,000-scale maps in need of revision. About 1,400 of these are maps more than 5 years old, in metropolitan areas of more than 50,000 population. This urban backlog will be reduced to about 900 maps by the end of FY 1970. At the 1970 funding level (about 700 maps being revised), the total backlog of maps needing revision at end of FY 1970 will amount to about 8,000 maps. In addition, as the mapping coverage of the country

increases, the revision workload will also increase. By 1973, the obsolescence rate in urban areas is expected to be about 700 maps per year, and in other areas about 600 maps per year.

The more economical revision procedures (interim revision) introduced in FY 1968, implemented in FY 1969 and expanded in FY 1970 have resulted in a considerable increase in the production of revised maps, especially in urban areas. Prior to the application of interim revision procedures, revision production averaged only about 200 maps per year. In FY 1968 about 360 maps were revised. Annual revision production for fiscal years 1969 and 1970 will be about 700 maps. It is expected that this level of production will be maintained for FY 1971.

Map reprinting is carefully coordinated with the map revision and resurvey programs. The high rate of map distribution is causing map stocks to become depleted at faster rates and, as a result, more map reprinting is required if maps are to be available to satisfy all demand. Some maps, especially in expanding areas, become unusually popular and go out of stock sooner than anticipated, thus creating an additional reprinting load. As the map coverage of the country increases, the demand for map reprinting will continue to increase as the direct result of increased map distribution.

Maps are being distributed at a rate of about 7 million copies per year. Funds returned to the Treasury from the sale of maps in FY 1969 totaled more than $1,700,000.

c) Small Scale and Special Mapping: FY 1970, $1,855,000; FY 1971, $1,855,000; no change.

Program of work: The summary of work for FY 1971 for the entire small-scale and special maps program is as follows:

-- National Atlas - Complete printing, binding, and publication as well as printing individual maps as separate sales items.

-- 1:250,000-scale series - Complete 77 maps now in work, begin updating and improving 60 maps.

-- International Map of the World (IMW) - Complete 3 maps.

-- National Park Series - Complete 6 maps.

-- Geodetic Control diagrams - Complete 40 diagrams.

Status of Program: The Small Scale and Special Mapping program includes the cartographic and printing operations necessary to compile various series of small scale maps, special-purpose maps, and related products. Preparation of these maps is generally dependent on the availability of recent standard quadrangle coverage.

1:250,000-scale maps - Major on-going projects of many departments and agencies within the Federal government and many State-supported projects depend upon the 1:250,000-scale maps for current and future planning. In addition, maps of this series are invaluable as topographic bases and for use in geologic investigations and water resources development. The 1:250,000-scale maps are the only series providing complete topographic coverage of the Nation at one uniform scale and format. The Geological Survey has the responsibility for maintaining and making them available to the general public. Time limitations and the large number of contractors involved in the original preparation of the maps for the Department of the Army caused them to vary widely in accuracy and detail. Substantial revision is often required to elevate these maps to an acceptable standard. Priority is being given to maps in areas of extensive cultural, water, and recreational development, and which have a high rate of distribution and use.

Recently developed techniques now make it possible to revise these maps quickly and economically. A general revision cycle of 8 years per map is planned, although maps containing major metropolitan areas are expected to be revised every 5 years.

National Atlas - The National Atlas is designed to provide geographic reference information about the United States for use by Federal, State, and local governments; business and individual organizations; libraries, educational institutions, and scholars throughout the world. The Atlas will provide a composite record of the physical environment of the country, its resources, economy, and social and political complexion. Compilation of most of the 450 pages of maps, indexes, map nomenclature, and other reference data is nearing completion. 23 maps are now published as separate sales items.

Printing of the individual pages for the bound National Atlas is now in progress as well as maps to be available as separate sales items. With funds to be available in FY 1971, it is expected that printing and binding will be completed and the final bound Atlas will be available for distribution. Inasmuch as sales are expected to recover the entire cost of preparing the Atlas, prompt publication of the completed volumes will make it possible to satisfy user demand and to realize returns from these sales at the earliest possible date. Atlas maps designed and published as separates have been sold for more than 2 years. Demand for these maps has made it necessary to reprint most of them.

41-447 O - 70 - pt. 1 -- 67

Mrs. HANSEN. You are requesting an increase of $1,016,000 for standard quadrangle mapping. This provides total funding of $22.8 million in 1971. In the past there has been criticism of your topographic mapping activity in that you are endeavoring to map many areas of the United States at an accelerated pace where there is no urgent need for such activity in the immediate future. May we have your comments?

STATUS OF NATIONAL MAPPING PROGRAM

Dr. PECORA. I am very frank to say that the topographic base mapping program is the most important and fundamental mapping program of the United States, because with these maps one can do many other things. Without them one is at a loss. The National Topographic Map Series of the United States falls into many families of maps. In the matter of our primary map series, the one-twenty-four thousandths scale series, we find we may cover the country by 1984 at the present rate of funding. When this country became a nation, there were, of course, in 1776 no topographic maps of the kind we make. It seems ludicrous that 200 years later, in 1976, this country will still not have complete coverage of its basic map system, particularly since so many other countries are way ahead of us.

Mrs. HANSEN. Will you please insert in the record a list of those counties.

Dr. PECORA. For the record?

Mrs. HANSEN. Yes, please.

Dr. PECORA. A very common failing in this country has been the failure to recognize the full value of basic topographic maps to planners and others. Somehow this program always gets put on the back shelf.

(The information follows.)

World Topographic Map Coverage 1969

[Mile-per-inch scale or larger]

Countries	*Percent*
Belgium	100
Cuba	100
Czechoslovakia	100
Denmark	100
France	100
Greece	100
Italy	100
Japan	100
Jordan	100
Korea, Republic of	100
Netherlands	100
Portugal	100
Spain	100
Switzerland	100
Taiwan (Formosa)	100
United Kingdom	100
U.S.S.R. (European)	100
Vietnam, Republic of	100
Yugoslavia	100

Thailand	96
United States (as of Jan. 1, 1970)	80
New Zealand	78
Finland	63
Central America	57
Sweden	51
Israel	50
South Africa	41
Canada	32
United Arab Republic	25
Argentina	21
Chile	15
Brazil	3
Australia	2

COOPERATION WITH STATES

Dr. PECORA. We have, in cooperation with some States, worked out a more vigorous program. Kentucky, for example, was completely mapped in a short time as a result of a cooperative program. A similar program is now nearing completion in Virginia. On the other hand, Congressman Flynt of your committee might mention the fact that Georgia, one of the 13 Original Colonies, doesn't have complete coverage for the State. The increase that we are proposing here would permit us to make additional new starts in many States and I would like to place the number of States into the record.

STATES WITHOUT 100 PERCENT MAP COVERAGE

Mrs. HANSEN Also insert in the record the States where the mapping is not complete, and where the mapping has been completed.

Dr. PECORA. Yes, indeed.

(The information follows:)

States without 100 percent map coverage by scale as of Jan. 1, 1969:

7½- or 15-minute

Alabama	Iowa	Nebraska	South Dakota
Alaska	Kansas	Nevada	Tennessee
Arizona	Louisiana	New Mexico	Texas
Arkansas	Michigan	North Carolina	Utah
Colorado	Minnesota	North Dakota	Washington
Florida	Mississippi	Oklahoma	Wisconsin
Georgia	Missouri	Oregon	Wyoming
Idaho	Montana	South Carolina	

7½-minute

Alabama	Iowa	New Hampshire	Texas
Alaska	Kansas	New Mexico	Utah
Arizona	Louisiana	New York	Vermont
Arkansas	Maine	North Carolina	Virginia
California	Michigan	North Dakota	Washington
Colorado	Minnesota	Oklahoma	West Virginia
Florida	Mississippi	Oregon	Wisconsin
Georgia	Missouri	Pennsylvania	Wyoming
Hawaii	Montana	South Carolina	
Idaho	Nebraska	South Dakota	
Illinois	Nevada	Tennessee	

States with 100 percent published map coverage by scale as of Jan. 1, 1969:

7½- or 15-minute

California	Indiana	New Hampshire	Rhode Island
Connecticut	Kentucky	New Jersey	Vermont
Delaware	Maine	New York	Virginia
Hawaii	Maryland	Ohio	West Virginia
Illinois	Massachusetts	Pennsylvania	

7½-minute

Connecticut	Kentucky	Massachusetts	Ohio
Delaware	Maryland	New Jersey	Rhode Island
Indiana			

Mr. RADLINSKI. You can get a bird's eye view from this status map. The red on the map indicates standard mapping at 1/24,000 scale. That is about 54 percent complete at the present time.

The green on the map shows coverage in the 1/62,500-scale series, and that is about 25 percent in addition to the 54 percent. The country is about 79 or 80 percent covered at either one or the other scale.

Mr. WYATT. Do you intend to duplicate the scales throughout the United States ultimately?

Dr. PECORA. We intend to cover the country at a 1/24,000 scale throughout, because that is represented to us as a most effective map scale for the country. Where there is need for maps at the smaller scale of an inch to a mile, they can be prepared by series conversion from four maps of the available 1/24,000-scale coverage for the area.

Mrs. HANSEN. What are the high priority areas you have designated for initiation of mapping in 1971?

Dr. PECORA. We are faced in our priority system with a constant judgment between new starts in areas that have not yet been mapped and revision of areas that have already been mapped but are now out of date. The funding is such that we do not have enough for both programs. The priorities are based, as you know, on information we receive from a great number of Federal and non-Federal institutions, by the availability of matching funds, and by the state of progress reached already in adjacent areas.

LISTING OF NEW MAP STARTS BY STATE

We will place into the record if you like the States in which new starts will be begun with this new funding, if we may.

Mrs. HANSEN. If you please.

(The information follows:)

States affected by proposed increase in standard quadrangle mapping:

Alabama	Nevada
Florida	North Carolina
Georgia	Oklahoma
Idaho	South Carolina
Kansas	Washington
Michigan	Wisconsin
Mississippi	Wyoming
Nebraska	

NATIONAL CARTOGRAPHIC INFORMATION CENTER

Mrs. HANSEN. $150,000 of this increase is for planning and organizing the National Cartographic Information Center. Give us a complete description of the urgent requirement for this activity.

Dr. PECORA. We have at the present time a map information office here in Washington which is our central map inquiry office. We supply through this office information on all of the maps made by the Geological Survey, and there are some 35,000 different editions, and also mapping, aerial photography, and geodetic data that exist in other parts of the Federal Government.

It is our intent to make this a truly national center for cartographic information for the Nation, because the inquiries for such material are coming in manyfold. There are kinds of information that are needed at the present time which we should acquire and which we may be able to put into digital form so a computer can produce the information wanted.

It is our intent to have a skeleton staff of two positions beyond what we already have in order to begin the organization of this Center on a national scale.

It was our hope that we would have at Reston the headquarters facility for the Geological Survey and that we would place the Center there. We would need to begin to purchase some equipment but there would be no special building for the Center. It would utilize space within the overall survey facility.

Mrs. HANSEN. Will the Center be located in Reston?

Dr. PECORA. Reston was selected for the headquarters facility of the Geological Survey. If we get there, that is where the National Cartographic Center will be.

As you know, on the matter of the Survey building we were caught on the 1-yard line and got a 25-yard penalty. We had this planned very nicely and approved by the Congress for lease with an option to purchase. The architectural plans had been completed, the land had been acquired, partly by donation, and GSA was about ready to send out requests for bids, when the inflationary problem caught up with us and the administration, you may remember, put a slowdown on Federal construction or any construction where Federal activity had a relationship. We were caught in that 75-percent freeze. I am told within the Department of Interior that this project has a very high priority, and it should have because it will relinquish a great deal of valuable space downtown when we go out there.

COOPERATION BY OTHER FEDERAL AGENCIES

Mrs. HANSEN. What assurance do you have that the 30 Federal agencies engaged in mapping activity will participate in this project?

Mr. LYDDAN. I would like, in answering your question, to call the committee's attention to a GAO report submitted to the Congress just this past autumn. May I read one sentence out of the summary? It is entitled, "Opportunity for Better Service to Map Users." It is on this very point. We think it supports rather strongly the plan we are

presenting here for expanding the work of the Map Information Office so that it can become a true source for all sorts of information regarding mapping. The GAO comment is as follows:

> GAO concluded that expansion of the activities of the MIO so that it would serve as a central source of information on mapping activities of Federal agencies and State and local agencies which conduct mapping with the assistance of Federal funds would:
>
> Assist Survey in carrying out its coordinating responsibilities by having readily available information on all mapping activities financed in whole or in part with Federal funds;
>
> Promote increased and more effective use of maps and help reduce overlapping in mapping activities; and
>
> Minimize time and effort expended by Government agencies in locating usable data.

If you are not familiar with this report I will leave this copy with you.

I believe the GAO position on this matter will provide some leverage for us getting the cooperation needed. Also the Budget Bureau in 1967 issued a circular putting on the Interior Department responsibilty for coordinating all surveying and mapping activities which are relatable to the national topographic mapping program. We are free to report back to the Budget Bureau whenever we think a Federal Agency is engaging in mapping work and not cooperating with us as intended by this circular. Presumably the Budget Bureau might be able to do something about it.

Mrs. HANSEN. They are too busy with other activities.

Mr. LYDDAN. Unless they are too busy, we think they might help us encourage the other agencies to engage in this coordinated effort. My own approach is to try to persuade them, and I think this is possible, persuade the other agencies that we can help them do their job better. If we help them find map material, map information that they need, and thus be of service to them, then I believe the needed cooperation will come automatically.

Mrs. HANSEN. To what extent are they providing funds for this center?

Mr. LYDDAN. None in the sense that any money is transferred to us by the other agencies for this. Our responsibility here is to collect the information from other sources and catalog it, categorizing it as to quality and location, and then be in a position to provide that kind of information to anyone that needs it.

This is the way our Map Information Office has operated for 40 or 50 years. Now, there would be a considerable amount of work done by the other agencies in doing special mapping and even some work involved in providing us information regarding it; but there would not be a transfer of funds from those agencies to us in this connection.

MAPPING IN TRUST TERRITORY OF PACIFIC

Mrs. HANSEN. You are requesting an increase of $115,000 for mapping in the Trust Territory of the Pacific Islands. With a base of $4.1 million, why is it not possible for you to absorb this additional cost with a little shifting in your priorities?

Dr. PECORA. Madam Chairman, I think the cooperative work in the Trust Territory is an excellent example of how two bureaus located

in the same department can get together on a program when there is instant reaction necessary without a lot of the bureaucratic fuss that goes on if they were located elsewhere.

The Trust Territories have a national problem, and it has been worked out with our Topographic Division. Mr. Radlinski, our associate director, can summarize for you the problems that exist there, not only in the long-term mapping program which is necessary for the islands but also in surveying the islands for property rights.

Mr. RADLINSKI. Madam Chairman, we entered into agreement with the Trust Territory whereby we would do this mapping on a cooperative basis. For the first 2 years of the program they are producing all of the funds. Now we are getting into the third year, where we need to provide our portion of the funds.

PROVISION OF FUNDS BY TRUST TERRITORY

Mrs. HANSEN. Please insert in the record the amount of funds that they have provided.

Dr. PECORA. In 1970 and 1971 the totals have come to about $200,000, but we will put the details in the record.

(The information follows:)

To date $175,000 has been transferred from the trust territory to the Geological Survey.

URBAN AREA MAPPING

Dr. PECORA. Also, we are asking for this increase for this purpose so that we would not necessarily decrease the map revision program that is necessary for the other parts of the country, particularly the large urban areas.

Mr. RADLINSKI. We are doing a basic topographic mapping for the islands. In addition, there is a cadastral surveying program where we are providing the people and the trust territories repaying us for this particular work.

STATUS OF NATIONAL ATLAS PROJECT

Mrs. HANSON. What is the current status of the National Atlas?

Dr. PECORA. The National Atlas is in its last year for appearance.

Mrs. HANSEN. How long have you been working on the National Atlas?

Mr. RADLINSKI. Six years.

Dr. PECORA. Mr. Lyddan has the up-to-date figures on the atlas. We expect to complete the printing and binding of the first issue of the atlas before Christmas, and I hope we may give it as a Christmas present to this committee. We would be happy to see the end of this project.

Mrs. HANSEN. Have you determined the selling price of the atlas?

Dr. PECORA. We will return to our original statement that at the present time it should be between $75 and $100. We have asked your counterpart on the Senate committee for some advice as to credit for accounting charges that would arise from a decision that may come forth from our solicitor when we discuss it with him, as to distribu-

tion. As you know, all maps produced by the Geological Survey may be distributed to a great variety of depositories, libraries, Members of Congress and other groups.

If the decision prevails that this same distribution philosophy would persist here, we would like to get credit for that against the cost of the project, rather than to charge the remaining public buyers a higher price.

I think this is a reasonable request, and I merely wanted to be sure that your committee was aware of this situation. I have discussed it at earlier hearings, but we would like to consider the price to be that which we could recover for the entire project.

Mrs. HANSEN. What is your estimate of the revenue the sale of the Atlas will produce?

Dr. PECORA. The total cost would be somewhere short of $3 million. We have been advised by consultants that there would have to be several printings of this Atlas, because the first printing of 15,000 would be inadequate to supply the demand. We expect that the sale of the Atlas, itself, and the sale of individual maps which are placed in the available list on a single basis, would result in a recovery of the entire cost of the project in a matter of a few years. It should not be considered that the entire project would be refunded in the first year, because it will take a longer period of time for normal distribution and recovery.

GEOLOGICAL AND MINERAL RESOURCES SURVEYS AND MAPPING

Mrs. HANSEN. Insert pages 23 through 33 of the justification in the record.

(The information follows.)

4. Geologic and Mineral Resource Surveys and Mapping

FY 1970, $29,872,000; FY 1971, $29,200,000; decrease, $672,000. The decrease consists of:

	Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1)	$+400,000	0	$1,192,000	43	To obtain data on geologic hazards in rapidly developing urban areas.
(2)	-1,000,000	-15	6,410,000	289	To reduce studies of gold and potential gold-bearing regions.
(3)	-72,000	0	21,598,000	1,102	For general program reduction.
	-672,000	-15			

Cost Factors Involved in Increase

(1) Salaries and benefits for 6½ man years, $122,000; seismic and field instrumentation, $105,000; travel, per diem, and incidental costs of field studies, $23,000; laboratory equipment and data reduction, $150,000.

Analysis by Subactivities

Subactivity	FY 1969 Amount Available	FY 1970 Amount Available	FY 1971 Estimate	Increase (+) or Decrease (-) 1971 Compared with 1970	Page Reference
(a) National land and mineral resource surveys	$16,096,902	$17,496,000	$17,439,000	$- 57,000	25
(b) Special mineral resource investigations					
(1) Oil shale resource appraisals	251,226	245,000	244,000	- 1,000	26
(2) Primary mineral supply	7,694,459	7,410,000	6,410,000	-1,000,000	27
(3) Wilderness area mineral surveys	743,884	821,000	818,000	- 3,000	28
(c) Geologic hazards					
(1) Earthquake and crustal studies	1,150,319	1,377,000	1,372,000	- 5,000	29
(2) Volcanic hazards	494,035	487,000	485,000	- 2,000	30
(3) Engineering geology	719,352	792,000	1,192,000	+ 400,000	31
(d) Marine geology	1,197,176	1,244,000	1,240,000	- 4,000	32
Total	28,347,353	29,872,000	29,200,000	- 672,000	

(a) NATIONAL LAND AND MINERAL RESOURCE SURVEYS: FY 1970, $17,496,000; FY 1971, $17,439,000; decrease, $57,000.

Program of work:

Fuel resources		$1,200,000
Mineral resources:		
Field investigations		2,231,000
Ore-forming processes		2,942,000
Regional mapping and analysis:		
Eastern States	$1,030,000	
Central States	570,000	
Rocky Mountain States	1,270,000	
Southwestern States	466,000	
Pacific States	490,000	
Alaska	590,000	
Paleontology and stratigraphy	2,430,000	
Magnetic and gravity surveys	1,240,000	8,086,000
Geologic, geochemical and geophysical processes:		
Igneous and metamorphic processes	740,000	
Geochronology and isotopic geochemistry	730,000	
Heat flow, paleomagnetism, and physical properties	885,000	
Geological and geophysical studies of the earth's crust	625,000	2,980,000
Total		17,439,000

Status of program: Long-range objectives include: 1) Geologic mapping and analyses throughout the country; 2) studies of the nature and distribution of minerals; and 3) investigations of fundamental geologic, geochemical, and geophysical processes.

Geologic maps are prepared at scales appropriate for appraisal of environmental properties of the land, and for determination of its mineral resources. Large-scale, modern geologic maps are available for only about 20 percent of the Nation. Demands for such maps and supporting studies and analyses for environmental and resources applications from the private sector as well as from other government agencies are increasingly insistent, but all these demands cannot be met simultaneously. Geologic surveys and investigations are therefore programmed to make most effective use of available personnel and equipment to meet the most urgent of these needs.

Most geologic field studies are comprehensive in scope so that their results have a variety of applications. However, much of the large-scale mapping (2,000 feet per inch) is directed to engineering and environmental applications and to furnishing detailed resource information; intermediate scale mapping (4 or more miles to the inch) is aimed primarily at regional analysis of mineral resource potential. The geographic distribution of mapping reflects these objectives. Most of the work in the western states and Alaska - about 65 percent of the total - is concerned principally with facilitating resource discovery, having particular implications for the management of public lands. About 35 percent of the work is in the mid-continent and eastern regions where it has direct engineering and environmental as well as resource applications. Priorities here are set in considerable part by requests of individual states accompanied by offerings of matching funds. Half the annual cost of the geologic mapping program in Kentucky, for example, is supported by a State appropriation of $.5 million.

Specific areas having potential for economic deposits of minerals and mineral fuels are investigated under the Resources Program. Geologic maps and analyses of these areas, together with those prepared under other programs lay the foundation for the discovery and appraisal of their mineral and mineral-fuel resources. They are used as basic sources of information by Federal and State governments and by private industry.

Investigations of ore-forming processes provide knowledge of geological, chemical, and physical characteristics that cause the anomalous concentration of elements into exploitable ore deposits. Such investigations include detailed study and sample analysis of known ore deposits; study of geologic phenomena related to ore deposition, such as hot springs and volcanoes; and study of minerals, both naturally formed and synthesized, to determine their physical properties and their geochemical relation to mineral systems. Theoretical observation derived from these studies are tested and applied, for example to the development of new methods of geochemical exploration for buried deposits. The full range of empirical and experimental studies provide basic information for improving the efficiency and effectiveness of the search for undiscovered ore deposits.

On a larger scale, fundamental geologic, geochemical, and geophysical properties and processes of the earth's crust and the underlying mantle are determined in field and laboratory studies. Such studies furnish essential information leading to the determination of engineering properties of the earth, as well as the discovery of mineral deposits. The complex rocks that are the products of events and processes deep within the crust are investigated by field studies throughout the Nation and by laboratory examination, analyses and synthesis. Age determinations are made by means of isotopic analyses, and new methods for making such radiometric age determinations are developed. Investigations are conducted on the earth's magnetic field, on the rates of flow of heat from the depths of the earth, and on the physical properties of rocks at high pressures - factors that are essential to the understanding of earthquakes, volcanoes, and other geologic phenomena of potential destructiveness or usefulness.

Output of geologic reports and maps of the three most recent years has been:

	1967	1968	1969
Book reports, many with geologic or geophysical maps	156	118	133
Topical reports in technical journals	295	447	504
Topical reports in Geological Survey's "Geological Research" volumes	92	78	78
Geologic and geophysical maps	139	194	144
Total reports and maps	682	837	859

(b) SPECIAL MINERAL RESOURCE INVESTIGATIONS

(1) Oil shale resource appraisal studies: FY 1970, $245,000; FY 1971, $244,000; decrease, $1,000.

Program of work: The program involves a complete study of the occurrence and character of oil-shale resources in Colorado, Utah, and Wyoming. The studies are utilizing techniques of geology, geochemistry, geophysics, and mineralogy to gain an understanding of the nature and distribution of the oil shale and the associated sodium and aluminum minerals.

Status of program: Studies have been concentrated in the Piceance Creek Basin of Colorado where the richest deposits of oil shale are located, and information has been gained on the location, depth, grade, and availability of the oil shale for some parts of this region. Detailed studies are continuing in this Basin, and reconnaissance studies are underway in other regions in all three States.

Techniques for identifying and evaluating the associated sodium and aluminum minerals are being improved.

Because of the great oil discoveries made within the past year on Alaska's north slope, pressure from industry for Government action in developing the oil-shale resource has diminished. This delay is most fortunate for the Government, for previous demands required administrative decisions involving Federal lands on the basis of inadequate information. Renewed pressure for Government action on oil shale can be expected in the future, and the current lull is allowing data to be collected and principles developed that will form the basis for sound policy decisions regarding Government-owned resources.

(2) Primary Mineral Supply: FY 1970, $7,410,000; FY 1971, $6,410,000; decrease, $1,000,000.

Explanation of decrease: The decrease in the overall mineral resource program represents a reduction in studies related to gold and potential gold-bearing regions concomitant with a decrease in the outflow of monetary gold following establishment of the two-tier price system for this metal in 1968.

Program of work: The primary minerals program consists of a wide range of scientific investigations pertaining to the origin, occurrence, and distribution of minerals in nature, to exploration methods for locating new mineral deposits, and to evaluation of the Nation's known and potential resources. These investigations include:

-- Geologic mapping of mineralized districts to provide a basis for a national mineral resources inventory and to provide industry with a sound geologic knowledge on which to base mineral exploration programs.

-- Geophysical surveys to support the geologic mapping program.

-- Determination of the chemical composition of rocks in mapped areas to identify the abnormal concentrations of elements that may constitute potential new sources of minerals.

-- Research on the chemistry and physics of ore-forming processes in order to predict the geologic environments in which economic concentrations of minerals may exist.

-- Development of new concepts and techniques in geochemical and geophysical exploration to increase the effectiveness and efficiency of the search for concealed mineral deposits.

-- Development of more accurate, rapid, and simple methods of analytical chemistry, spectrography, and spectrophotometry to facilitate the application of geochemistry to mineral exploration and to provide at as low a cost as possible the very large analytical capacity required to meet program objectives.

-- Commodity studies required to establish and maintain an inventory of the Nation's mineral resources.

The ultimate objective of the program is a comprehensive "data bank" or inventory of the Nation's known and potential resources of mineral raw materials. This information, constantly up-dated, is needed to (1) formulate sound mineral policies that will insure an adequate supply of minerals, (2) identify and cope with mineral supply problems before shortages of raw materials hamper the domestic manufacturing industry or unduly increase costs, and (3) plan the scientific and technologic research programs necessary to assure optimum utilization of domestic mineral raw materials.

Status of program: The Primary Mineral Supply program as now conceived, consists of a large part of an extensive scientific research effort conducted by the Geological Survey in the field of fuel and non-fuel mineral resources. It represents an expansion in concept of the successful Heavy Metals program of the past 3 years which has pointed up supply problems for other mineral commodities and has indicated avenues of research that hold promise for helping to alleviate these shortages. Therefore, a program of study of the whole problem of primary mineral supply is being developed to gradually replace the existing Heavy Metals program in which only a restricted group of metals is studied. Such a shift in emphasis will permit treatment of the whole mineral supply problem as an integrated unit and will result in more efficient and effective operation of the program.

In the past year, significant results have been attained in the program in the identification of favorable areas to search for new deposits, in the development of promising new analytical techniques, and in contributions to the basic geologic, geochemical, and geophysical data on ore deposits and potential ore-bearing areas. In this period, 50 reports and maps resulting from the program have been released, and the subjects and areas covered reflect the diversity and broad based effort of the program. Eighteen of the reports pertain mainly to gold, 15 to commodities other than gold, and 17 to broad subjects not tied to a specific commodity.

Exploration targets or areas favorable for the occurrence of minerals are discussed in 15 of the reports. They include areas in Alaska, Montana, Nevada, Utah, Wyoming, New Mexico, and Colorado. Although most of these reports pertain to areas in which gold is the principal mineral, a wide variety of mineral commodities are represented--including silver, copper, lead, zinc, molybdenum, mercury, platinum-group metals, tin, nickel, and asbestos. These reports have stimulated considerable activity by industry, and many areas are currently being explored.

New exploration methods and analytical techniques for determining gold, platinum, palladium, and rhodium are the subject of 11 of the reports. This year saw a major breakthrough in platinum analyses with the development of a rapid method for determining platinum and palladium by atomic absorption. Experiments on the determination of the mercury content of air showed that air above certain ore deposits contains several times the amount of mercury than air above barren ground, and this anomalous mercury could be detected at altitudes up to 1,000 feet. To continue research in this field, an airborne instrument to measure the mercury content of air almost instantaneously is now under development. This holds great promise of becoming a powerful exploration tool--particularly in inaccessible areas and in areas where bedrock is covered.

The results of geophysical surveys--mainly aeromagnetic--in California, Idaho, and Montana are given in 10 maps, and 7 additional reports provide basic data on the distribution of particular chemical elements in nature and on ore-forming processes. A series of four reports summarize what is currently known of the gold content of rocks, minerals, and meteorites, and the composition of native gold.

Reports on subjects of a general nature include a comprehensive review of the geology of the platinum deposits of the world, a summary of world tin resources, and a catalog of all mining districts in the United States that have produced more than 10,000 ounces of gold along with a summary of the history, production and geology of each district.

(3) Wilderness area mineral surveys: FY 1970, $821,000; FY 1971, $818,000; decrease, $3,000.

Program of work: Surveys of 4 Primitive areas and 2 Wilderness areas will be continued into FY 1971 from FY 1970. Surveys on 3 new Primitive areas will start, and surveys on 5 areas will be completed. Surveys on 3 new Wilderness areas will

start. The 5 Primitive areas to be completed during the year will aggregate 1,967,000 acres.

Status of program: Pursuant to the Wilderness Act of 1964 (P.L. 88-577), the Geological Survey, together with the Bureau of Mines, has the responsibility to make mineral surveys of 34 Primitive areas of the National Forest and such other Department of Agriculture lands as may be recommended for inclusion in the National Wilderness Preservation System, and of 54 Wilderness areas already in the System.

Priority has been given to surveys of the Primitive areas because the Wilderness Act requires that recommendations on all of these be made within 10 years after passage of the Act. Surveys of 12 Primitive areas were made and published by the end of the first 3-year period as prescribed in the Act. This first objective was achieved by doing the smaller and easier areas first. Larger and more difficult Primitive areas are the target of the second (4-year) period specified in the Act. These studies are planned to be more comprehensive than the earlier studies, and to include geophysical as well as geologic and geochemical investigations.

Studies of Wilderness areas commenced in FY 1970 and will be finished by 1981, to allow a minimum of 3 years for consideration by the interested public before the 20-year period specified in the Act ends in 1984.

To meet the time schedule of the Wilderness Act, mineral surveys must be completed at the average rate of nearly 1 million acres per year. The present level of funding will permit scheduling of work at a sustained rate adequate to complete the Wilderness program, as originally specified, by 1981.

(c) GEOLOGIC HAZARDS

(1) Earthquake and crustal studies: FY 1970, $1,377,000; FY 1971, $1,372,000; decrease, $5,000.

Program of work: The program for acquiring and analyzing data on seismic belts of the Western United States will be continued with continuing emphasis on the San Andreas fault zone of California. This program includes: 1) Seismic and other geophysical monitoring along the San Andreas; 2) geological and geophysical studies of the structural framework and history of fault systems; 3) laboratory and theoretical studies of the earthquake mechanism; and 4) investigations to determine the intensity and other characteristics of earthquake ground motion to be expected in different geologic environments. Efforts will be continued, in cooperation with other agencies, to reduce earthquake hazards by the application of existing knowledge and new knowledge as it becomes available.

Status of program: Earthquake hazards are increasing in the United States. The western coastal region, which has the greatest earthquake potential, is characterized by rapid population growth and economic development. Populations are also increasing in other earthquake-prone zones. It is estimated that by year 2000, one-fifth of all Americans will be living in areas where damaging earthquakes may occur, and extensive property damage and loss of life can be expected within the next 50 years.

Approximately $10 billion per year is currently being spent on urban construction and development in regions susceptible to major earthquake damage. By establishing safe guidelines for construction and economic development, the potential for damage could be reduced by hundreds of millions of dollars over the next 30 years.

The National Center for Earthquake Research (NCER) in Menlo Park, California, is conducting a major geological and geophysical program to discover what causes earthquakes and what can be done to decrease their dangers. The emphasis of the program since NCER was established in 1965 has been on accumulating basic data,

interpreting these data and determining how these data apply to present problems. Investigations are centered on the seismic belt of the western United States and Alaska, with the current focus on the San Andreas fault zone of California, the most dangerous earthquake fault in the United States. Geophysical studies of fault systems include seismic monitoring of a 150 mile-long segment of the San Andreas fault; geomagnetic, tilt and creep monitoring; seismic refraction surveys; gravity and aeromagnetic studies; sub-bottom acoustical surveying off the Pacific Coast; and laboratory and theoretical studies of rock deformation. These investigations are supported by studies of the geologic structure and history of fault systems. Investigations by seismologists, engineering geologists, and soils engineers are underway to determine the relationship between earthquake damage and local geologic conditions.

Recent accomplishments include the development of computer methods for the location and automatic plotting of small earthquakes detected by the seismic monitoring network on the San Andreas fault system. Approximately 2,000 earthquakes that occurred during calendar 1968 were located and plotted. These plots delineate zones of activity and provide the basis for comparing seismic activity with crustal strain and other geophysical parameters. Comprehensive studies of last year's Borrego Mountain earthquake in Southern California were carried out in cooperation with the California Institute of Technology. Displacement as great as 15 inches was observed on the primary fault, a major branch of the San Jacinto fault. Subsidiary displacement, probably triggered by the earthquake, was observed on other parallel faults of the San Andreas system as distances greater than 40 miles from the earthquake epicenter.

(2) Volcanic hazards: FY 1970, $487,000; FY 1971, $485,000; decrease, $2,000.

Program of work: Monitoring and investigation of Hawaiian volcanoes will continue to receive primary emphasis.

Status of program: Volcanic eruptions have caused loss of life and property in several areas of the Nation and they pose potential threats in many other areas near presently dormant volcanoes. To alleviate these hazards, a system of prediction is essential.

To provide the basic data prerequisite to developing a predictive system, the Geological Survey is investigating volcanic processes. The major effort is carried on at the Hawaiian Volcano Observatory, where long-term monitoring has warned local residents of past eruptions, has advanced our understanding of volcanic processes as well as the development of predictive systems, and has provided a record of activity which serves as the basis for future fundamental studies. During the last year alone, Kilauea volcano erupted six times.

To advance the investigations at the Observatory, modification and refinement of the existing instrumental monitoring system is required, including the application of automatic data processing to identify and pinpoint subterranean movements of molten lava. Other phenomena are being studied as possible predictors of eruptions, and continued intensive study of the cycles of inflation and deflation that accompany eruptions will be made. During the past year new techniques were developed for rapid monitoring of inflation and progress was made in developing a system for computer location of epicenters of the volcanic earthquakes.

In the Cascade Range of the Pacific Northwest, investigations of volcanic hazards will be continued at Mts. Lassen, Shasta, and St. Helens, and additional reports on the hazards and volcanic earthquakes of Mt. Rainier will be prepared. Chemical and microscopic studies of volcanic ash layers in the western United States will be pursued in order to establish the history of volcanism during the last few million years, and studies of an ancient volcanic complex in New Mexico will be continued to increase our understanding of the life history of volcanoes.

(3) Engineering geology: FY 1970, $792,000; FY 1971, $1,192,000; increase, $400,000.

Need for increase: An expanded effort is required to determine the slope stability, seismic response, and foundation characteristic of poorly consolidated geologic deposits. Increasing population and rising land values are forcing new urban development into areas with greater susceptibility to geologic hazards. Information related to these hazards is urgently needed by engineers, planners, and other city officials concerned with the safe development of rapidly growing urban areas.

Program of work: The engineering geology program includes geologic studies in urban areas emphasizing engineering aspects and research on properties of soil and rocks related to foundation problems. An increasingly significant portion of the program deals with urban areas subject to geologic hazards. These hazards include landslides, various forms of ground failure induced by earthquakes, enhanced earthquake shaking over unconsolidated geologic materials, expansive soils, and other foundation problems. Evaluation of these hazards and the planning of guidelines for safe land development require laboratory studies of the properties and engineering behavior of different geologic materials, field studies to determine the distribution of these materials, and seismological studies to determine their response to earthquake waves.

Status of program: Engineering geologic studies providing information on foundation conditions, stability of slopes, drainage characteristics, and engineering properties of rocks and soil are needed for land use planning and construction in many areas. These studies are continuing in selected urban areas that include Los Angeles, San Francisco, Denver, Salt Lake City, Boston, Rapid City, Anchorage, and Juneau. The current funding level meets only a portion of the most urgent needs. In addition to these area studies, research is conducted on critical engineering geologic problems including problems related to stress in rock and soil and ground response to earthquake shock.

In FY 1969, maps showing engineering geologic data were published of Oakland, California, the Denver Metropolitan areas, and Salt Lake City. The Association of Bay Area Governments published a report prepared by the Geological Survey on the geology of the San Francisco Bay area and its significance in land use planning.

The first two engineering geologic maps resulting from a cooperative study with the Denver Regional Council of Governments were publicly released and are now being used by city and county officials, engineers, subdivision developers and builders. The maps show that areas of swelling soils which are particularly troublesome to residential developments are related to continuous belts of clay shale parallel to the mountain front. The maps also show that landslides are more numerous than formerly known.

Research continued in the field of rock and soil mechanics. Accomplishments in these programs included the development of a unique physical model designed to simulate elastic, viscous and plastic rock behavior in response to changes in residual stress. Pilot field investigations with a rock stress probe in the Colorado Front Range indicate that high stresses encountered in the field may have been caused by the relief through excavation of strain energy stored in the rock by ancient mountain building forces. Significant progress was made in studies of the Sunnyside mining district of Utah, and the Juneau and Anchorage areas of Alaska.

In addition to regular work in Engineering Geology members of the U. S. Geological Survey are consulted by other Federal agencies in problems relating to proper land utilization and geologic engineering hazards such as potential landslides, active faults and others.

41-447 O - 70 - pt. 1 -- 68

(d) MARINE GEOLOGY: FY 1970, $1,244,000; FY 1971, $1,240,000; decrease, $4,000.

Program of work: Continuing investigations are contributing to a proposed long-term program that will result in regional compilations of geologic information and reconnaissance (small scale) geologic maps of significant parts of the U. S. continental margins and that ultimately will yield geologic analyses and maps of the continental margins at an intermediate scale of 1:250,000. Major projects currently underway include studies of the Alaskan Shelf, Pacific Coast Margin, Gulf of Mexico-Caribbean Sea, and the Atlantic Shelf. Most projects are cooperative with other Federal agencies, or with universities through research contracts.

Status of program: The fundamental need for geologic analysis and mapping of the continental margins is the same as for the land areas, and, similarly, a suitable mixture of small, intermediate, and large-scale geologic maps are required. Our knowledge of the continental margins and deep sea areas is in a relatively primitive state, but substantial regional programs are now underway in order to achieve a level of knowledge that is commensurate with the growing demands for information. The Survey's comprehensive analysis of the shelves began in 1962, and since then has continued at a relatively low level of funding. Significant scientific findings have resulted from these investigations, especially of the Atlantic Continental Margin where studies are now in their eighth year. Progress within each major geographic subdivision is described briefly as follows:

Alaska Continental Margin -- This large area (more than 500,000 square miles) contains known placer deposits of gold, tin, and platinum, and has impressive known and potential oil and gas reserves. Sedimentary basins suitable for accumulation of petroleum recently were located on the Bering Shelf and detailed studies will be made to outline their size and internal structure. Intermediate scale geologic mapping of the nearshore area in the central part of the Gulf of Alaska and on the Arctic Shelf will serve as a guide to assessment and management of areas that are subject to future leasing. Other studies underway include a geophysical reconnaissance of the Aleutian Arc-Trench system that should lead to understanding the mechanisms of arc-trench development, which will eventually provide a geologic definition of the continental margin off Alaska. Cooperative work will continue with other Federal agencies in addition to University of Alaska and University of Washington.

Pacific Continental Margin -- Analysis of the Pacific Shelf is a prerequisite to solution of diverse problems that range from mineral resource appraisal to proper land use in a seismically active region. A program of large-scale geologic mapping of San Francisco Bay is providing information that will be instrumental in planning for construction engineering and land development. Studies of the central California Shelf and the southern California Borderland to locate active faults and unstable sea floor sediments may also delineate target areas that could contain strata and structures favorable for the accumulation of petroleum or other mineral commodities. Submerged placer deposits off the coasts of northern California and Oregon are being outlined and analyzed as one of several cooperative programs with the University of Washington, Oregon State University, University of California, and University of Southern California. Study of offshore aquifers in Monterey Bay is being done in cooperation with California State Department of Water Resources.

Gulf of Mexico and Caribbean -- Regional geologic and geophysical analyses of the entire Gulf being done in cooperation with the Naval Oceanographic Office will lead to a better understanding of the tectonic framework of the region. At present, detailed work is underway in Corpus Christi Bay, at Padre Island, and in Laguna Madre. Through research contracts with Louisiana State University and Texas A & M University, sediment composition, transport, and deposition peripheral to the Mississippi River delta and in the northwest part of the Gulf are being investigated. Work on the southern shelf of Puerto Rico and in Mona Passage has

resulted in the recognition of the offshore extension of major faults and in the discovery of a large submarine canyon off the south coast that may be suitable for low-cost disposal of mining wastes. This project is directed toward a comprehensive interpretation of the geologic structure and sediment distribution on the shelf. Participation in TEKTITE II also is planned.

Atlantic Margin -- A broad geologic reconnaissance of the Atlantic Shelf has identified several resource target areas that require intermediate scale mapping for assessment of their resource potential. Mining companies are now further exploring phosphorite and manganese deposits off the southeastern part of the shelf and are interested in exploiting sand and gravel deposits off southern New England. The Survey's joint program with the Woods Hole Oceanographic Institution has resulted in the publication of nearly 100 scientific reports since the beginning of this program. Duke University joined the program last year and will provide information on distribution and mineralogy of sediments of the southeastern part of the shelf.

Deep Oceans -- Deep ocean research is needed in areas where the Nation now has the responsibility of assessing and providing guidelines for the development of mineral resources, and in the longer term, the ownership of deep sea mineral resources. Cooperative deep ocean studies will be continued with other organizations (Department of Defense, ESSA, and the Coast Guard), and will contribute to the knowledge of submarine volcanism, organic content of deep sea sediments, and recent sea level changes.

Participation is planned for such projects as the Deep Sea Drilling Project (JOIDES), and the International Decade of Ocean Exploration (IDOE). Studies will continue in the Territorial Islands, Gulf of Mexico, and Caribbean Sea to insure a firm geologic base for assessing the deep ocean resource potential and for analyzing the structural evolution of these areas.

REDUCED FUNDS FOR MINERAL RESOURCE SURVEYS

Mrs. HANSEN. Despite the committee's interest in having accurate analyses of mineral content on Federal lands, I notice you have reduced the funding for the National Land and Mineral Resource surveys by $57,000. What is the rationale?

Dr. PECORA. Yes, Madam Chairman.

I must confess in this program item that we have suffered a loss, a net loss of $57,000, and basically this is a part of a distributed reduction which was, overall for this bureau, $270,000. Proportionate to this subitem it would be $57,000. But this is essentially not a program decrease but a takeup of the slack.

Mrs. HANSEN. Would you say you are currently doing an adequate job on the evaluation of mineral content value in public lands?

Dr. PECORA. No, ma'am, not on the basis of the work to be done. On the basis of the funds allotted I feel we are doing a very good job at this time in our program distribution, but the job is so enormous and it needs to be done at a much faster pace, I must confess.

Mrs. HANSEN. If you maintain and own public land as a public resource and you don't develop accurate information on it, two things are going to happen. Your revenue income will be sharply curtailed and the American public will feel that you are disposing of the land that belongs to everybody, without adequate knowledge.

Dr. PECORA. You know I can't help but state, Madam Chairman, that when it comes to a tragedy or a calamity, the people of the country do make themselves heard in the newspapers, in letters and telegrams to you and to us. I wish we could get to the people themselves to make them understand some of the real problems of their public lands.

Through our own publication service or through public speeches and addresses, in association with the State geological surveys, we are attempting to tell the people what the situation is regarding their public domain, and the necessity to get information for supervision of the public domain.

I believe that this is a primary responsibility of an organization like ours, not to restrict ourselves to trying to convince the Secretariat or the Bureau of the Budget or the Congress. I think we need to get out with the people, and I think you yourself mentioned one occasion on which we did meet with a group in the Pacific Northwest.

We have been attempting to do more and more of this. I would say this is part of an obligation of any public agency, to tell the people what is being done in areas in which they should be interested.

Mrs. HANSEN. You are right. There is a lot of country west of Washington, D.C.

Dr. PECORA. There certainly is, and Washington, D.C. seems to be running the whole show, and actually it is the point at which everything is coming in.

Mr. WYATT. Washington is pretty far west compared to some parts of the country, Doctor.

Dr. PECORA. I hope you didn't mean far out.

Mr. WYATT. No; I mean west from New York.

FUEL RESOURCES BUDGET

Mrs. HANSEN. $1.2 million is budgeted for fuel resources. What does this involve?

Dr. PECORA. Chief Geologist Dr. James will respond to this.

Dr. JAMES. The amount that is requested for fuel resources will be divided into the various fields of the organic fuels. For oil and gas work, the estimated cost for next year is $352,000. Our work on coal, both the mapping of the coal and the appraisal of its quality, is estimated at around $332,000. The work on petroliferous sand, oil shale, materials of that sort, amounts to $111,000.

Our general resource studies, which are the compilation of data on all the energy sources amount to $135,000.

Studies on the geochemistry of the organic materials, including humates and the oils in general, comes to around $106,000. Then our studies of geophysical techniques to detect oil or help in the exploration for oil come to $164,000.

MINERAL RESOURCES BUDGET

Mrs. HANSEN. $5.1 million is budgeted for mineral resources studies. Please insert a breakdown of this request.

(The information requested follows:)

Mineral resource studies

General mineral commodities	$482,000
Base metals	344,000
Ferro alloys	166,000
Iron	176,000
Radioactive materials	536,000
Light metals and industrial minerals	527,000
Exploration research	597,000
Geochemistry of ore deposition	1,016,000
Isotope tracers in ore deposits	404,000
Geochemical distribution of elements	681,000
Computer models of geologic processes	244,000
Total	5,173,000

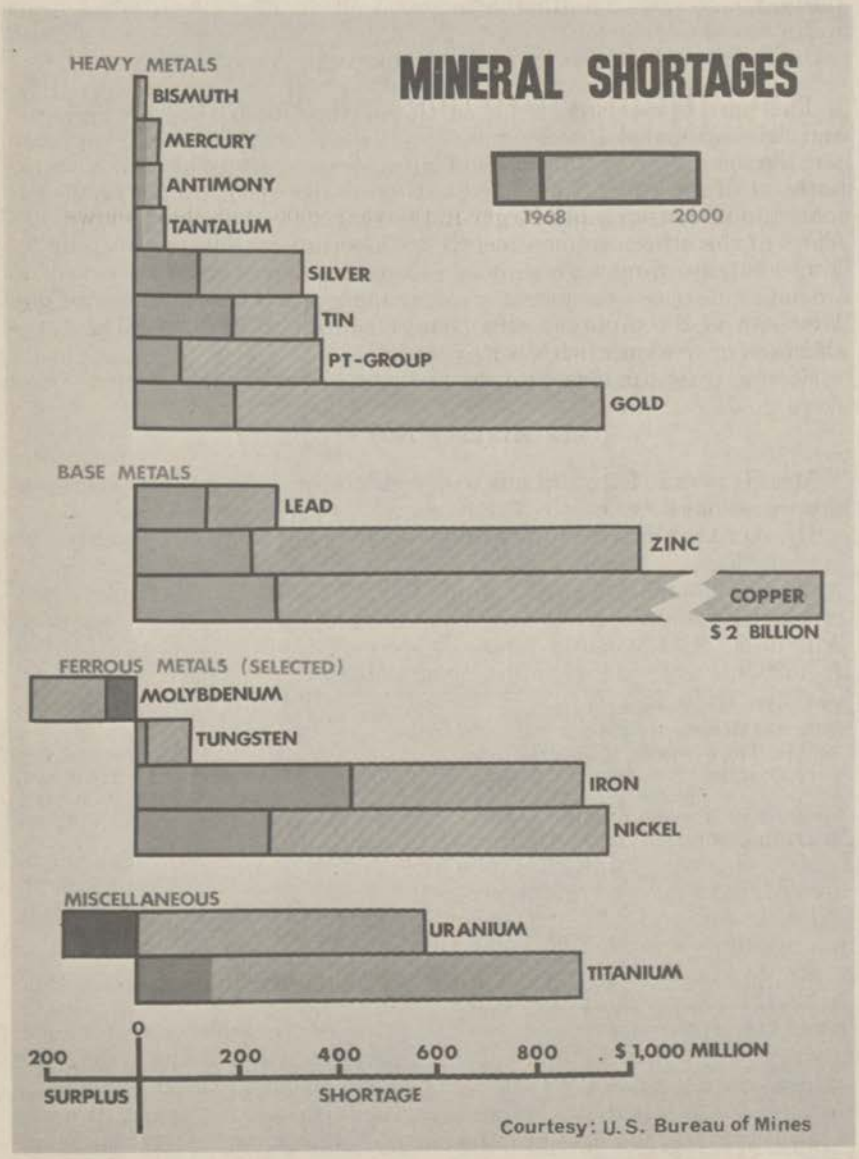
PRIMARY MINERAL SUPPLY

Dr. JAMES. The next budget item is labeled "Primary Mineral Supply." Do you wish to go on to that?

Mrs. HANSEN. Yes.

Dr. JAMES. What we are speaking of now is the primary mineral supplies program which is an outgrowth of the heavy minerals program that has been pretty successful in the last several years. That program has been modified partly because of the decreased emphasis on gold, and partly because of the development of techniques for mineral exploration in general. So it is evident now that we can attack the other mineral resources supply problems that are important.

(See chart below:)


MINERAL SHORTAGES
HEAVY METALS
BISMUTH
MERCURY
ANTIMONY
TANTALUM
SILVER
TIN
PT-GROUP
GOLD
1968
2000
BASE METALS
LEAD
ZINC
COPPER
$2 BILLION
FERROUS METALS (SELECTED)
MOLYBDENUM
TUNGSTEN
IRON
NICKEL
MISCELLANEOUS
URANIUM
TITANIUM
200
0
200
400
600
800
$1,000 MILLION
SURPLUS
SHORTAGE
Courtesy: U.S. Bureau of Mines

Furthermore, in considering the gold problem itself it soon became evident that the national problem was one of shortage of many important materials and therefore was a balance of trade problem as well.

MINERAL SHORTAGES

This particular chart shows the estimated shortages in the year 2000 and the shortages that existed in 1968, in millions of dollars. As you can see, the shortage of gold, for commercial purposes only, is in the neighborhood of a couple of hundred million dollars at present and is estimated to be considerably larger in the year 2000. The chart shows that many of the other common metals are also in very short supply in the long haul, meaning we will have to import them. Only two metals do we have an excess of supply over demand—molybdenum and uranium. Uranium is a temporary situation. We are certainly heading for a shortage of uranium within 10 years.

So our program has progressively been modified to switch away from gold.

MINERAL IMPORTS

Mrs. HANSEN. From where will you have to import if our mineral supply is not adequate?

Dr. JAMES. From virtually every country in the world, at times including Russia. Much of our copper, for example, comes from South America; much of our iron is imported from Venezuela and elsewhere in South America, from Africa, and perhaps in the future from Australia. Nickel comes almost wholly from Canada; gold largely from South Africa; platinum metals from South Africa and in part perhaps from Russia; tin from various parts of the world. So the imports are——

Mrs. HANSEN. Where does titanium come from?

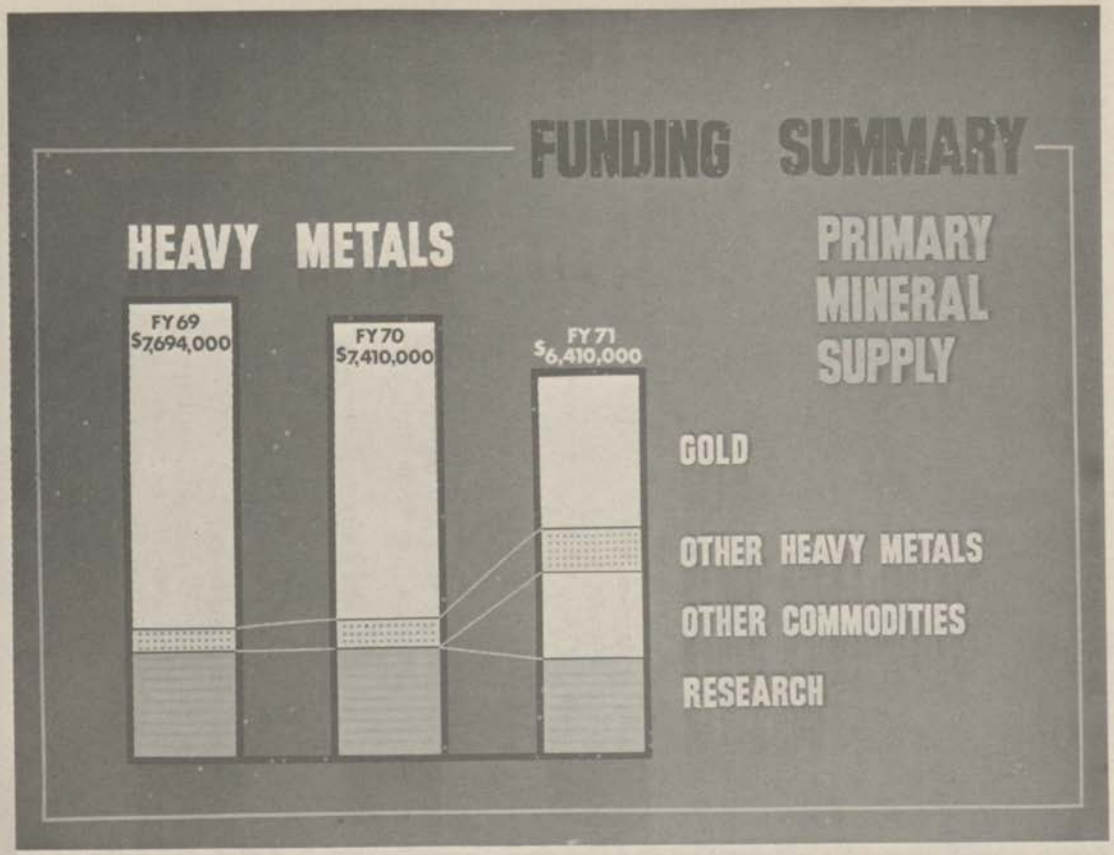
Dr. PECORA. Some is produced in the State of Virginia; there are some other places in the United States. Foreign supplies, some coming in from Canada, Australia, and Africa.

Mrs. HANSEN. South America becomes an increasingly important area for our source of these metals.

Dr. PECORA. The Western Hemisphere is becoming more and more important as a single entity in a mineral and economic relationship.

Dr. JAMES. So for virtually all the common metals used industrially in this country, we are importing substantial amounts at the present time. Our future estimates are that we will be importing a great deal more. Our problem I think is to at least know what we have domestically; whether or not we wish to produce them in competition with foreign sources is a policy decision; but at least we ought to know what they are. The program that started out with almost total emphasis on gold, has now been progressively modified into other metals.

(See chart below:)


FUNDING SUMMARY
HEAVY METALS
PRIMARY MINERAL SUPPLY
FY 69 $7,694,000
FY 70 $7,410,000
FY 71 $6,410,000
GOLD
OTHER HEAVY METALS
OTHER COMMODITIES
RESEARCH

Dr. PECORA. In this economic analysis the Geological Survey relies greatly upon statistical analyses by the Bureau of Mines, because we feel they have better sources of information on actual mineral consumption of the Nation. We translate that into obligation for future mineral resource supplies which we need to come up with.

BALANCED PROGRAM OF MINERAL RESOURCE SURVEYS

Mrs. HANSEN. What would be your reaction if the committee decided to supplement your mineral evaluation work with some of the $2.9 million you have budgeted for geologic, geochemical, and geophysical processes?

Dr. PECORA. In the budget before you, if I may respond very straight-forwardly, we have divided the broad area of geological resource studies into two categories. One is the national land and mineral resource surveys, which is designed to provide a thorough background for resource and land problems of the entire country.

The second category, to which Dr. James was addressing himself with the use of the chart, is that of special mineral resource investigations directed toward mineral supplies of particular shortage or particular importance. This would be the spearhead effort.

These two categories are truly a balanced program. One should not be considered at the expense of the other.

So my reply to your question would be: Permit this balance to continue. The balance should be determined by our professional judgment and analysis to permit us to spearhead in where needed. But if ever this committee is moving in the direction of being, should I say, even more generous than you have in the past, this is one area where I think your generosity would be most favorably received.

OIL SHALE RESOURCES

Mrs. HANSEN. $244,000 is requested for oil shale resource appraisal studies. Insert in the record a listing of appropriations by fiscal year for this activity.

(The information follows:)

Funds for special oil shale resource appraisal studies were first appropriated separately in 1969. Appropriations by year are:

1969	$233,000
1970	245,000
1971 [1]	244,000

Much data also has been accumulated on oil shale resources over the years in our general program of geologic and mineral resource studies.

[1] Proposed.

Mrs. HANSEN. What have you learned about oil shale resources in the Colorado, Utah, Wyoming areas to date?

Dr. PECORA. We have published a great number of items on the oil shale distributions in this three-State area. What we are attempting to do now is to determine the areas of highest concentration of oil shale with the most likely chance for economic development, should the economic conditions be favorable for development.

At the present time quite frankly, the cost of producing shale oil is higher than the standing price per barrel of oil from conventional

sources. But should the occasion arise where for emergency purposes or a change in the world economics, this great source of supply would be needed, I would much rather see the people of the United States with the information behind them so they can make the right decisions, rather than to scramble for new information.

What we are hoping to do here is to continue the surface and subsurface analysis of the oil shale basins so that we could direct where drill holes could be placed by the private sector, who would be given permission to explore, with that information coming to the Federal Government's storehouse.

Mrs. HANSEN. It also might be very useful in international relations.

Dr. PECORA. Knowing that the United States has more than 2 trillion barrels of oil stored up in this oil shale environment, I don't think that the United States would ever run from a situation on energy resource development anywhere.

GEOLOGIC INFORMATION DEVELOPED BY OIL INDUSTRY

Mrs. HANSEN. To what extent are you privy to geologic information developed by the private oil industries in this connection?

Dr. PECORA. All drill cores that are obtained on the public domain in the oil shale country are made available to the Geological Survey and Bureau of Mines.

In other words, the Department is receiving this information where drilling is permitted.

However, there are private lands which are underlain by oil shale, and these are in the competitive structure of the private domain. This information is not being made available to the Department of the Interior.

NEED TO DEVELOP DOMESTIC OIL SUPPLIES

Mrs. HANSEN. This committee is constantly being impressed with the need to develop domestic oil supplies and has received numerous reports on the enormity of oil resources in this area. Many applications have been filed for leases on these lands and, one of these days, private industry will be clamoring to develop this area. Are you going to be in a position to adequately protect the best interests of the Government when the time comes to set leasing fees?

Dr. PECORA. At the present time I would say we are not in the best position to protect the maximum interest of the public.

Mrs. HANSEN. Is this the reason you need to develop further information?

Dr. PECORA. Exactly. We need to develop further information.

PRIMARY MINERAL SUPPLY

Mrs. HANSEN. You have reduced funds for primary mineral supply by $1 million. If this is not an important activity perhaps the committee would be justified in decreasing these funds to a greater extent in 1971 if budgetary limitations make such action necessary. Could we have your comments?

Dr. PECORA. This drop of $1 million is an extension of a drop in the same item last year. It is related, as Dr. James pointed out earlier, to

what was called the heavy metals program. The heavy metals program started out as a gold program with the intent to develop into a heavy metals program, with the help of Treasury and the Office of Science and Technology. As we pointed out in earlier hearings before your committee, it was the intent to place heavy emphasis on gold for the first few years and then move into other heavy metals which are in short supply.

These heavy metals comprise a shortage equivalent to $1 billion of imports so that our balance of payments is affected by $1 billion to bring these materials into this country.

Dr. James pointed out that in 10 or 20 years this would probably double to $2 billion.

Now, the question is, if the decision of the policymakers is to live with a balance-of-payments loss of $2 billion, so be it, but they must know that ahead of time and make their decisions as to how to make up for this in other forms of economic balance. And my recommendation is to get enough information about our domestic mineral supplies, particularly those in short supply. Policymakers will be faced with questions such as "Why go to a foreign import system when we have our materials within our own country?" or, "Shall we, in spite of this, go to foreign imports because of other considerations?"

Until we have the basic data I don't think intelligent decisions can be made.

Mrs. HANSEN. I agree.

EARTHQUAKE AND CRUSTAL STUDIES

The amount of $1.3 million is requested for earthquake and crustal studies. What are the major areas where you are concentrating your activity in this connection?

Dr. PECORA. Dr. James, the chief geologist, should discuss this matter.

We have some charts which would assist in the presentation.

Dr. JAMES. At the present time the bulk of the work on the earthquake studies is in California and in Alaska; California for obvious reasons, both because of heavy population and because of rather imminent possibilities of major damage. We are concentrating a good deal of our work along the San Andres Fault which is the most active of the faults in California. We are mapping out those parts of the fault that are moving at the present time and those parts that are locked; those parts that are locked represent the areas of greater danger. We are mapping on the surface the exact position of the breaks themselves, and we are monitoring the faults by means of a seismic net.

Mrs. HANSEN. How much is currently being done?

Dr. PECORA. It is continual.

Dr. JAMES. We produce by computer output a map of the San Francisco Bay area every month. There are hundreds of minor shocks that are located every month in the bay area.

On the Hayward fault, east of the San Andreas, the movement is almost continuous. It is creeping. In that sense this fault zone is probably safer than many of the others. The strain is not accumulating, it is being dissipated, though in fact, we don't know whether the total strain is being released.

Mrs. HANSEN. How active are earthquakes and tremors in Alaska?

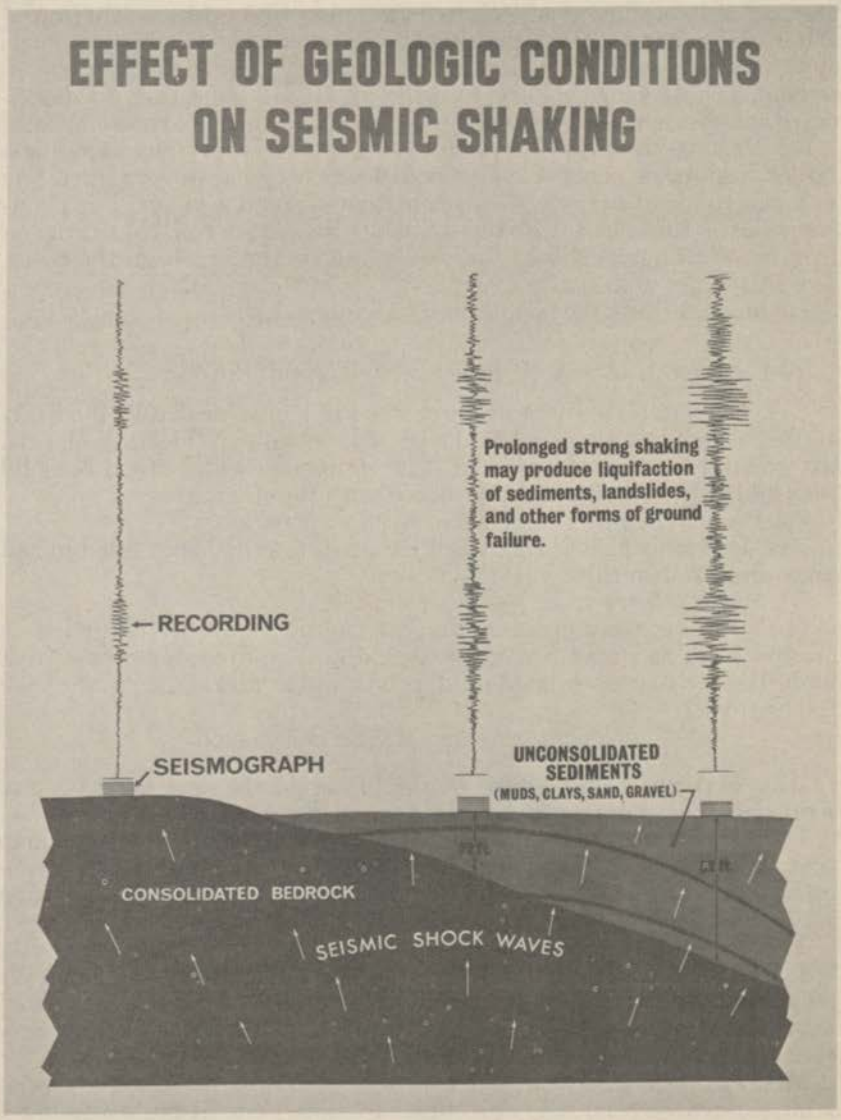
Dr. PECORA. The Chugach fault zone nearest the coast is equivalent to the San Andreas fault zone in being the most active of all the fault zones in Alaska. It is even more active than the San Francisco fault zone system. The Chugach is a much more active fault zone than the most active California one.

Mr. JAMES. The earthquake program is very closely related to both our urban studies in the San Francisco Bay area and our engineering studies in general. There is no clear-cut division between these.

EFFECT OF GEOLOGIC CONDITIONS ON SEISMIC SHAKING

The diagram illustrates the different responses that take place during an earthquake shock, indicated crudely by these wave fronts, by the difference in seismic movement when the station or the building is on bedrock, as compared to the response on muds or clays or water-soaked materials. There is a tremendous amplification of the ground motion in unconsolidated materials, and particularly so in those that are water soaked.

(See chart below:)


EFFECT OF GEOLOGIC CONDITIONS
ON SEISMIC SHAKING
Prolonged strong shaking may produce liquifaction of sediments, landslides, and other forms of ground failure.
← RECORDING
SEISMOGRAPH
UNCONSOLIDATED SEDIMENTS
(MUDS, CLAYS, SAND, GRAVEL)
CONSOLIDATED BEDROCK
SEISMIC SHOCK WAVES

Mr. JAMES. In fact, at some point of amplification some sands may liquefy, become quicksand and fail completely. So our job in the engineering and mapping studies is to define completely the distribution of materials in areas such as the bay, then place seismographs in various materials, so as to be able to predict accurately the ground response to earthquakes of various sizes. Buildings that are placed on unconsolidated materials can then be designed to withstand the expected shock.

Dr. PECORA. Madam Chairman, this explanation by Dr. James is a rather important one for the record. I am very happy you gave him a chance to insert it, because it is contrary to popular belief. The popular belief is that the softer the sediment the better you are cushioned from an earthquake shock. Nothing could be further from the truth. The softer the material, particularly if it is water soaked, the greater the damage. I think the people need to understand this.

1949 EARTHQUAKE IN WASHINGTON

Mrs. HANSEN. This was brought out most graphically in the State of Washington in the earthquake of 1949 when our tidelands showed the greatest change of any area. The structures which stood on solid rock had only small damage compared with the other areas.

Dr. PECORA. Right. That is what saved your region.

Mrs. HANSEN. That is right. But the areas that had been filled in had some disastrous results.

Dr. PECORA. Very true.

If the urban study program that we mentioned earlier is funded, in an area such as Puget Sound we would outline those low-lying areas underlain by unconsolidated mud, sands, water, and fill, separate from the bedrock.

CONSTRUCTION ON WATERLOGGED FILL

Mrs. HANSEN What effect would filling in the bay have on San Francisco's development?

Dr. PECORA. This is a very important consideration. We made a map that I believe we presented to your committee, which showed the encroachment of the land out into the bay. In effect what they were doing was permitting construction on fill material that would be waterlogged.

Therefore, they would have to engineer against this shakability which would be much higher because of the nature of that material. We would thereby recommend an engineering design of the piling or basement construction that would provide an anchor to firmer stuff below the fill. This is a necessary requirement.

Mrs. HANSEN. Has your Bureau been consulted on the stability of land, before Federal agencies construct new Federal buildings.

Dr. PECORA. The General Services Administration has come to us on a number of occasions to ask advice in one region or another concerning some buildings, particularly major, large construction. We have been very ready to discuss and review every one of these with them.

HUD in any major development program has been asking us to resume an earlier association that we had in looking at the ground conditions involved. It is rather important that the geologic understanding of the region has to be factored into the engineering design.

Mr. REIFEL. I wonder if I might ask a question here.

Mrs. HANSEN. Surely.

Mr. REIFEL. Has this gotten to the point where it is sort of a standard operating procedure, or would this make it too voluminous?

Dr. PECORA. We rely on the other agencies to come to us, because we don't know what their plans are.

Mrs. HANSEN. Only in recent years have other agencies sought your advice.

Dr. PECORA. Yes, I remember a member of your committee brought this up last year or the year before, because of his representation on another committee. Geological Survey and GSA have had many discussions, and I think it is proper.

Mrs. HANSEN. It is proper.

Mr. REIFEL. You mentioned with these explorations you are able to predict what can happen under certain stress conditions. That is what you are able to do now?

Dr. PECORA. Exactly.

JAPANESE EARTHQUAKE PREDICTION STUDIES

Mr. REIFEL. This is engineeringly possible. But how about the predictability of the earthquake itself?

Dr. PECORA. As Dr. Balsley pointed out, we are not now in the position of predicting an earthquake, but we are getting to the stage where with some confidence we can recognize those signs which precede an earthquake itself. The Japanese have done an excellent job of determining stress-strain relationships in a given area. They have produced diagrams which indicate that they can within a period of a few hours to a few days predict an event that is about to take place. We haven't gotten to that stage yet. Our monitoring of the San Andreas Fault is pointing up first those positions of the fault which are locked, those which are free and easy. An earthquake occurs when a locked fault unleashes for a moment and then locks itself again. That immediate release is the earthquake energy.

Mr. REIFEL. You are moving in the field of being able to predict. You say the Japanese have had some success with this. With the consequences of earthquake being as tragic as we have experienced every time we have had one of any consequence, it would seem to me that this is one area we ought to be funding.

I visited Menlo Park. These young scientists were champing at the bit. They were working with very limited resources. What seems to be the problem?

Dr. PECORA. You are quite right, Mr. Reifel. The situation is such that we should have a major program in earthquake detection and prediction.

INTERAGENCY PROGRAM OF EARTHQUAKE STUDY

We developed an interagency program of earthquake study at the request of the Office of Science and Technology a few years ago. I chaired that study group. We came up with a program which showed that by doubling our present effort in Federal funding we would within a few years get a good handle on the whole problem and over a 10-year period we would have developed enough information which could be translated into the engineering construction and planning

area so that billions of dollars could be saved by the time the next major earthquake took place in California.

EARTHQUAKE ACTIVITY ON SAN ANDREAS FAULT

Without any question of doubt the geophysicists and seismologists in this country believe that another major earthquake on the San Andreas Fault is overdue. There have been three major earthquakes in 150 years, the last one in 1906. We are overdue on the basis of the fact that this region, geologically, has been active in a similar sense for much more than a million years. There is no reason to expect a change in its geologic character in 50 years.

Our hope was to develop enough information so that this information, fed into the system of planning and construction, could minimize the amount of destruction, should another major earthquake take place; not alone just construction savings cost, but also human life and misery.

FUNDS FOR EARTHQUAKE HAZARDS FEASIBILITY STUDY

Last year we received authorization for the expenditure of $150,000 for an earthquake hazards feasibility study. This money is being used in part by the Geological Survey, part has been set aside for the Coast and Geodetic Survey to join with us in the area of their expertise, and part of it is assigned to the Office of Science and Technology to see what kind of an integrated program can be developed for presentation to the administration.

COST—DOLLARS AND LIVES—OF MOST DISASTROUS EARTHQUAKES IN UNITED STATES

Mrs. HANSEN. Please insert in the record the cost in lives and dollars for three of the major earthquakes that occurred in the United States.

(The information follows:)

Property damage and loss of life in the three most disastrous earthquakes in the United States were as follows:

	Damage in 1966 dollars	Loss of life
Alaska, 1964	$311,000,000	114
Long Beach, Calif., 1933	170,000,000	120
San Francisco, 1906	2,600,000,000	700

It is worth pointing out in this connection that the population of the San Francisco Bay area in 1906 was about 800,000 as compared to an estimated 1970 population of 4,800,000.

EFFORTS TO REDUCE DAMAGE AND LOSS OF LIFE IN FUTURE EARTHQUAKES

Mrs. HANSEN. Insert in the record the total funding that would be necessary to develop engineering techniques that would reduce damage and loss of life in future earthquakes.

Dr. PECORA. I shall be very happy to place in the record a brief summary of these statistics, and also the designation of that report which we prepared and which was distributed quite widely in the Government.

Mrs. HANSEN. Also insert in the record what you have spent to date.

Dr. PECORA. Yes.

(The information follows:)

In a report entitled "Proposal for a Ten-Year National Earthquake Hazards Program" the Ad Hoc Interagency Working Group for Earthquake Research recommended a total funding of $220 million over 10 years for a program to provide the basis for measures to reduce the damage and loss of life in future earthquakes. The Interagency Working Group was set up by the Office of Science and Technology and included representatives from the Geological Survey, the Environmental Science Services Administration, the National Science Foundation, the Department of Housing and Urban Development, the Atomic Energy Commission, the Corps of Engineers, the Advanced Research Projects Agency, the National Aeronautics and Space Administration, the Bureau of Reclamation, and the Departments of Agriculture and Transportation.

Expenditures by the Geological Survey for earthquake research through fiscal year 1970 totals approximately $7 million.

VOLCANIC HAZARDS

Mrs. HANSEN. $485,000 is requested for volcanic hazards. What major accomplishments have you achieved in this area during the past year or two?

Dr. PECORA. Madam Chairman, I think you would be very pleased to see some publications which have come out.

Our regular work on the studies of volcanoes, is designed not only to determine in advance when an eruption may take place, but also to predict hazards relating to land use in volcanic regions. We have two publications on Mount Rainier which the chairman may recognize.

Mrs. HANSEN. Indeed I do.

Dr. PECORA. This is an effort to provide for the people an understanding of what it is to live in a volcanic region.

More than that, we are now learning enough about existing volcanic activity in Hawaii to extrapolate some of that information to other regions of the world.

For example, the press has carried quite widely in recent days stories of the situation in the Bay of Naples. You may recall that near the bay there has been a great deal of fear among the people, and panic, because the ground is rising because, we believe, of volcanic movement below the surface of the earth.

This ground response is exactly similar to what we have been measuring on Hawaii, near Kilauea, and "breathing" of the ground can be a forerunner to massive volcanic eruption.

The Bay of Naples and the area nearby called the Phlegraean, north of the city of Pozzuoli, is the region which in historical times has been know as the Entrance to Hades. The ancient Romans considered this area of firepots, sulfur springs, and bubbling volcanic activity as the area where the god Vulcan lived underneath the ground. It has been the site of a great deal of volcanic activity in historic time.

What is going on now is exactly what we have measured at Kilauea, where the rising of the ground could in fact reflect movement of hot lava from deeper parts of the crust toward the surface.

The kinds of information we are developing at our Hawaiian observatory can be applied in other parts of the world.

We have had requests, as a matter of fact, from the Italian government through UNESCO and some other organizations to send some people to help study volcanic activity not only in the Bay of Naples, but also in Sicily where earthquakes and earth movements have also been related to volcanism.

More than that, because of the work of our engineering geology program and the relationship to water the city of Venice has requested we make available some of our expertise to explain or determine what to do, because the land is sinking in Venice.

Mrs. HANSEN. At what rate is it sinking?

Dr. PECORA. I believe it has been 3 feet in the last 50 years, or something like that. I will get the figures and get them into the record.

(The information follows:)

Leveling to Venice in 1952 and 1968 from stable benchmarks on the mainland indicate that the land surface in Venice subsided about 8 centimeters in the 16 years, for an average rate of 5 millimeters per year. In addition, however, a tide gage record at Trieste, some 75 miles along the coast to the east, indicates about 1.4 millimeters per year average rise in sea level in the past half century with respect to benchmarks in that area. Combination of the two effects indicates average subsidence of 6.4 millimeters (about one-fourth inch) per year at Venice with respect to the sea.

Dr. PECORA. But if this is the long term trend, then obviously this coastal city is doomed. This very same situation might happen in other coastal cities of the world. So it becomes more than just a problem of Venice, it becomes a potential problem of every coastal city that has major construction for many years. Some of the coastal cities on the rivers of Germany have been subjected to ground water removal for water supply and the mining of coal and other materials, so the ground likewise has been sinking. So here again is the relationship of geology to the environmental situation.

I am convinced more and more that the kind of work we have been doing is not only valuable for the United States, but that it represents basically the reference book for the rest of the world.

VOLCANIC ACTIVITY IN CASCADE RANGE

Mrs. HANSEN. What has been the volcanic activity in the Cascade range region?

Dr. PECORA. You may recall that last winter, on my way to Alaska, as a matter of fact, I picked up the paper and learned that there was some activity going on at Mount St. Helens, I believe it was, or it may have been one of the other volcanic peaks.

The records showed, anyway, that there was a higher degree of melting taking place on one of the flanks of this volcanic peak that indicated some volcanic activity was taking place in the Cascade Range, localized at this point. If that were so, it should be monitored.

We have aircraft for remote sensing which we use throughout the country. We did a remote sensing job at this locality, just as we had in many other places, but if we had had a continuous observation satellite we could be getting a measurement every 17 days for a permanent reference point upon which to plan any future changes. But as

it is, we move our plane here and there and the other place wherever one of these things happens, and we have no basis of reference; we start out from scratch every time. But we have to do it because it is necessary.

ENGINEERING GEOLOGY INCREASE

Mrs. HANSEN. You are requesting an increase of $400,000 for engineering geology. This is about a 50-percent increase over your 1970 program. What is the urgency for the acceleration of this work?

Dr. PECORA. Part of this has already been justified in some of our previous statements, Madam Chairman, before you.

Mrs. HANSEN. Do you have any additional comments?

Dr. PECORA. I think the additional comments we might have we could place in the record to make more specific the localities where engineering geology studies will prove useful.

Mrs. HANSEN. Please do.

(The information follows:)

The urgency for accelerating this effort lies in the fact that there are appreciable areas of potential high seismic hazard in many rapidly urbanizing centers of the country which are as yet unrecognized and unmapped. Examples of such areas include among others, the San Francisco Bay area, the Los Angeles Basin, the St. Lawrence lowland, the Boston Basin, the Connecticut Valley, the Puget Sound lowland and the Salt Lake City area.

We have recognized that we need new and improved techniques that will enable us to identify, and delineate quickly, areas of potential high seismic hazard in the rapidly urbanizing centers of the country. We need these faster and more efficient methods to match the accelerating pace of urban expansion.

The proposed expanded program is twofold. The first part involves increased laboratory and topical studies to develop better criteria and identification techniques for the rapid recognition of deposits which will behave unstably under seismic conditions. The second part of the program involves the application of these criteria and techniques in the field to delineate areas underlain by such unstable deposits.

MARINE GEOLOGY

Mrs. HANSEN. $1.2 million is requested for marine geology. How much of this request is for your participation in the International Decade of Ocean Exploration?

Dr. PECORA. To my knowledge, none of this is intended for participation in the International Decade of Ocean Exploration. These funds are for a base program that we have on our continental shelf and margins. The committee may recall that part of the funds from the heavy metals program were used for marine studies of those areas where offshore deposits appear to be likely, such as in the Bering Sea. The drop in the heavy metals program has forced reduction of the work in marine geology. We have had to decrease our research contracts with many universities and oceanographic institutions.

What we have here is a continuing base program which can be increased in its activity in future years; it is the first reconnaisance stage of a program that will lead to a thorough understanding of the shelf for future leasing and resource purposes.

MINERALS DISCOVERY LOAN PROGRAM

Mrs. HANSEN. Please insert page 34 of the justifications in the record.

(The information follows.)

5. Minerals Discovery Loan Program

FY 1970, $253,000; FY 1971, $253,000; no change.

Program of work: The minerals exploration loan program authorized by Public Law 85-701 (1958) involves granting and administering financial assistance contracts to explore for specified mineral commodities. The program includes the processing of applications, conducting geologic and engineering field examinations, preparing and monitoring contracts, and collecting royalties on production from certified projects and projects with royalty agreements.

The Office of Minerals Exploration (OME) also administers contracts with royalty obligations remaining from a similar program conducted by the former Defense Minerals Exploration Administration (DMEA) under Section 303(a) of the Defense Production Act of 1950, as amended.

Status of program: Administrative work on prior DMEA contracts, on proposed and completed OME contracts, supervision of active OME contracts, and handling correspondence and inquiries from the public will occupy the full time effort of the staff. A forecast of funding follows:

	FY 1969 Amount Available	FY 1970 Amount Available	FY 1971 Estimate
(a) Financial assistance	$ 727,562	$229,000	$350,415
(b) Technical and administrative expense	251,469	174,000	174,000
Total obligations	979,031	403,000	524,415
Financing:			
Unobligated balance available start of year	324,562	21,415	171,415
Recovery of obligations (contracts not completed)	174,415	300,000	100,000
New obligational authority	501,469	253,000	253,000
Total amount available	1,000,446	574,415	524,415
Unobligated balance available end of year	-21,415	-171,415	--
Total obligations	979,031	403,000	524,415

UNOBLIGATED BALANCE IN PROGRAM

Mrs. HANSEN. You had an unobligated balance for the minerals discovery loan program at the end of fiscal 1968 of $324,562; you indicate an estimated unobligated balance of $171,415 for the end of 1970, but you anticipate no unobligated balance at the end of fiscal year 1971. Why is this?

Dr. PECORA. Dr. James will answer that.

Dr. JAMES. The unobligated balance of $21,415 at the end of fiscal year 1969 represents the final residue of a fairly large appropriation that was made a number of years back. At the beginning of fiscal 1969 the unobligated balance was $324,562. In essence this was an attempt to reduce the unobligated balance to practically zero. This minerals discovery loan program will have $350,000, available for financial assistance next year, part of which will be that unobligated balance of $21,415, and part of which will be funds that are returned from contracts which were executed but never really carried out. The funds that came back to us this last year, or are coming back this year, are considerably in excess of what we estimated the incompleted contracts would yield. We had estimated there would be about $150,000 come back of contracts which were not completed. In fact, it is almost certain that about $300,000 will be returned.

CONTRACTS NOT COMPLETED

Mrs. HANSEN. Why weren't the contracts completed?

Dr. JAMES. It is difficult to say. I suspect it is in considerable part because of the tightness of funds everywhere. The person that gets the loan either has to put up 25 percent in the case of certain metals, or 50 percent in the case of others, and I suspect that because of the tightness of the money market they are unable to come up with their share of the funds.

So the amount that is being returned is about twice as large as we had anticipated, and that, combined with the unobligated balance, places at the end of this year about $171,000 which will be carried over to next year.

PRESENT ACTIVITY IN LOAN PROGRAM

Mrs. HANSEN. You have mentioned the financial status of this program. Have you any comments to make on the status of its accomplishments and how much activity you are currently experiencing?

Dr. JAMES. So far there have been executed eight contracts in fiscal 1970 and 181 in the program to date. The amount of ore that has been discovered by the minerals exploration program is approximately $32 for each dollar of Federal money that has been invested.

Mrs. HANSEN. Isn't it a big investment?

Dr. JAMES. It depends on which way you look at it. This is the value of the ore in the ground.

Compared with the previous program of similar character, that is, the Defense Minerals Exploration Administration Act, it is about comparable. That program returned about $43 worth of ore in the ground compared with the $32 from the present program. The DMEA pro-

gram, however, operated under somewhat less restrictive conditions than the present OME.

Dr. PECORA. I believe the important point to be brought out by Dr. James' statement is that the Federal dollar is accomplishing something in the direction that it was intended to accomplish, to discover new ore. That is what your remarks did in fact bring out.

WATER RESOURCES INVESTIGATIONS

Mrs. HANSEN. Please insert pages 35 through 46 of the justifications in the record.

(The information follows:)

6. Water Resources Investigations

FY 1970, $30,401,852; FY 1971, $32,542,000; increase, $2,140,148. The increase consists of:

	Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1)	$+ 100,000	+2	$ 642,000	27	To begin field level coordination necessary to the preparation of a Federal Plan for water-data acquisition.
(2)	+ 107,000	0	107,000	0	To initiate a program for systematically collecting water-use data of uniform reliability for the Nation as a whole.
(3)	+ 400,000	+4	400,000	4	To develop information and research base for subsurface storage of wastes and utilization of saline aquifers.
(4)	+ 99,784	0	1,496,784	34	To publish highest-priority manuscripts from publications backlog.
(5)	+1,398,000	0	18,028,000	844	To match an equivalent increase in State offerings for water data of mutual interest to both State and Federal governments.
(6)	+ 35,364	0	219,508	0	For reimbursement to Bureau of Employees' Compensation.
	+2,140,148	+6			

Cost Factors Involved in Increases

(1) Two permanent positions at average annual rate of $20,000, $40,000; personal services equivalent to 2 man-years* at average annual rate of $13,000, $26,000; transportation and subsistence, $16,000; supplies and materials, $9,000; contractual services, $9,000.

(2) Personal services and related expenses of one individual*, $17,000; research contracts, $90,000.

(3) Four permanent positions at average annual rate of $17,000, $68,000; personal services equivalent to 8 man-years* at average annual rate of $13,000, $104,000; transportation and subsistence, $15,000; supplies, materials, and equipment, $13,000; contractual services (research, drilling, testing), $200,000.

(4) Drafting and printing of 20 reports of water-resources investigations at average cost of $5,000, $99,784.

(5) Personal services equivalent to 60 man-years* at average annual rate of $13,000, $780,000; contractual services, primarily for drilling, testing, and construction of observation wells and test holes, $200,000, and construction, repair, and maintenance of data-collection stations, $150,000; transportation and subsistence in connection with field investigations, $88,000; gaging, monitoring, and other equipment, $105,000; supplies and materials, $75,000.

*Personal services to be made available through changes in base programs, including increases in direct and contractual services supplied by cooperating State agencies and decreases in selected elements of work for other Federal agencies.

Analysis by Subactivities

Subactivity	FY 1969 Amount Available	FY 1970 Amount Available	FY 1971 Estimate	Increase (+) or Decrease (-) 1971 Compared with 1970	Page Reference
(A) Federal Program:					
(1) National water data:					
(a) Coordination	$ 536,100	$ 542,000	$ 642,000	$+ 100,000	37
(b) Data collection and analysis	3,668,220[a/]	3,549,000	3,549,000	-	38
(c) Improvement in accuracy, coverage, and usefulness of data	1,441,100	1,539,000	1,539,000	-	38
(d) Water-use data	-	-	107,000	+ 107,000	38
(2) Regional resource appraisals	537,700	598,000	598,000	-	39
(3) Investigations and research for water planning and management:					
(a) Urban hydrology	191,700	200,000	200,000	-	39
(b) Ground-water recharge	670,300	1,020,000	1,020,000	-	40
(c) Delimiting flood hazards	371,200	442,000	442,000	-	40
(d) Core program of hydrologic investigations and research	2,902,400	3,038,000	3,038,000	-	41
(e) Subsurface waste storage	-	-	400,000	+ 400,000	42
(f) Soil and moisture conservation	216,193	230,000	230,000	-	42
(4) Supporting services	2,158,400	2,241,708	2,341,492	+ 99,784	43
(5) International Hydrological Decade	161,800	188,000	188,000	-	43
Total Federal Program	12,855,113	13,587,708	14,294,492	+ 706,784	
(B) Federal-State program	15,192,076	16,630,000	18,028,000[b/]	+1,398,000	44
(C) Employee Compensation payments	124,915	184,144	219,508	+ 35,364	46
TOTAL	28,172,104	30,401,852	32,542,000	+2,140,148	

a/ Includes $300,000 appropriated for 1969-70 for work related to storm damage to be obligated in 1970.

b/ Of the amount shown, $161,000 is for administration of the cooperative program and $17,867,000 is for matching State offerings.

The Water Resources program of the Geological Survey proposed for 1971 will require direct appropriation of $32,542,000. Additionally, the Survey performs extensive water-data acquisition for other Federal agencies under a reimbursement arrangement and receives substantial fiscal support from the States through the Federal-State program of cooperative work, making a total projected program of $62,926,000 for 1971. This total projected program has three parts:

(A) Federal Program (23% of total).--To provide a nationwide base level of resource data needed for national planning and water management; to develop and improve standards of accuracy, coverage, and usefulness of water data; to coordinate Federal water-data collection and dissemination activities; and through research to improve the scientific basis of hydrologic investigations and techniques. The components of the Federal program in FY 1970 and proposed changes in FY 1971 are summarized on the preceding page.

(B) Federal-State Program (60% of total, including 31% contributed by State and local agencies).--To provide data of mutual Federal and State interest needed for planning, development, and regulation of water resources in all areas of the Nation.

(C) Reimbursable Programs (17% of total, transferred from other Federal agencies).--To provide data needed for planning, management, and operation of action programs of other Federal agencies.

A. Federal Program

(1) NATIONAL WATER DATA:

(a) Coordination: FY 1970, $542,000; FY 1971, $642,000; increase, $100,000.

Need for increase: Development of a meaningful Federal Plan for water-data acquisition, as required by Bureau of the Budget Circular A-67, will require the establishment of a coordination process for assembly and review of regional data-acquisition plans of all Federal agencies in the field. Formulation and coordination of these regional plans will be accomplished by Field Coordinators assigned to the Survey's Regional Hydrologists and will be based on the 20 planning regions of the Water Resources Council. Funds to support this field effort were requested in FY 1970 but were not forthcoming; therefore, preparation of a Federal Plan has already been delayed at least a year through lack of funds.

Program of work: Under this program the Department of Interior is responsible for exercising leadership in achieving effective coordination of water-data-acquisition activities of the Federal establishment--such coordination to assure that water-data needs of the many user agencies are being met and to prevent duplication of effort. Specifically the FY 1971 funds will provide for continuation of coordination responsibilities such as design of the "National Water-Data Network," coordination of National Network and specialized data acquisition, maintenance of a public catalog of information on network and specialized data-acquisition activities, and preparation of the Federal Plan for data acquisition.

Status of program: The preliminary phases of network planning and design have been completed and the catalog of information has been developed. A work plan for insuring optimum effectiveness of data-collection activities among the Federal agencies was developed and the plan was implemented with the design of a Department of Interior Water Data System. The plan is now being extended to include agencies outside Interior. To be fully workable this coordination effort must be supplemented at field level during FY 1971. Updating the catalog, review and revision of the National Network, coordination of Federal data-acquisition activities and preparation of an annual Federal Plan will be continuing needs.

(b) Data collection and analysis: FY 1970, $3,549,000; FY 1971, $3,549,000; no change.

Program of work: The FY 1971 funds will provide for continuing collection of water data where the Federal interest is paramount, including the public domain, plus river basins and aquifers that transcend State boundaries and other areas of international or interstate concern. The program is strengthened further by the Federal-State cooperative program which gathers data of mutual interest to both the Federal and local governments.

Status of program: This is a continuing program that provides water data to (1) assess the status of the Nation's water resources, (2) assist other Federal agencies in carrying out their missions, and (3) assist in regional planning efforts. As water planning assumes regional and national dimensions, deficiencies in water data have become increasingly apparent. These deficiencies are being identified in the coordination and network design efforts described in the preceding activity. Eventually this program will have to be adjusted to accommodate these new demands.

(c) Improvement in accuracy, coverage, and usefulness of data: FY 1970, $1,539,000; FY 1971, $1,539,000; no change.

Program of work: The FY 1971 program continues on-going projects in the automation-of-data services, in systems modeling, and in development and application of modern scientific methods. The latter category includes a wide variety of individual projects such as electronic-equipment development, analytical methods, instrument research, time-of-travel and dispersion analyses, etc. In general, the intent of the program is to improve the accuracy, adequacy, and usefulness of water data by technological research, including the development and perfection of new or improved instruments and techniques and the use of systems-engineering studies to develop improved techniques for the analyses and syntheses of water data.

Status of program: This is a continuing program of research which provides the basis for methods, scope, and analytical techniques used in managing the current water-data program. For example, this program produced the automatic monitors by which water-quality data are now being collected, and the airborne sensing devices by which data on estuarine circulation are collected by the Geological Survey. As projects are completed, they are replaced by new projects bearing high priority to the water-data mission.

New and improved methods of acquiring, processing and analyzing data lead continually to greater economy, timeliness, and reliability of the data being produced.

(d) Water-use data: FY 1970,$0; FY 1971, $107,000; increase $107,000.

Need for increase: The proposed increase will provide funds for identifying and cataloging the sources of available water-use data and developing a unified system for acquiring and handling the data. Data on water use--including withdrawals and diversions, source, kinds of use, consumption, and disposition--are essential for water-resources accounting (quantity and quality). The lack of such a system represents a major water-data deficiency. Before a unified national program for acquiring water-use data can be developed, however, it will be necessary to examine the requirements for water-use data and the existing data base.

Program of work: In FY 1971 the Geological Survey will begin a program to meet the need for water-use data. The program will include:

-- cataloging of current water-use-data activities as an essential step to ascertain the status of the present effort against the current need;

-- development of a general framework of specifications for water-use data that will meet the objectives of the National Water Data Network;

-- development within the general framework of the detailed specifications for water-use data needed to meet the Water Resources Council's requirements related to its National Assessment of water resources.

Status of program: There is no uniform national program for collecting water-use data, the existing programs being incomplete and in large part incompatible. Evaluation of the existing programs and of the needs will permit the development of a truly unified national program for the collection of water-use data in FY 1972.

(2) REGIONAL RESOURCE APPRAISALS: FY 1970, $598,000; FY 1971, $598,000; no change.

Program of work: This program provides quantitative summary information about the occurrence and availability of water on a regional basis. A large amount of information is available as the result of excellent studies made in many parts of the country, but these studies have been aimed generally at specific problems or at local areas, and rarely have they been related on a regional or river-basin basis. The regional and subregional ground-water appraisals of this program will provide assurance that management of the water resources will not overlook opportunities to use aquifers for conjunctive management of surface and ground waters, underground storage of wastes, and the conversion of saline water. Basic to the program are reconnaissance regional ground-water appraisals for all 20 major water-resource regions of the Nation and more detailed appraisals in subregions as the needs are identified.

Status of program: The FY 1971 funds will provide for the continuation of several subregional studies including the Delmarva Peninsula and the larger-area studies now in progress in a number of sections of the country; for example, the Brazos, Colorado, and Potomac River Basins and the South Atlantic Coastal Plain. Three regional ground-water investigations were planned for FY 1969 and again for FY 1970, but under existing budget constraints only one basin investigation was begun in FY 1970. This investigation (the Ohio region) will be continued in FY 1971. The remaining 19 of the total program of such investigations will be scheduled for future years.

(3) INVESTIGATIONS AND RESEARCH FOR WATER PLANNING AND MANAGEMENT:

(a) Urban hydrology: FY 1970, $200,000; FY 1971, $200,000; no change.

Program of work: The general objective of this program is to provide information that has an important bearing on urban planning and development. The Federal involvement in urban planning is large. The Department of Housing and Urban Development actively promotes and assists urban planning through grants and other methods of assistance. Other Federal involvement in urban problems includes flood control under the Department of the Army, and airport development and highway construction under the Department of Transportation. All these activities require data and knowledge of the water resources of an area. For example, urban planning must locate sources of public water supplies to meet the anticipated growth. Solid waste disposal must be so located as to prevent pollution of ground water and urban drainage must be designed to carry off excess water from storms.

The work program consists of three phases: (1) a feasibility study to define the parameters of urbanization that most affect the behavior of water in cities and research on how these parameters operate; (2) establishment of data networks

in various urban environments; and (3) investigations in pilot areas to show that the full benefits of resource data depend on development of a greater understanding of urban resource data needs and potential uses. The latter phase will be accomplished in a Bureau-wide investigation that is budgeted in activity number 1, "Special resource and environmental projects."

Status of program: The feasibility study has been completed. In FY 1971, the funds provide for a continuation of on-going basic research projects that relate hydrologic parameters to urbanization. Establishment of urban data networks will be deferred until FY 1972. One or more pilot city investigations will be undertaken as part of the Bureau-wide program, mentioned above.

(b) Ground-water recharge: FY 1970, $1,020,000; FY 1971, $1,020,000; no change.

Program of work: The purpose of the program is to determine the extent to which storage in ground-water reservoirs (aquifers) can be used to supplement that in surface reservoirs as a basic mechanism of water management. Ultimate storage requirements are expected to be several times greater than the present total available in surface reservoirs. With the best surface reservoir sites already occupied, or preempted for other uses, storage of floodwater in ground-water reservoirs is the only conceivable way of supplementing the remaining surface-storage possibilities to reach the total goal. The program is designed to determine the principles of ground-water recharge as a guide to the design of practical procedures for increasing natural rates of recharge using surplus floodwater. It includes research and experimentation in three pilot areas plus a variety of on-going research projects involving unsaturated and saturated flow in the recharge areas of aquifers.

Status of program: The first project to be initiated in the artificial-recharge program involves the testing of techniques for evaluating the feasibility of artificial recharge at Lubbock, Texas, a typical area of the southern High Plains of Texas and New Mexico, where underground injection of water proposed to be imported to replace the dwindling natural ground-water supply is one possible method of storing it in the off season. The work is designed to have transfer value and benefits to other areas. It began as a small reimbursable project for the Bureau of Reclamation in FY 1968 and was extended in FY 1969 and 1970 with funds appropriated to the Survey for artificial-recharge studies. A second project, initiated in FY 1970 on Long Island, is designed to evaluate the effectiveness of pits through which storm runoff is recharged to the water table. A third project, in the Minneapolis-St. Paul area, was also initiated in FY 1970 and is designed to investigate artificial recharge of fissured rocks; previous studies have related largely to unconsolidated sand and gravel. The FY 1971 program provides for the continuation of these projects as well as a variety of on-going research projects concerned with the physical and chemical principles of ground-water recharge.

(c) Delimiting flood hazards: FY 1970, $442,000; FY 1971, $442,000; no change.

Program of work: The 1971 program will allow completion of 3,500 maps by June 30, 1971 and 1,000 city leaflets that describe the utility of the map in local flood-plain areas. This program was developed in response to recommendation 1(B) of the Task Force on Federal Flood Control Policy (House Document 465, pages 21-22):

"(B) Outlining the flood plain on maps or aerial photographs. This would delimit areas occasionally inundated by rivers or coastal waters without definition of the frequency and magnitude of flooding. All available aerial photographs, maps, flood information, and gaging-station data would be utilized.

"The primary responsibility for this work should be assigned to the Geological Survey as a 2-year project. The cost would be about $3 million."

In each region, the primary concern will be mapping of urban areas where flood problems now exist or where expansion may be creating potential flood problems. Lands subject to overflow will be outlined on topographic maps which will be distributed to city officials and to appropriate State and Federal agencies.

Beginning in fiscal year 1970 the scope of this project was altered at the request of the Department of Housing and Urban Development. The area inundated by the 100-year flood is now being outlined on maps instead of the area inundated by an occasional flood. This change, which was approved by the Bureau of the Budget, will increase the value of the maps and will not greatly increase the total cost of the program.

Status of program: The mapping program originally planned as a 3-year effort was begun in FY 1969 but has undergone revisions in scheduling to be consistent with budget constraints. Twenty-two percent of the maps will have been completed by June 1970. At the 1971 rate of funding 29 percent of the maps will be complete by June 30, 1971.

(d) Core program of hydrologic investigations and research: FY 1970, $3,038,000; FY 1971, $3,038,000; no change.

Program of work: The FY 1971 program provides for continuation of the core program of hydrologic investigations at the same level as in FY 1970. These investigations will include individual projects ranging from basic to applied research and including office, laboratory, field, and regional studies embracing several scientific disciplines. Each is aimed at discovering hitherto unknown scientific principles or interrelationships in some field of hydrology. They have the common goal of increasing the Nation's understanding of the water resources and the operation of the hydrologic systems of which they are part; thus the core research program has an essential and basic role in the national water-data program.

Status of program: This program is a continuing one aimed at the disclosure of new principles and relationships. The program is continually responsive to water-resources problems. For example, problems of subsidence have been associated with excessive pumping of ground water in numerous areas of the southwestern United States and abroad. Investigations conducted in California have developed quantitative relationships between subsidence and three measurable parameters of an aquifer system subject to excessive pumping. Using these relationships, measurements of the pertinent parameters can be analyzed to produce forecasts of the degree of subsidence that will occur if water withdrawals continue at specified levels in the future. The new discoveries related to the subsidence problem are receiving wide application in the United States and abroad.

The Geological Survey continuously applies its research results to improving water-resources investigations carried on in both Federal and Federal-State Cooperative programs, and to modernizing measuring techniques and instruments. Discoveries are made available to other Federal agencies and to scientists and the general public through publication in technical journals and formal Survey reports. Research progress is reported most specifically in the annual publication Geological Survey Research, Professional Paper 650-A.

(e) Subsurface waste storage: FY 1970, $0; FY 1971, $400,000; increase, $400,000.

Need for increase: The proposed increase will be used to collect, analyze, and report on existing data on deep waste storage and practices; initiate basic research related to methods, procedures, and techniques for deep waste storage; identify and select candidate sites and establish priorities for deep exploratory drilling; and initiate detailed appraisals of saline water resources in one Water Resources Council planning region.

Adoption of water-quality standards for interstate surface streams in conformance with the Water Quality Act of 1965 precludes the unrestricted use of these streams for the disposal of wastes. Increasing attention therefore is being directed to the disposal of wastes underground, particularly in saline aquifers. Information is needed on (1) geologic and hydrologic factors which determine the receptivity of the saline aquifers to such practices; (2) the fate of injected wastes; and (3) what is and is not permissible so as to protect existing fresh water and potentially desaltable saline waters. Unless this problem is attacked immediately we face the prospect of polluting our fresh ground-water supplies much as we have our surface-water streams.

Program of work: FY 1971 activities will provide guidance and direction, and establish priorities for more intensive investigation in FY 1972 and subsequent years. The planned program includes selection of pilot installations for waste-storage research in various geohydrologic environments; completion of detailed appraisals of inland saline water resources of each of the 20 WRC regions; exploratory drilling and geophysical studies to define, delineate, and describe the vertical and lateral distribution of deep aquifers and their hydrologic character; and research in pertinent aspects of hydrology, hydraulics, geophysics, and geochemistry as they relate to subsurface waste storage and the utilization of saline aquifers.

Status of program: The FY 1971 program is aimed at initiating an attack on the most urgent aspects of the problems associated with subsurface waste storage. These preliminary activities will provide necessary guidance and knowledge for subsequent efforts. The ultimate objective of the program is to provide the information base for the evaluation of procedures, constraints, and probable consequences relative to management decisions on subsurface waste storage and utilization of saline aquifers.

(f) Soil and moisture conservation: FY 1970, $230,000; FY 1971, $230,000; no change.

Program of work: The program provides for (1) evaluation of specific sites as possible locations for water supply on public lands, and (2) research in arid-lands hydrology, including effects of land-treatment measures.

Status of program: This is a continuing program which is responsive to the needs of those who manage the public lands. The Geological Survey, within the soil and moisture conservation program of the Department of the Interior, provides basic hydrologic and geologic data and research needed for the improvement and maintenance of the productive value of about 477 million acres of public lands. Location and conservation of available water supplies is a particularly important aspect of water-resources management in semi-arid public lands. Effective management requires extensive knowledge of areal hydrology, of soil-plant-water relationships, and of effects of land treatment on water yield, sediment movement, and water loss.

(4) SUPPORTING SERVICES: FY 1970, $2,241,708; FY 1971, $2,341,492; increase, $99,784.

Need for increase: Publication funds were curtailed $180,000 by impoundment in FY 1969 and, as no offsetting increase was available in FY 1970, a backlog of manuscripts awaiting publication was created. Continuation of publications funding at the current level for another year would result in additional costs because less efficient means of dissemination are required in advance of delayed publications.

Program of work: Publication of water-resource data and the results of areal investigations and research by means of books, maps, and circulars, and training of Geological Survey employees to carry out research and investigations in water resources.

Status of program: The results of water-resources investigations by the Geological Survey are made available to the engineering community and the general public through the continuing report series--Water-Supply Papers of the United States, hydrological atlases, and circulars--and through the media of technical journals. In 1969, 77 book reports, 50 atlases, and 21 circulars were published by the Geological Survey reporting results of water studies. This represents only two-thirds of the average annual production of reports prior to FY 1968. More expensive methods of report dissemination have been required to meet the information needs of cooperating agencies and the public in advance of formal publication. These have included office duplication and microfilming. The new money will be used to expedite publication of high-priority reports needed by Federal and State agencies. These include reports on basic water-resource data, urban hydrology, underground waste disposal practices, etc. Only the most urgently needed data will be published with the increased funds; thus a backlog will still remain.

The continuing program to develop experts in the field of hydrology and improve the technical competence and efficiency of employees is accomplished through full-time graduate studies; part-time studies at universities; advanced in-house seminars on subjects such as systems engineering, hydraulics, hydrology, sediment transport, water chemistry, and automatic data processing; and on-the-job training for professional and technical employees. These activities, at a cost of $600,000 in FY 1971, will include ten employees in full-time graduate studies under the Government Employees Training Act, about 195 persons enrolled at universities for part-time studies in water resources and related fields, and about 300 professionals in advanced seminars. In addition, about 500 professionals will continue job-related training and about 900 technicians will continue in a program of on-the-job training to increase their competence for water-data collection.

(5) INTERNATIONAL HYDROLOGICAL DECADE: FY 1970, $188,000; FY 1971, $188,000; no change.

Program of work: The United States program for the International Hydrological Decade (IHD) is designed so that the United States can participate in, contribute to, and benefit from a worldwide cooperative effort by 106 countries to increase their understanding of the world's water resources and to increase their capabilities to cope individually and mutually with their own water problems. The IHD seeks to do this through a ten-year (1965-74) effort; in every country the program is a national effort, not a foreign-aid program, although the results are shared among nations having mutual interests. The U. S. program for the IHD consists of activities that contribute directly to our ability to cope with national problems of water resources, in addition to having significance relative to international problems.

Status of work: In 1971, existing study of glacier variations and inventories of snow and ice will be continued, along with measurements of dissolved and suspended sediments discharged to the sea in rivers. Staff work will continue on special compilations of data for inclusion in yearbook publications on the world's main hydrological features. Data on the dissolved and suspended load of materials discharged by rivers to the sea from the conterminous United States will be analyzed for presentation in atlas form, along with data on temperatures of discharged waters.

New activity will include limited participation in the International Field Year of the Great Lakes, a joint U.S.-Canadian venture for joint study of Lake Ontario as a physical and dynamic system. The Corps of Engineers is the lead agency for U.S. participation in this project. Geological Survey input will be limited to participation in planning activities and scientific meetings, and provision of data collected primarily through the Federal-State cooperative program.

B. Federal-State Program

FY 1970, $16,630,000; FY 1971, $18,028,000; increase, $1,398,000.

Need for increase: The increase of $1,398,000 for Federal-State cooperative activities (and the corresponding increase in State and local matching funds) is necessary to operate the national water-data system at a level that will meet the increasing needs of Federal, State and local agencies for water data required to fulfill continuing operational and management needs and to carry out responsibilities under recently enacted legislation (e.g.: Water Resources Planning Act, Clean Waters Restoration Act, Water Quality Act, Federal Water Project Recreation Act, National Water Commission Act). Specifically the increase in funds will be used to (1) extend and expand station-type data acquisition with special emphasis on water-quality monitoring; and (2) gather, analyze, and interpret data required for proper understanding and management of areal hydrologic systems, especially as these systems are related to decision making in carrying out the legislation cited above.

The enormous task of appraising the Nation's water resources can only be accomplished by the Federal Government and the States sharing the responsibility. Because most data serve multi-purpose uses, not single-party use, data collection by a single agency in behalf of all users guarantees maximum efficiency, and maximum uniformity of information. The strength of the Federal-State cooperative program derives in part from these facts and in part from a widespread, well standardized system which determines data needs and utilizes the data in solution of immediate problems. The cooperative program carries out in practice the sentiment of Congress, as expressed by the Intergovernmental Cooperation Act of 1968, for achieving the fullest cooperation and coordination of activities among all levels of the government. In particular it accords with the spirit of Section 301 which encourages cooperation in the conduct of specialized or technical services.

In the past, the Federal-State cooperative program has furnished the bulk of the data used in Federal as well as non-Federal planning and managing of the Nation's water resources. It is the logical method for implementing a single, uniform system to cope with local and national water problems. The program can continue to furnish the needed data, water-quality monitoring and hydrologic studies for FY 1971 only if increased funding is provided. Failure to meet the States halfway in this long-standing partnership arrangement inevitably would result in destruction of the Federal-State cooperative program for water-resources investigations. If States are forced to make other arrangements for water-data collection, efficiency of collection and uniformity of information will suffer.

WATER RESOURCES INVESTIGATIONS - FEDERAL-STATE PROGRAM
ESTIMATES OF STATE AND MUNICIPAL OFFERINGS FOR FY 1971
(Thousands of dollars)

State	State Offerings to be Matched 1970	Estimated Offerings for Matching 1971	Increase (+) Decrease (-)
Alabama	337	337	-
Alaska	136	185	+ 49
Arizona	372	428	+ 56
Arkansas	176	178	+ 2
California	1,310	1,594	+284
Colorado	387	480	+ 93
Connecticut	174	222	+ 48
Delaware	31	56	+ 25
D. C.	21	21	-
Florida	908	1,498	+590
Georgia	260	322	+ 62
Hawaii	280	313	+ 33
Idaho	232	267	+ 35
Illinois	213	239	+ 26
Indiana	352	371	+ 19
Iowa	194	203	+ 9
Kansas	492	535	+ 43
Kentucky	243	317	+ 74
Louisiana	425	445	+ 20
Maine	47	49	+ 2
Maryland	240	288	+ 48
Massachusetts	195	212	+ 17
Michigan	267	300	+ 33
Minnesota	247	257	+ 10
Mississippi	153	210	+ 57
Missouri	249	289	+ 40
Montana	135	155	+ 20
Nebraska	208	294	+ 86
Nevada	150	181	+ 31
New Hampshire	43	43	-
New Jersey	333	483	+150
New Mexico	369	415	+ 46
New York	720	871	+ 151
North Carolina	309	350	+ 41
North Dakota	248	251	+ 3
Ohio	304	339	+ 35
Oklahoma	169	229	+ 60
Oregon	260	288	+ 28
Pennsylvania	578	730	+ 152
Puerto Rico	241	340	+ 99
Rhode Island	38	39	+ 1
South Carolina	125	166	+ 41
South Dakota	146	164	+ 18
Tennessee	208	247	+ 39
Texas	1,003	1,225	+ 222
Utah	382	374	- 8
Vermont	35	45	+ 10
Virginia	220	355	+ 135
Virgin Islands	10	6	- 4
Washington	746	844	+ 98
West Virginia	50	95	+ 45
Wisconsin	356	416	+ 60
Wyoming	218	228	+ 10
American Samoa	20	20	-
Guam	10	12	+ 2
Trust Territ. of Pacif.	35	35	-
SUB-Total	15,610	18,856	+3,246
Adjstmnts. to be made	-	- 989	- 989
Pay raise costs 1/	+1,020		-1,020
Program administratn.	-	+ 161	+ 161
TOTAL Federal funds for coop program	16,630	18,028	+1,398

1/ Anticipated supplemental appropriation for Federal share of increased pay costs

41-447 O - 70 - pt. 1 -- 70

Program of work: Efficient and effective conservation and utilization of the Nation's water resources are impossible without an adequate data base. This program provides the major part of that base. Projects approved for cooperative funding contribute simultaneously to solution of urgent State and local problems and to the accomplishment of National Water Data Network objectives. Plans for cooperative projects are hammered out by State and Federal representatives at grass-roots level, which guarantees the best possible accommodation between Federal and State priorities and assures that all elements of the program have relevance to real-world issues.

Status of program: This is a continuing program that has grown in direct response to the increasing mutual needs of the Federal and local agencies who have water-resource responsibilities. At present, the total increase in offerings for matching by the more than 400 cooperating agencies for FY 1971 is expected to exceed $3,200,000. The proposed appropriation will allow for funding of only the higher priority activities. Nevertheless, because only token additions have been made to this important program in recent years, an increase such as that proposed would serve to reaffirm the principle of a single national water-data collection system and the Federal Government's willingness to share with the States the overall public responsibility for providing a data base adequate for managing the Nation's resources in the years ahead.

C. Employee Compensation Payments

FY 1970, $184,144; FY 1971, $219,508; increase, $35,364.

Need for increase: An increase of $35,364 is required to reimburse the Bureau of Employees' Compensation, Department of Labor, for payments made during FY 1969 on account of Geological Survey employees injured since December 1, 1960 (Public Law 86-767, Section 209).

FEDERAL PLAN FOR WATER DATA ACQUISITION

Mrs. HANSEN. An increase of $100,000 is requested to begin field level coordination necessary to the preparation of a Federal plan for water data acquisition. Give us the details on this.

Mr. HENDRICKS. Madam Chairman, one of the major thrusts of this program is the development of a coherent plan, nationwide, to collect the water resources information that the Nation requires in the development and management of its water resources.

Now, we have dealt very largely with the Federal agencies up to the present time, working through their national headquarters organization. Before we can fully assess the total need for water resources information and design a program which responds to it, we have to get closer to the State people who require information, the regional people that require information. The purpose of this program is to put one person in each of our four regional centers to facilitate that communication, in order to develop information on the other agency data needs.

WATER-USE DATA PROGRAM

Mrs. HANSEN. Justify your request for an increase of $107,000 for water-use data.

Dr. PECORA. Before I ask Mr. Hendricks to respond to the question, Madam Chairman, I would like to differentiate between what is described in this budget as water-use data and what was described earlier as water-data acquisition.

Both have to do with water. But in the first part of the program we are dealing with knowledge and data about water as a resource, its location, its character, its quantity, and its movement.

In this portion of the budget justification we are seeking to find out who uses the water and in what quantities, so that we can estimate the available resource, taking into account the multiple use of water. This is the water-use concept. When you asked me earlier about how many times can water be used, I mentioned, I believe, that the water in one part of the Ohio River Basin was used as many as 17 times.

It is this kind of information which we need to acquire in order to fully utilize the information acquired on water as a resource. This program has not had any funds in 1970 and it is essentially beginning in 1971.

CORE PROGRAM OF HYDROLOGIC INVESTIGATIONS AND RESEARCH

Mrs. HANSEN. $3,038,000 is requested for the core program of hydrologic investigations and research. Please insert in the record a breakdown of the various locations and purposes for which these funds are requested.

(The information follows:)

CORE PROGRAM OF HYDROLOGIC INVESTIGATIONS AND RESEARCH

There are 74 individual project activities included under this program component, covering a broad spectrum of hydrologic research and investigation under the following topical grouping:

Exploration of natural water systems: artesian systems, basalt aquifers, limestone terranes, estuarine systems, plant-water relationships.

Lakes and reservoirs: limnology, evaporation theory and measurement, lakes circulation, thermal characteristics.

Phreatophyte studies: Gila River study, evapotranspiration, water use by saltcedar.

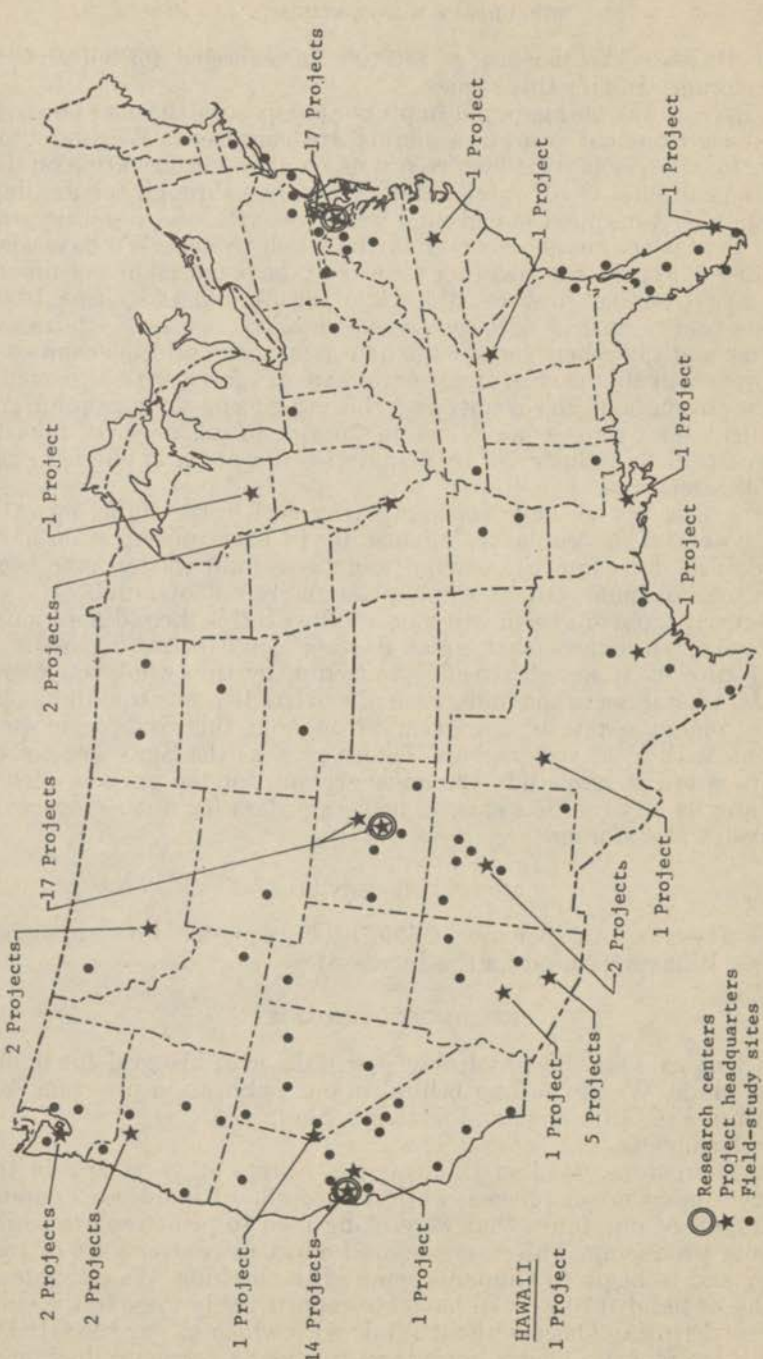
Flow and diffusion: fluid resistance, unsteady flow in estuaries, turbulence, mechanics of aquifers, seepage.

Morphology: alluvial channel flow, bedload transport, overland flow, geomorphology, reaeration in open channel flow.

Chemistry: chemical, geochemical, and mineralogical processes, organic substances, hydrosolic metals, chemical constituents in water, radiohydrology.

Glaciology, ice dynamics, geomorphic studies.

The projects are conducted at project headquarters and field study sites shown on the map below.



Map showing location of activities under Core Program of Hydrologic Investigations and Research.

SUBSURFACE WASTE STORAGE

Mrs. HANSEN. An increase of $400,000 is requested for subsurface waste storage. Justify this request.

Dr. PECORA. Let me again put in proper perspective the use of underground environment insofar as fluids are concerned. We know, of course, that we have had a long record of acquiring information on the quantity and quality of water for use by people through the drilling program. This is called our ground water research and resource program. This is the invisible water in the whole system. We have also come to you in previous years for a study of the potential of the underground environment to store fresh water for use in peak seasons. Both of these programs deal with water as a resource, one for withdrawal of water and the other for storage of water, both usable elements.

However, in this part of the program we are faced with a growing concern throughout the country of the use of the underground environment for waste disposal—waste storage, in other words, for the fluids cast off by industry or by mankind—of a place, in effect, to get rid of this material.

In the past people have been emptying such waste fluids into the river system. The people are against it. In some places wells have been drilled deep into the ground and these fluid wastes have been stored underground, out of sight, presumably out of mind.

However, those of us who are concerned with this three-dimensional environment recognize that great damage could occur in the very near future, if it is not already occurring, by this wholesale waste disposal or storage in the underground system. It is an attempt on our part to mount a massive program throughout this country in conjunction with local and regional bodies such as the State geological surveys who likewise study the underground, for the purpose of determining if any conflicts exist in using aquifers for waste storage or for fresh water storage.

SUPPORTING SERVICES

Mrs. HANSEN. An increase of $99,784 is requested for supporting services. What is the need for this increase?

PUBLICATION PROGRAM

Dr. PECORA. Our chief hydrologist will describe his need for publication funds. We are falling behind in our publication program. We are seeming to fall farther and farther behind.

Mr. Hendricks.

Mr. HENDRICKS. Madam Chairman, a couple of years ago in the budget squeeze-down process, we lost a couple of hundred thousand dollars out of our funds that were being used to print reports which we were producing. This is our second effort to recover part of that money and to begin to eliminate some of the backlog. We estimate at the end of fiscal 1970 we will have 140 reports ready to go to the Government Printing Office without funds with which to pay the GPO to print those reports. That is equivalent to about 1 year's production of reports. So, the fact is that so far as the actual printing of reports is

concerned, we are accumulating a backlog which at the end of this fiscal year will be about equivalent to 1 year's production.

Mrs. HANSEN. Off the record.

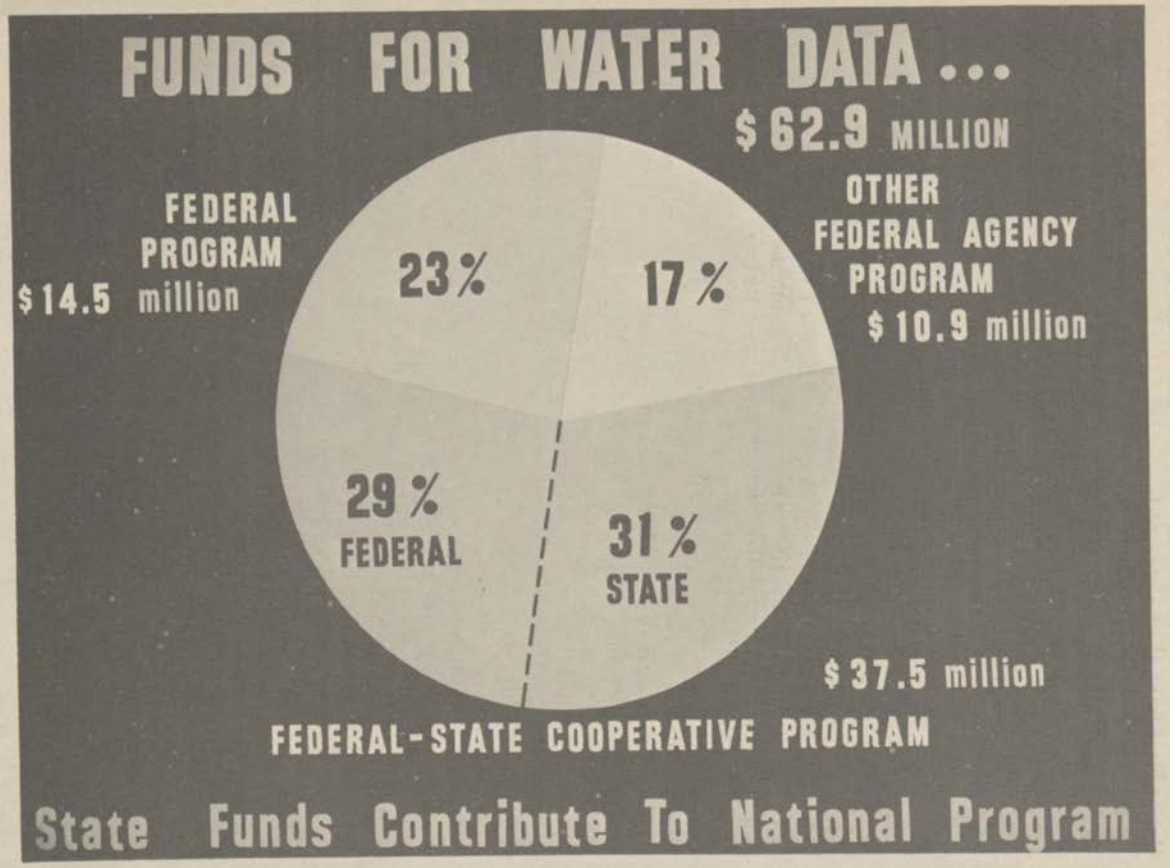
(Discussion off the record.)

FEDERAL-STATE PROGRAM

Mrs. HANSEN. You have budgeted $18,028,000, an increase of $1,398,000 for the Federal-State program. Give us a detailed description of the requirements in this connection.

Dr. PECORA. May I first refer the committee to the chart which shows the relationship of this program to the other programs of water data acquisition in the Geological Survey. In the pie diagram shown, in the lower half of the pie, $37.5 million is the program known as the Federal-State Co-op. Of this, an amount equal to 29 percent of the total will be contributed from the Federal Government and 31 percent by the States. In other words, the States are putting more into this program than the Federal Government is.

(See chart below:)


FUNDS FOR WATER DATA...
$62.9 MILLION
FEDERAL PROGRAM
$14.5 million
23%
17%
OTHER FEDERAL AGENCY PROGRAM
$10.9 million
29%
FEDERAL
31%
STATE
$37.5 million
FEDERAL-STATE COOPERATIVE PROGRAM
State Funds Contribute To National Program

Dr. PECORA. We do have a 50–50 maximum limitation, but there is no limitation on the amount of the State's share. They can exceed ours by any amount that is possible.

Mrs. HANSEN. I notice in the chart that some States exceed their share.

Dr. PECORA. Yes; because in some cases the State governments have funds other than those their own State appropriated for matching, and which they can put into their kitty. But nevertheless, they do wish the Geological Survey to manage this data acquisition program and it is done by this procedure.

Now, of this total water program 60 percent is in the Federal-State program, the remaining 40 percent is distributed into two other programs, one of which is known as the Federal agency reimbursement program, which amounts to $10.9 million in this budget, or 17 percent of the total effort in our water resources program.

Here work is done by the Geological Survey to acquire information needed specifically by the other Federal agencies and it is done by transfer of funds, and this information not only is used specifically by those agencies, but also finds its way into the national water data network for use throughout the country. So that basically there remains only 23 percent or $14.5 million which we would call our Federal water program in the sense that this is water acquisition and research done by the Geological Survey on directly appropriated funds to broaden the national understanding of water and supplement the specific water data acquisition needs implied by these other programs.

I am very happy that our Federal-State program has progressed each year and is proving to be extremely successful. However, in any area, in any time of budget construction, there is a tendency for this program to continue and to strangulate what I would consider to be the Federal program. I would hope that the committee is sensitive to this problem so that if in the future we should be constrained, I would hope the committee is responsive to our request not to strangulate the Federal program, even though the other programs must continue to move forward.

CONSERVATION OF LANDS AND MINERALS

Mrs. HANSEN. Insert pages 47 through 55 of the justifications in the record.

(The information follows:)

7. Conservation of Lands and Minerals

FY 1970, $7,076,000; FY 1971, $7,855,000; increase, $779,000. The increase consists of:

	Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1)	$+419,000	0	$1,745,000	80	To expand lease management, supervision and inspection of rapidly growing OCS oil and gas operations.
(2)	+97,000	0	525,000	7	To acquire and evaluate OCS geophysical data for pre-sale tract selection, evaluation, and safety of operations.
(3)	+166,000	3	2,920,000	205	To improve lease management and supervision of oil and gas operations on Federal and Indian leases onshore.
(4)	+97,000	1	1,111,000	66	To improve lease management and supervision of mineral prospecting and mining operations on Federal and Indian leases.
	+779,000	+4			

Cost Factors Involved in Increases

(1) Four additional permanent man years from late FY 1970 hires at $15,000, $60,000; Helicopter contractual services for transportation of OCS inspectors, 2 helicopters on a permanent annual basis for inspections in the Gulf of Mexico at $142,500 each, $285,000; Contractual services for trip charters for random OCS pollution inspections related to oil and gas operations in the Gulf of Mexico and off California - boats, fixed-wing aircraft, helicopter and related hazard pay, $74,000.

(2) Two additional permanent man years from late 1970 hires at $15,000, $30,000; Contract purchase of geophysical data for evaluation of undeveloped OCS areas prior to lease sale, $67,000.

(3) Three permanent positions and two additional permanent man years from late FY 1970 hires at $15,000, $75,000; unabsorbable additional employee related program costs for within-grade salary increases and increased retirement contributions and per diem, $60,000; increased computer costs for royalty accounting, $24,000; inspections of oil and gas operations for safety and pollution control, an average of 15 additional days per month with related vehicle and per diem costs at $40 per day, $7,000.

(4) One permanent position and three additional permanent man years from late FY 1970 hires at $15,000, $60,000; unabsorbable, additional employee related costs for within-grade salary increases and increased retirement contributions and per diem, $15,000. Increased field inspections in connection with pollution control and land rehabilitation required in the new surface mining regulations approved January 1969, an average of 45 days of additional field work per month with related vehicle hire and per diem costs at $40 per day, $22,000.

Analysis by Subactivities

Subactivity	FY 1969 Amount Available	FY 1970 Amount Available	FY 1971 Estimate	Increase (+) or Decrease (-) 1971 Compared with 1970	Page Reference
OUTER CONTINENTAL SHELF					
(a) Resource management-Marine minerals	$ 838,000	$1,326,000	$1,745,000	$+419,000	50
(b) Resource evaluation-Marine minerals:					
(1) Geologic data	362,000	548,000	548,000	+97,000	51
(2) Geophysical data	--	428,000	525,000		
ONSHORE					
(c) Resource management-Oil and gas:					
(1) Federal lands	2,041,000	2,186,000	2,317,000	+166,000	52
(2) Indian lands	530,000	568,000	603,000		
(d) Resource management-Minerals other than oil and gas:					
(1) Federal lands	723,431	779,000	846,000	+97,000	53
(2) Indian lands	220,000	235,000	265,000		
(e) Resource evaluation-Mineral land classification	620,000	664,000	664,000		54
(f) Resource evaluation-Water resources	317,470	342,000	342,000		55
Total	5,651,901	7,076,000	7,855,000	+779,000	

Revenues From Leased Mineral Lands

Land Category	1968		1969		1970[2/]	1971[2/]
	Royalties	Bonuses	Royalties	Bonuses	Royalties	Royalties
Outer Continental Shelf	$201,137,000	$1,346,500,000	$224,000,000	$111,661,000	$250,000,000	$285,000,000
Federal lands onshore	100,996,000	4,075,000	106,000,000	754,000	110,000,000	114,000,000
Indian lands	18,085,000	8,000,000	16,000,000	7,000,000[1/]	14,000,000	12,000,000
Total	320,218,000	1,358,575,000	346,000,000	119,415,000	374,000,000	411,000,000

1/ Bonus estimated

2/ Royalties projected, but no estimate of future bonuses were made

A detailed analysis has been completed of interrelated lease supervision and resource evaluation activities which comprise this program. The analysis related program objectives (based on existing legislation, policies, and regulations) to the tasks, standards of performance, workload factors, and budget required for their attainment. In this fashion, a Required Program was defined and its cost determined. The FY 1971 program provides the first of several steps necessary to attain the Required Program level.

(a) Resource management - marine minerals: FY 1970, $1,326,000; FY 1971, $1,745,000; increase, $419,000.

Need for increase: The increase is needed to provide transportation for the field staff in order to improve surveillance over the drilling and production phases of the OCS program. Improved inspection capability in these critical areas is essential to detect and prevent pollution of adjacent waters. The increase will provide two full-time helicopters for Gulf Coast operations, and sufficient funds for charter helicopters, aircraft, or boats as needed, primarily at Santa Barbara.

Program of work: In FY 1971 there will be about 650 producing oil, gas, and sulphur leases in effect, and 1,450 new wells will be drilled on the Outer Continental Shelf. The following activities are significant elements of the program.

Engineering and geologic examinations will be made prior to approval of proposed drilling, and casing procedures for each new well, to assure adequate safeguards against blowouts and pollution, and to assure proper protection of other subsurface resources.

There will be an average of one inspection per new drilling well except in the Santa Barbara Channel where we expect to continue our present coverage of daily inspection of Union Oil Company's drilling operations and bi-weekly inspection of all other drilling operations.

Engineering and geologic examinations will also be made prior to approval of lessee/operator proposals to protect the government's interest in such matters as transportation allowances for royalty pricing purposes, unitization, well spacing, and well workover/recompletion. This activity is necessary to assure that operations are conducted to safeguard the environment against pollution, that the government receives its equitable share of the production, and that there is no waste or loss of resources.

There will be an average of about one inspection per month of each producing lease, except in the Santa Barbara Channel where we will continue making daily inspections of Union Oil Company's producing lease, and weekly inspection of all other producing leases. The inspection activity includes witnessing well tests for producibility and setting allowables; thorough inspection of all lease production facilities; check of all pollution prevention and control devices and procedures; witnessing of production measurement devices and methods; and inspection of workover, recompletion and abandonment operations on old wells.

Approximately 1,495 accounts will be maintained to account for about $260 million in revenue that will be collected in FY 1971. Audits will be conducted on about 750 of these accounts during the year.

Status of program: Industry activity on OCS mineral leases, including exploration, leasing, drilling, production and transportation facilities, has increased about 25 percent per year from 1960 through 1968. Funding for management and supervision has increased about 19 percent through the same period. The OCS now provides over 8 percent of domestic petroleum production. The OCS produced 307 million barrels in 1969, up more than 14 percent from 1968. Current development activity on leases sold before 1969 shows that even greater increases in production can be expected in 1970 and 1971.

Highlights of recent accomplishments: Random overflights and inspections to detect pollution were instituted on a modest scale in FY 1970 in the Gulf Coast area. This permitted several incidents of pollution to be observed as they were occurring providing opportunity to definitely identify sources, fix responsibility, and enforce immediate corrective and abatement procedures. Follow-up investigation of these and other cases shows that more comprehensive analysis of pollution control plans and equipment and more frequent inspections would substantially reduce pollution occurrences.

(b) Resource evaluation - marine minerals: FY 1970, $976,000; FY 1971, $1,073,000; increase, $97,000.

Need for increase: Analysis of exploratory geophysical data is essential to pre-sale evaluation of lease tracts offered for sale in undrilled (wildcat) areas. The increase is needed for purchase and analysis of geophysical data required for pre-sale lease tract selection and evaluation, and for analysis of the adequacy of lessee drilling proposals as to safety and prevention of pollution.

Program of work: Geologic data will be obtained from drilling on about 385 leased tracts in FY 1971, in order to build up knowledge of the geologic structure and reserves as a basis for evaluating adjacent or nearby unleased lands. Work will be concentrated in Gulf Coast areas, mostly off Louisiana and Texas where unleased tracts are tentatively planned to be sold before the end of FY 1971.

Two lease sales have been proposed in undeveloped areas of the OCS which will require pre-sale tract evaluation in FY 1971. In order to assure fair market value return from the sale of such leases, geophysical data must be obtained and interpreted for an area of about 10,000 square miles for each sale. Some of this geophysical data may be available through the Geological Survey's marine geology program, or through research contracts with oceanographic institutions, universities, and other nonprofit institutions, but a large part of it must be obtained through contract purchase from geophysical service companies.

Geologic and geophysical data obtained from developed leases and geophysical data obtained by any of several means will be utilized in the interests of drilling safety and pollution prevention in reviewing new lease development plans, notices of intention to drill new wells, and proposed field development rules. Geologic reviews of development proposals will be made for about 350 leases for which field rules governing drilling have not been approved, and on which 825 wildcat or development wells are expected to be drilled in FY 1971.

Status of program: Under Federal regulations, OCS lessees must make available to the Government the well data, and certain geophysical information gained in their exploration of leased areas. Because of the pattern of OCS leasing, analysis of geologic and engineering data from areas already leased provides valuable insight into the mineral character of adjacent unleased areas.

The Geological Survey is developing greater operational capability to interpret exploratory geophysical data which is usually the only information available for estimating the value of oil and gas resources in undeveloped areas.

Both geology and geophysics are utilized to determine fair market value of leases prior to sale. Both are also used to evaluate lease exploratory and development drilling proposals and prescribe measures for protecting resources and the ocean environment.

Highlights of recent accomplishments: The increased operational capacity to interpret geologic and geophysical data has resulted in the identification and evaluation of 34 tracts of unleased OCS as being subject to drainage by adjacent production. It has been recommended that these drainage tracts be offered for competitive leasing during FY 1970. It is anticipated that the Federal Government will benefit greatly by the early detection of drainage of unleased tracts and evaluation of wildcat acreage which this program provides.

(c) Resource management - oil and gas, Federal and Indian lands: FY 1970, $2,754,000; FY 1971, $2,920,000; increase, $166,000.

Need for increase: The increase is needed to provide three additional permanent positions and travel funds to increase the inspectional capability of the oil and gas program onshore. The improved inspection capability will assure operational safety, resource protection and early detection and correction of pollution.

Program of work: During FY 1971 there will be 2400 new wells drilled on Federal and Indian oil and gas leases. The proposed drilling and casing procedure for each new well will be analyzed prior to approval of drilling to insure safety from blowouts, protection of other resources, and prevention of pollution. About 1400 of the new wells will be inspected once during drilling operations.

The 11,500 producing leaseholds which will be under supervision in FY 1971 each require several inspections including a detailed field lease investigation, a general lease pollution check and the witnessing of specific leasehold operations such as well tests, well workovers, and production measurements. It is expected that a total of 23,000 inspections will be made in FY 1971.

Nearly 12,000 new noncompetitive oil and gas lease applications will be reviewed to determine if the lands involved should more properly be leased competitively.

The mineral potential of 45,000 acres of Federal lands will be evaluated before it is leased by competitive sale.

During 1971, 13,700 royalty accounts will be maintained. An estimated 2600 of these accounts will be audited.

Status of program: The Federal-Indian onshore lands provide about 6 percent of domestic petroleum production or about 40 percent of all petroleum production from leased lands under Government supervision.

Industry activity has increased at about 3 percent per year. Current development trends indicate that production and income will continue to increase through 1971. Increasingly complex operations and the need for more attention directed to safeguarding the environment result in greater workload increases. These concerns are reflected in the recent workload analysis and program planned for implementation in coming years.

Highlights of recent accomplishments: Savings in income and conservation of reservoir energy have resulted from early detection of gas flaring in the new oil-producing fields of northeastern Wyoming. Orders to limit flared gas resulted in gas processing plants being built during the year. Frequent, repeated inspection is necessary in these cases to assure that gas production does not exceed the gas plant capacity and result in waste of natural gas.

(d) Resource management - coal and non-energy minerals, Federal and Indian lands: FY 1970, $1,014,000; FY 1971, $1,111,000; increase, $97,000.

Need for increase: The increase is needed to implement new Departmental surface mining regulations for Federal and Indian lands, approved January 1969, and to improve the mobility of existing technical staff in order to permit additional lease and mine inspections in the interests of mine safety, resource protection, and pollution control.

Program of work: The Secretary's new surface mining regulations for Federal lands (43 CFR 23) and Indian lands (25 CFR 177) require Survey mining engineers to make with the Bureau of Land Management, Bureau of Indian Affairs, and Forest Service joint technical examinations of lands involved in mineral lease and permit applications to determine the required measures to control erosion, prevent water and air pollution, protect wildlife, and prevent hazards to public health and safety.

Approximately 950 applications will be received and about 550 field inspections will be made in FY 1971 in connection with these new regulations. These are in addition to 750 investigations and reports in response to mineral permit applications to determine whether mineral deposits are subject to the prospecting or leasing provisions of the Mineral Leasing Act. One thousand producing mines and mineral prospecting operations on leased Federal and Indian lands will be inspected once during the year to assure safety, resource conservation, and environmental protection. About 600 lease accounts will be maintained and audited to assure accuracy of royalty charges and collections.

Status of program: Coal production from Federal and Indian leaseholds amounted to 10.2 million tons in 1969, or about two percent of the total U. S. domestic production. It is expected to nearly double in FY 1971 and continue to increase sharply thereafter as new large coal-fired power plants under construction are completed; and as coal gasification plants, now in pilot and development stages, become feasible on a large scale. Most of this increased coal production in the immediate future will come from surface mining operations on Navajo Indian lands.

Federal and Indian leases also contributed significantly to national production of other minerals. More than 27 million tons of minerals, primarily potassium, soda ash, phosphate, and sand and gravel with lesser amounts of uranium, quartz, tripoli, feldspar, barite, copper, lead, zinc, silica and gilsonite were produced in FY 1969.

Mineral production from Federal lands has been increasing by an average rate of 10 percent a year. This growth rate is expected to continue through 1971. Production of sodium, almost doubled during 1969, mostly from trona in the Green River Basin of Wyoming where 3,741,000 tons were processed into 2,112,000 tons of soda ash. Soda ash plants in this area are currently being enlarged as more and more obsolete Solvay plants are being phased out in the East.

Highlights of recent accomplishments: Survey engineers are working with Consolidation Coal Company in the initial development of about 800 million tons of low sulphur coal reserves on Federal, State, and railroad leases near Colstrip, Montana. The coal will be used for industrial and utility purposes and for the production of synthetic fuel, gasoline, pipeline gas and char in the future.

Coal reserves, amounting to several billion tons, have been found by prospecting on the Navajo Indian Reservation under the technical supervision of the Survey. The Navajo mine near Fruitland, New Mexico, now produces about 2.5 million tons annually. The coal is burned by a nearby mine mouth power plant. Its installed capacity is being expanded to 2,085,000 KW by 1970 and the coal production from this mine will reach 8.5 million tons by 1971. Preparations are under way to begin strip mining coal on Black Mesa in northeastern Arizona some time during 1970. This coal will be transported by a 275-mile 18-inch pipeline to a new 1,580,000 KW power plant being built near Davis Dam on the Colorado River in Nevada.

(e) Resource evaluation - mineral land classification: FY 1970, $664,000; FY 1971, $664,000; no change.

Program of work: About 500,000 acres of Federal lands will be mapped geologically, including structural analysis and interpretation, supplemented with sampling and trenching when necessary. About a million acres of mineral land withdrawn pending classification or identified as prospectively valuable will be formally classified and, if withdrawn, recommended for restoration. Where appropriate, mineral rights will be retained in Government ownership. About 8,000 individual case reports involving retention, disposal, and multiple land use will be made to agencies involved with management of Federal lands.

Status of program: More than 250 million acres of public lands have been identified as having a prospective potential for development of leasable minerals. A systematic detailed program has been in progress for many years to determine the mineral value of these lands. It consists of comprehensive surface and subsurface geologic surveys and investigations which provide the knowledge of the geologic framework necessary to properly determine the classification factors of quality, thickness, depth and extent of leasable mineral deposits. This classification program is directed primarily to preserving the Government's right to valuable minerals in the event of surface disposal of land containing them, thus keeping them available for future lease by the Government as development is required. It is also directed to determining if mineral deposits are subject to lease through prospecting permits or by competitive sale.

Most of the potentially valuable mineral lands have not been systematically inventoried and classified. Since leasing and disposal are continuous activities on Federal lands, classification determinations and reports must respond case-by-case to leasing and disposal applications. Responses to these cases must be kept current regardless of other workload. This reduces the effort which can be directed to systematic accumulation and analysis of the basic data needed for reliable classification decisions. The value of these determinations and reports obviously increases as more basic data is collected and the quality of the analysis on which they are based is improved. The frequent result of inadequate data is the issuance of noncompetitive leases where competitive leases would have been issued had all facts been known. This results in financial loss to the public from decreased rentals and loss of bonuses. Classification determinations for land disposal which are incorrect because of inadequate data or analysis can result in unintentional disposal of valuable Federal mineral rights.

Highlights of recent accomplishments: The coal resources in the Denver Basin in Colorado, south of the South Platte River, were re-evaluated in 1969 as a result of the completion of the geologic mapping for coal land classification of six 7½' quadrangles (208 square miles). The new information indicates that the coal resources of this area are about 38 billion tons, more than seven times the previous estimate of about five billion tons.

41-447 O - 70 - pt. 1 -- 71

(f) Evaluation and classification - water resources on Federal land: FY 1970, $342,000; FY 1971, $342,000; no change.

Program of work: Nine river basins in six western states and Alaska will be investigated in FY 1971. These involve approximately 300,000 acres of public lands withdrawn or classified as waterpower or reservoir sites. Withdrawals and classifications will be removed from those Federal lands found in the light of current information to have little potential for the development of water resources. Continued emphasis will, however, be directed toward identifying and classifying potential reservoir sites on Federal lands, including those planned for pumped storage development, in order to preserve such sites from incompatible uses that would forestall efficient future water resource development.

About seven hundred reports will be prepared on the potential damage to future water resources development of proposals involving disposal or multiple-use of public lands. Most of these reports are directed to the Bureau of Land Management and the Federal Power Commission.

Status of program: Reservoir sites for regulation, storage, and conservation of surface water are physically limited in number and practical sites are becoming increasingly scarce due to the rapid expansion of resource planning and development and to the encroachment of non-storage use. The Geological Survey conducts a continuing engineering program in an effort to assure their availability to meet future needs, and to identify, evaluate, and preserve Federal lands in such sites from disposal or incompatible land uses that would forestall efficient river basin development.

Early withdrawals and classification made with limited map and streamflow data are being systematically reviewed as accurate maps, current streamflow data, and other information become available. This program was begun in 1956 and by the end of FY 1971 studies will have been made in 97 separate areas covering about 2.6 million acres of land classified or withdrawn for water resource development, leaving a total of about 4.8 million acres to be reviewed. Of the area reviewed to date, about 40 percent has been recommended for removal from withdrawals or classifications.

Highlights of recent accomplishments: The open-file report, Review of Waterpower Classifications and Withdrawals, Deschutes River Basin, Oregon (1969), contains much useable information on water resource developments and the potentials for future developments in that basin. Lands that may be affected by the potential projects are identified and, where necessary, are withdrawn.

The open-file report, Paterson Ridge Pumped-Storage Site, Washington, (1968), was the principal initiating element in a continuing study of one off-stream (Columbia River) storage site in which many uses, such as irrigation, thermal plant cooling, pollution control and abatement, fish and wildlife enhancement, and numerous outdoor recreational opportunities, may be coordinated to pay for a project that would benefit many interests in the basin.

The open-file report, Waterpower Resources of Idaho (1965), has received much favorable comment and is widely used by public and private groups and individuals. Recently, it was used as a principal source of reference in a study of water storage sites in Idaho, conducted by the University of Idaho for the Idaho Water Resources Board.

An outstanding example of the benefits of water development site withdrawals is found in the recently completed Oroville project, California, where savings in land acquisition and right-of-way relocation costs were estimated at $7,000,000. Similarly, combined savings in land acquisition costs for the Curecanti, Flaming Gorge, and Glen Canyon project in the Colorado River Basin are estimated at more than $3,000,000.

OCS LEASE MANAGEMENT

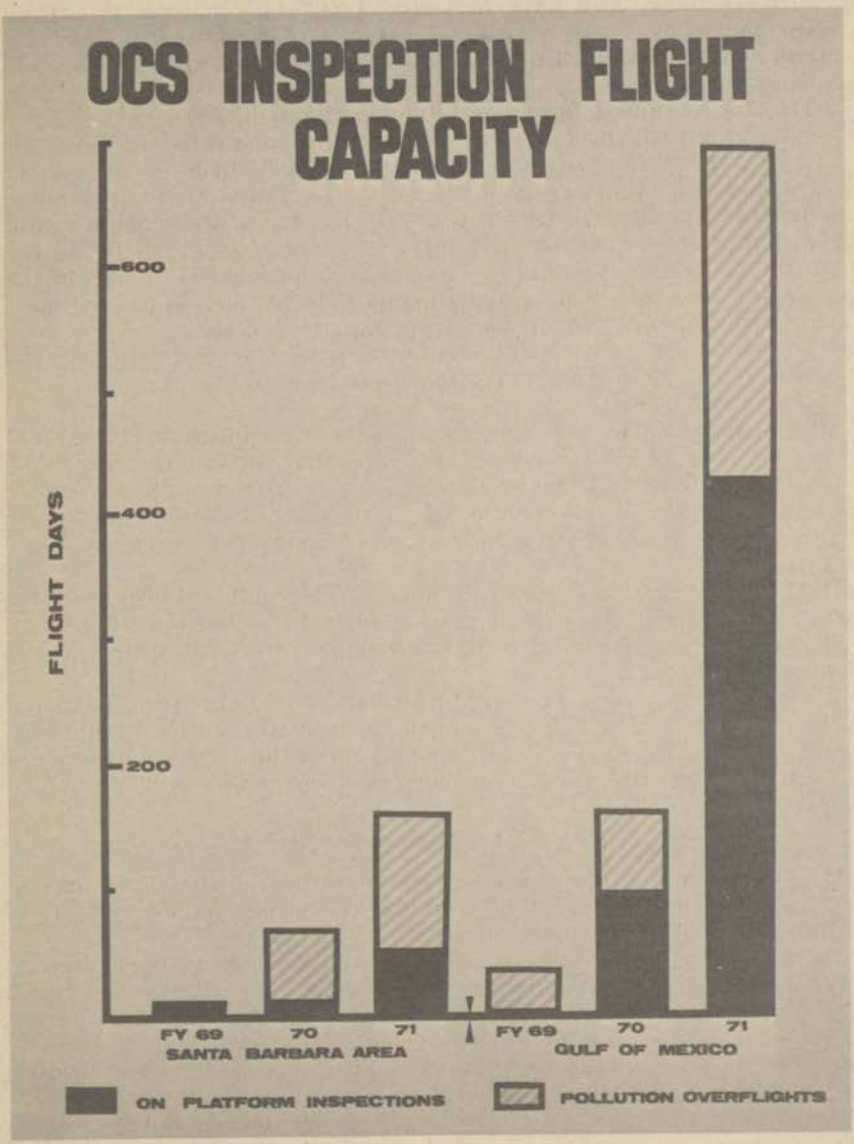
Mrs. HANSEN. You have requested a $419,000 increase to expand lease management supervision and inspection of rapidly growing OCS oil and gas operations. Do you have anything to add to your comments of this morning?

Dr. PECORA. Just a few comments which I could add to this.

Last year with the funds provided by this committee we were able to increase substantially the number of people involved in offshore lease management. The number of people this year would not increase, as you note, by the reference in the budget justification, because we did get a good start last year. However, if there is any freedom in the personnel ceiling we would like to add more people to this part of the program. The funds this year will be largely for mobility potential—increased capability to get our inspectors to the scenes of action.

I have a chart to show this committee what has happened over the period of 1969 to 1970 and what is projected for 1971.

(See chart below:)


OCS INSPECTION FLIGHT CAPACITY
FLIGHT DAYS
600
400
200
FY 69
70
71
SANTA BARBARA AREA
FY 69
70
71
GULF OF MEXICO
ON PLATFORM INSPECTIONS
POLLUTION OVERFLIGHTS

Dr. PECORA. If these funds are granted to us we will increase this capacity both in Santa Barbara and in the Gulf of Mexico, which is where the principal offshore activity exists.

Mrs. HANSEN. Is this why you are requesting an increase?

Dr. PECORA. Yes. We will increase the amount of pollution overflights and platform inspections, both activities, being done with aircraft. For some of the platform inspections particularly in a drilling program, our inspector could hitch a ride with a company helicopter going out to a platform if it is for the purpose of looking at a particular device which has been installed which must meet our approval. But if in the regular course of business our staff wishes to have an overflight or visit a platform to make a sudden inspection of a device or to review certain activities, then we need to have our own mobility. We would not want to rely on company operated flights. Most of these funds will be creating this needed additional mobility.

GEOPHYSICAL DATA EVALUATION PRIOR TO LEASE SALE

Mrs. HANSEN. You are requesting $97,000 to acquire and analyze OCS geophysical data for presale tract selection. Justify this request.

Dr. PECORA. Last year this committee gave us in excess of $400,000 to start this program. This increase will be added to that basic program to acquire geophysical data primarily, and some slight increase in the area of geology.

We would be purchasing many hundreds of line miles of geophysical surveys available in the private market for sale, rather than run our own geophysical surveys or to contract on our own for special geophysical surveys.

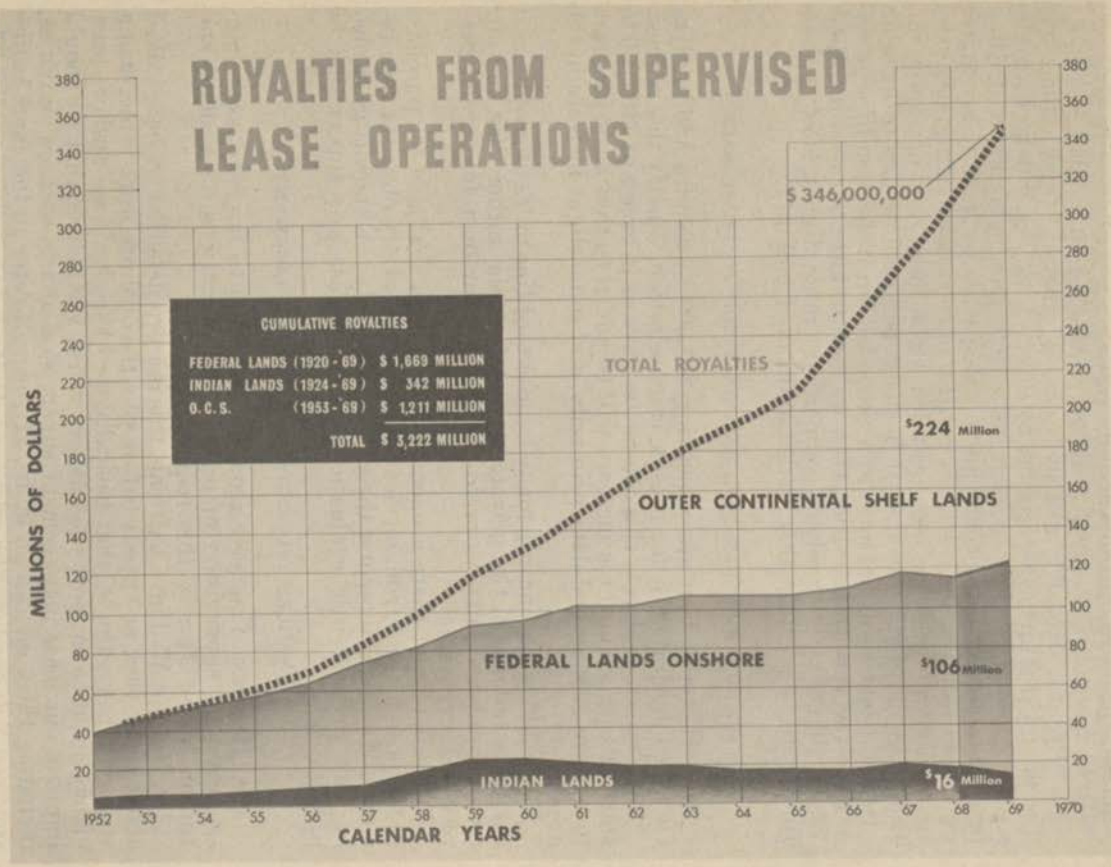
We believe that there is enough information available for purchase in the open market from service companies to satisfy our data requirements. We would interpret these data and apply the knowledge gained in both prelease sale evaluations and postlease sale supervision of operations.

ONSHORE OIL AND GAS LEASE MANAGEMENT

Mrs. HANSEN. You have requested $166,000 to improve lease management and supervision of oil and gas operations on Federal and Indian leases. Justify this request.

Dr. PECORA. Madam Chairman, this is a problem that we have talked about every year we appear before you, the offshore work is increasing at a very fast pace, so that basically we have sacrificed onshore lease management to support the offshore work. We believe that we should improve our lease management supervision at the onshore activities, including those on Indian lands. If you will refer to the chart before you, you will see how the onshore activity is increasing rapidly. The next chart is intended to show the income received from these activities.

(See charts below:)


ROYALTIES FROM SUPERVISED LEASE OPERATIONS
$ 346,000,000
TOTAL ROYALTIES
CUMULATIVE ROYALTIES
FEDERAL LANDS (1920-'69) $ 1,669 MILLION
INDIAN LANDS (1924-'69) $ 342 MILLION
O.C.S. (1953-'69) $ 1,211 MILLION
TOTAL $ 3,222 MILLION
$224 Million
OUTER CONTINENTAL SHELF LANDS
FEDERAL LANDS ONSHORE
$106 Million
INDIAN LANDS
$16 Million
MILLIONS OF DOLLARS
CALENDAR YEARS
380
360
340
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
1952
53
54
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56
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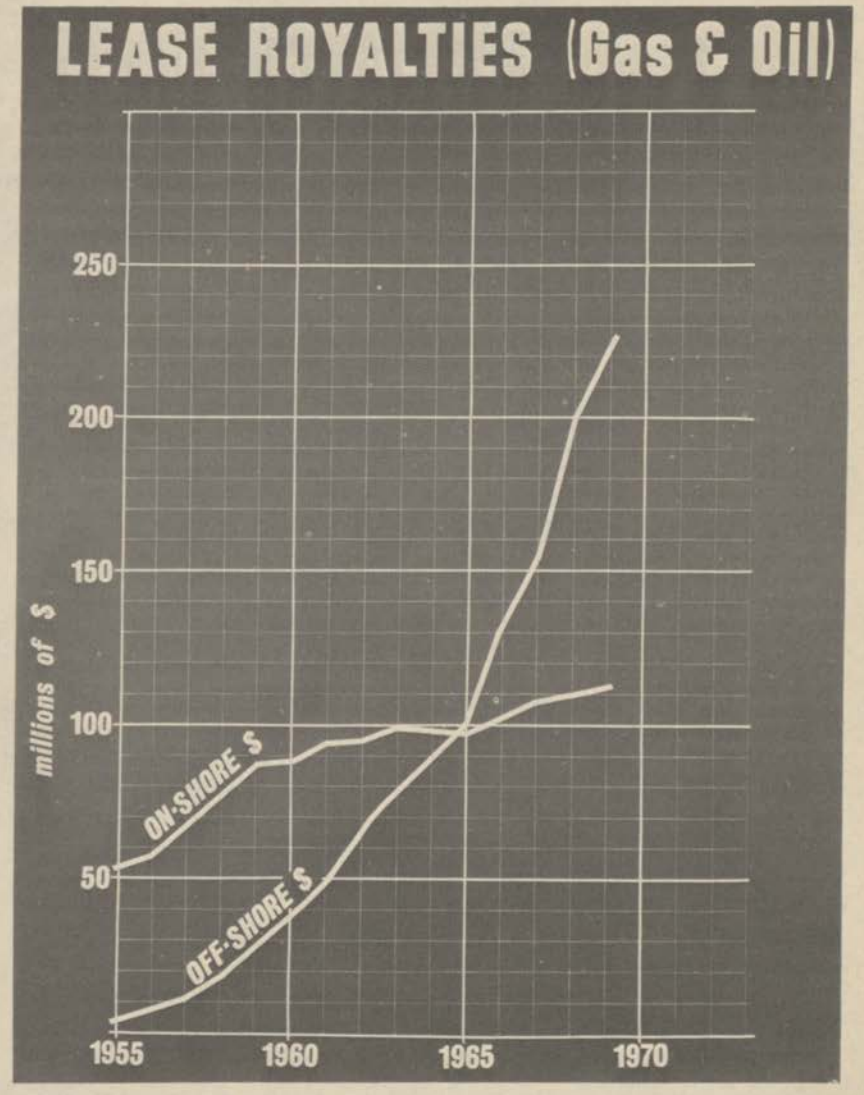
67
68
69
1970


LEASE ROYALTIES (Gas & Oil)
millions of $
250
200
150
100
50
ON-SHORE $
OFF-SHORE $
1955
1960
1965
1970

Dr. PECORA. Mrs. Hansen, you referred last year, I believe it was, to the situation on Indian lands where the trend of income was on the decline and likewise where onland the income was not commensurate with the income offshore. We believe this is partly the fault of too little data acquisition. We need to get as much information as rapidly as we can so that we can identify certain areas that could be put up for lease-sale. The situation on Indian lands is a little different from that on the public lands, because decisions are essentially made by the people within the Indian service. We make the principal decisions in conjunction with the Bureau of Land Management for public lands, and I believe that continuing discussions with representatives in the Indian service may ameliorate the situation on the Indian lands.

We believe, frankly, that we are more realistic in the Geological Survey in our methodology of evaluating and leasing lands to private enterprise. I believe that on many Indian lands there is an attempt to perhaps get too high a rate of royalty or too high a competitive bonus. Therefore, the private companies have a tendency to avoid Indian lands under those conditions and move to other lands.

I believe we could improve this situation with continuing discussions with the Indian service.

MINERAL LEASE MANAGEMENT

Mrs. HANSEN. You have requested $97,000 to improve lease management and supervision of mineral prospecting and mining operations on Federal and Indian leases. Justify this request.

Dr. PECORA. Dr. Wayland may wish to add some comments at this point.

Dr. WAYLAND. The mining workload has increased considerably because of the problems of protecting the environment and controlling pollution and the need to coordinate our inspections and our appraisals and our evaluations with the Bureau of Land Management in particular, and also with the Forest Service under much more rigid procedures as now prescribed by new regulations.

We find, for example, that our workload on surface restoration is up 50 percent in the time per inspection and that we are required to make 2.5 times as many inspections as we were previously required to make. Of course, we simply can't do this. So we are not meeting the requirement put upon us.

With respect to the evaluation, we find that the workload increases in the quantitative and semi-quantitative type of evaluation are up approximately three times. A few years ago we simply made no attempt to be quantitative in this regard and used our best estimates and experience with similar mineral deposits in the neighborhood.

Mrs. HANSEN. Thank you.

EARTH RESOURCES OBSERVATION SATELLITE

Mrs. HANSEN. Insert pages 56 and 57 of the justifications in the record.

(The information follows:)

8. Earth Resources Observation Satellite (EROS) Program

FY 1970, $1,100,000; FY 1971, $1,600,000; increase $500,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
$+500,000	+4	$1,600,000	12	To establish a capability to experiment with ERTS-A satellite data and to conduct environmental remote-sensing research.

Cost Factors Involved in Increase

Four permanent positions, $70,000; equipment and research contracts for transposing photo images into electrical signals and for further experimental processing into information units such as surface water distributions, $250,000; contracts for evaluation of a land classification system and to further investigate applications of spacial filtering techniques to urban classification, $180,000.

Need for increase: The proposed increase for FY 1971 will broaden the base of participation in the EROS program by increasing the amount of in-house and contract research that can be accomplished prior to launch of the NASA's ERTS-A satellite in early CY 1972. The results of such research will provide the plans for experiments to be conducted with the data received from the ERTS-A satellite.

Program of work: The proposed program for FY 1971 will include the following activities:

1. Applications research-Selected research in data extraction and thematic mapping methods, both in-house and under contract, using ERTS-A analog data and other remote sensor data for application to resource and environmental problems ($0.6 million).

2. Data use readiness-Development of limited technical procedures and organization within elements of certain Interior Bureaus to apply experimental techniques, using ERTS-A data, to resource problems ($0.6 million).

3. Program management-Overall program administration and management to achieve long-term objectives and short-term goals by investigating selected engineering systems and techniques and organizational procedures to promote the use of spacecraft and aircraft-collected resource data and to coordinate the limited resource experiments to be conducted with ERTS-A data ($0.4 million).

The tasks to be attacked during 1971 involve research into applications of ERTS-A and related remote sensor data to both regional and topical problems. As an example of regional research, the Tennessee Valley Authority is investigating the use of space-collected data in all of their resource management programs, such as land use, forest inventory, water pollution, strip mine reclamation, and detection and control of aquatic needs. In 1971 regional research will be conducted by 1) the State of Washington, Department of Natural Resources, 2) the University of Nevada, Desert Research Institute, and 3) South Dakota State University. An example of topical research is a study conducted under the Geographic Applications Program by several universities such as University of California at Riverside, Northwestern University, and University of Kansas, to determine the procedures by which land use and significant characteristics of urban areas can be evaluated from space-collected data. In 1971 topical research will be conducted by 1) South

Dakota State University (water resources), 2) University of Oregon (range management), and 3) several industrial firms concerned with extraction of topical information from space-collected images.

Selected applications research and data use readiness projects will also be conducted within the Geological Survey and a number of other Bureaus with the Department and will be directed to those specific resource and environmental programs which can make beneficial use of ERTS-A data in the volume and the form in which it will be provided by the NASA Reception Center.

Program management will be carried out by the EROS Program Office and will be directed to broad technological innovation and organization.

Status of program: The NASA Earth Resources Technology Satellite-A is scheduled for launch in CY 1972. The ERTS-A satellite will carry sensors specified by the Department of the Interior in collaboration with the Department of Agriculture.

NASA plans for data processing include basic processing to pictorial form of all image data received from ERTS-A, but provide for special processing (of the type required for EROS experimentation) of only about 5 percent of the total data. Experiments for Interior Department applications will involve primarily use of that specially processed data, and will necessarily be limited to those experiments requiring low data rates, those where timeliness of data is not a significant factor, and those requiring minor reduction and interpretation of data.

Experiments will be selective in terms of geographic areas involved, institutions, and individuals participating, and will necessarily emphasize use of the data in a distinctly experimental and research form as opposed to experimentation in operational use on the broader scale heretofore envisioned.

Based on the initial experimentation with the data from ERTS-A and ERTS-B satellites, later experiments supported by more adequate data use facilities may be needed to provide a broader test of operational utility of such data as a basis for design and flight of later operational systems. Such second generation experimental data reception and use systems would differ from those supporting ERTS-A and ERTS-B in the following respects:

1. A greater percentage of collected data would be processed for user experiments.

2. Rapid data processing and dissemination techniques would be utilized to enable users to conduct experiments on the timeliness and use of perishable environmental data.

3. A larger number of individual users and user organizations would be involved in experiments with ERTS data applications to their particular problems and applications.

4. Reception centers could be relocated to provide real-time data readout for the entire conterminous United States.

CONTRIBUTIONS BY OTHER AGENCIES

Mrs. HANSEN. Will you please insert in the record a listing of the contributions of other agencies to this project and indicate the amount contributed by each agency.

(The information follows:)

INTERAGENCY EFFORT IN EROS PROGRAM—AGENCY AND CONTRIBUTION

National Aeronautics and Space Administration	$1,500,000.
Department of Agriculture	Staff salaries and research.
Naval Oceanographic Office	$550,000 for aircraft support and staff.
Department of Defense	Data acquisition flights and surplus equipment.
Department of Commerce	ESSA satellite data.
Tennessee Valley Authority	Scientific and engineering manpower in evaluation of forthcoming ERTS data for resources management application—more than 2 man-years.

	Man-weeks	Funds
Department of the Interior (other than Geological Survey):		
National Park Service	14	
Bureau of Sport Fisheries and Wildlife	21	
Bureau of Commercial Fisheries	12	$12,000
Federal Water Pollution Control Administration	6	
Bureau of Indian Affairs	16	
Bureau of Land Management	7	
Bureau of Mines	10	
Bureau of Reclamation	44	
Office of Water Resources Research	2	
Bureau of Outdoor Recreation	16	
Office of Saline Water	2	
Office of Territories	1	
Bonneville Power Administration	2	
State of Washington [1]		
Delaware River Commission [1]		
University of South Dakota [1]		
Desert Water Research Institute [1]		

[1] The contribution of these organizations to the cooperative effort cannot be fully quantified, but the total is significant

JUSTIFICATION OF INCREASE

Mrs. HANSEN. Justify your request for a so-called increase of $500,000 for total funding of $1.6 million. Do you anticipate that these funds will be placed in reserve?

Mr. HITE. We can't say, Madam Chairman, that we anticipate these funds will be placed in reserve. We feel we will be permitted to expend them.

We have not been advised of the continuation of expenditure controls in 1971, therefore we have no basis to believe that these funds would be impounded.

Dr. PECORA. It would be my hope they would be used, particularly in view of the fact that the NASA part of the EROS/ERTS program in fiscal 1970 calls for some $15 million and in 1971 $40 million. It would hardly seem realistic to me to have $500,000 for our user part of the program diverted when the experimental hardware part of the program would be reaching that magnitude.

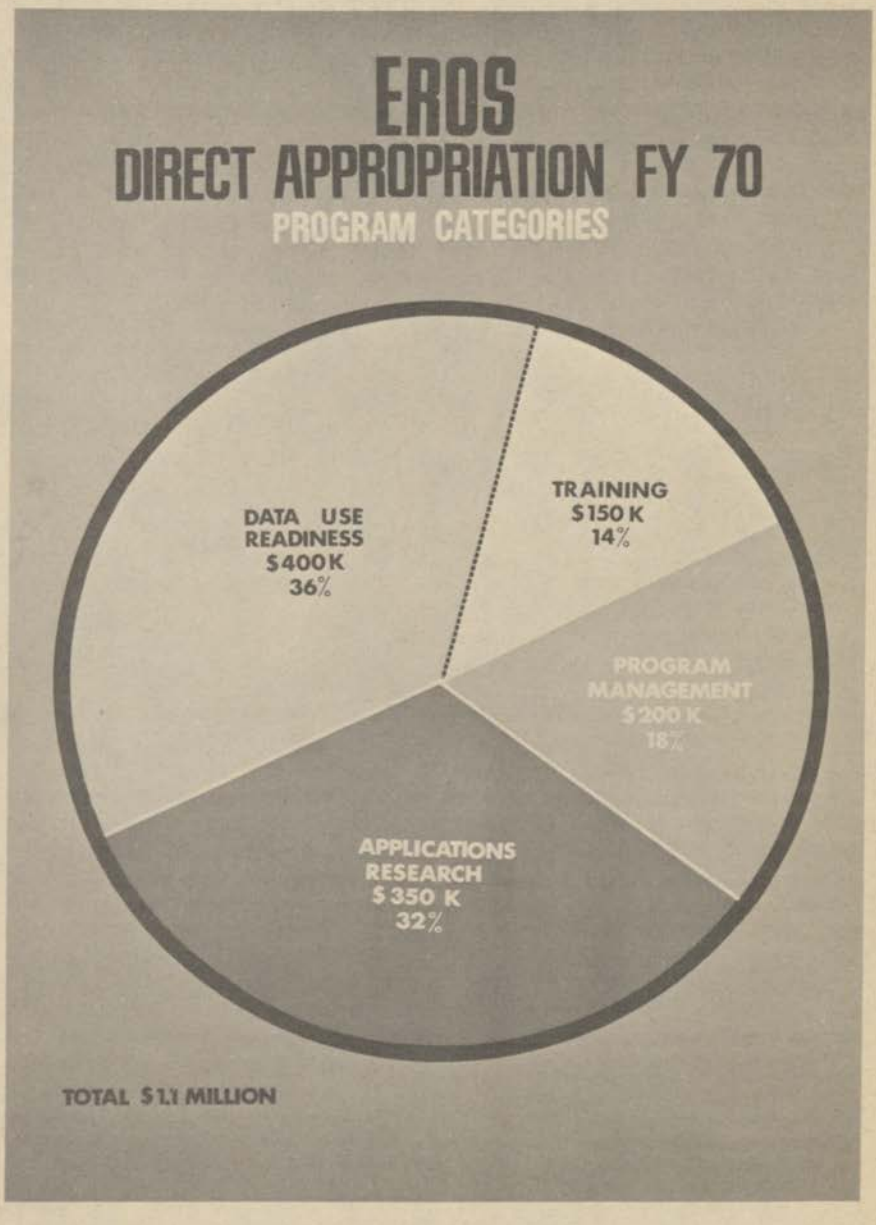
The success of the program is not in the ability to put a satellite in orbit and to keep it in orbit. The success of the program is to achieve that as part one, and then part two, to use the data for the benefit of mankind.

So I hardly think there would be any attempt to confiscate or reapportion these funds.

Mrs. HANSEN. I sincerely hope not. What are your specific plans of operation for fiscal year 1971?

Dr. PECORA. I should like to have Mr. Fischer respond to that question with the use of this chart, which breaks down the use of our funds both for 1970 and 1971.

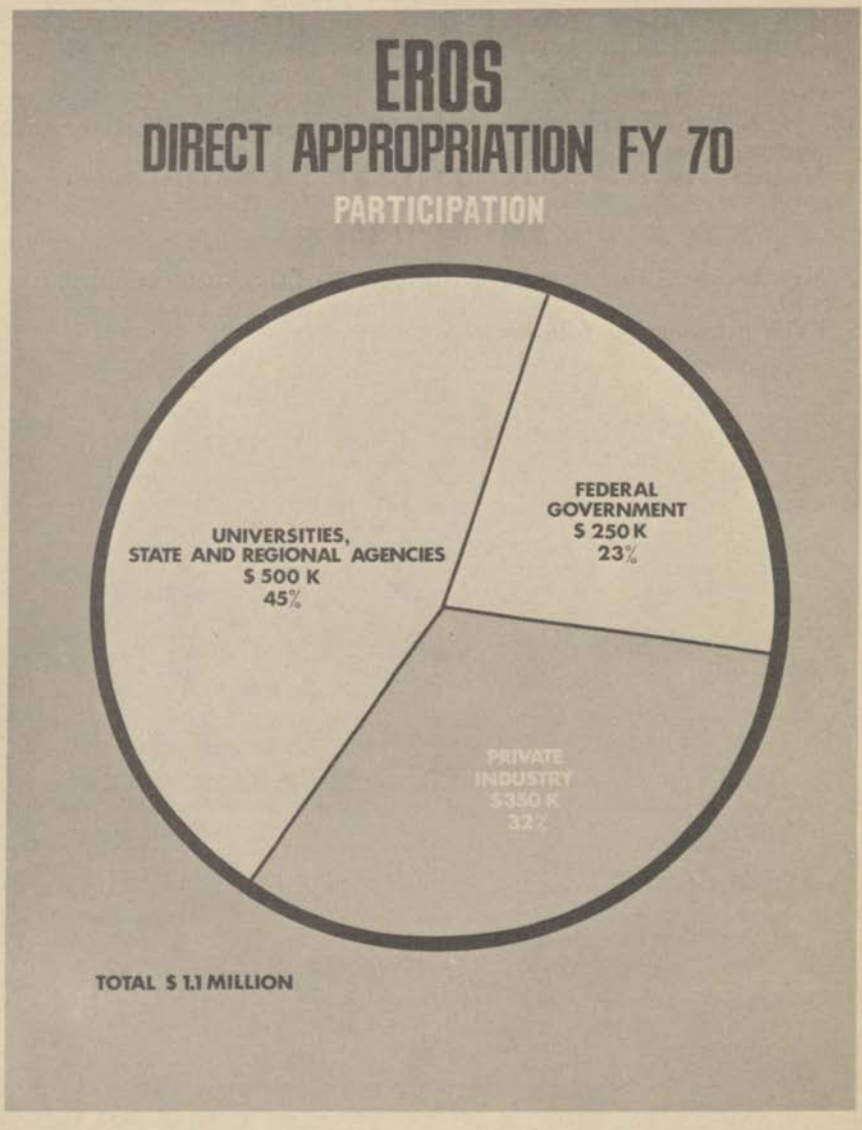
(See chart below:)


EROS
DIRECT APPROPRIATION FY 70
PROGRAM CATEGORIES
DATA USE READINESS $400K 36%
TRAINING $150K 14%
PROGRAM MANAGEMENT $200K 18%
APPLICATIONS RESEARCH $350K 32%
TOTAL $1.1 MILLION

Mr. FISCHER. If I may, Madam Chairman, these are categories of funding for 1970. We estimate that the general division among program elements on a percentage basis for fiscal year 1971 would be about the same. Data use readiness, which includes training, is about half of the program. This is the part of the program aimed at defining specifically how we get the data to the end user. $200,000 is for program management, and $350,000 to increase the number of applications to which the data can be put.

The general breakdown of 1970 funds by organizational distribution is shown here. Again these percentages would probably still apply in 1971. $500,000 would be applied through universities, State and regional agencies; Federal Government would receive about 23 percent for use within the Geological Survey and in other bureaus of the Department; private industry would use about $350,000.

(See chart below:)


EROS
DIRECT APPROPRIATION FY 70
PARTICIPATION
FEDERAL GOVERNMENT
$ 250 K
23%
UNIVERSITIES, STATE AND REGIONAL AGENCIES
$ 500 K
45%
PRIVATE INDUSTRY
$350 K
32%
TOTAL $ 1.1 MILLION

Mr. FISCHER. I would like to take a moment if I may to make a point that industry made with me, and I think is important. They have been deeply grateful for participating in this activity because, as they point out, it gives them an opportunity for insight into the needs for data and resources information that they can get in no other way.

People are looking to them to help through their technology in solving some of our environmental, and resource problems. Here is an opportunity they respect and welcome.

Mrs. HANSEN. Thank you.

GENERAL ADMINISTRATION

Mrs. HANSEN. Insert pages 58 through 60 of the justifications in the record.

(The information follows:)

9. General Administration

FY 1970, $2,613,000; FY 1971, $2,604,000; decrease, $9,000.

	FY 1969 Amount Available	FY 1970 Amount Available	FY 1971 Estimate	Increase (+) or Decrease (-) 1971 Compared with 1970
General administrative expenses	$2,413,616	$2,613,000	$2,604,000	$ - 9,000

Program of work: General administrative expenses provide for management, executive direction and coordination, and administrative support to the Bureau as a whole. This includes such essential functions as budget, finance, personnel, contract negotiation and administration, property management, organization and methods and management analysis.

Other administrative funding: General administrative expenses of the Geological Survey are financed in part by assessments on direct program funds and on funds from other Federal agencies and sundry non-Federal sources (no assessment is levied on cooperative funds from State and local governments).

Details of funding are shown in the table on the next page.

The increase in 1971 will be used for the following programs:

Executive Direction - At a time when the Nation faces dramatic population growth, industrial expansion, and environmental stress,a resource science agency, such as Geological Survey, faces major management responsibilities. Management objectives and policies must be sensitive to the emerging resource and environmental issues. Measures must be devised to evaluate alternatives in scientific programing, achieve a properly coordinated attack which will make the most effective use of the inter-disciplinary competence of Survey and exercise proper guidance of a variety of divisional operations directed to most critical resource and environmental problems.

Geological Survey experience with such thrusts such as EROS, Arctic resources, and urban studies illustrates this need. The increase of funds requested for 1971 is aimed at fulfilling it.

Program Evaluation - Headquarters - A complete study of the Washington Headquarters Administrative-Management program is being considered for FY 1971. It would include all Bureau level administrative components and be addressed to the related organization structure, functions, staffing, and workload problems. Advancement in administrative computer oriented systems and scientific program growth and change have caused a variety of relatively unplanned administrative support accommodations and adjustments during the past two decades. A thorough study to evaluate the effectiveness and efficiency of organization alternatives, new concepts in administrative management, and possible functional realignments is considered a priority item.

Program Evaluation - Regional Field Centers - A program of joint management review of all administrative programs will be initiated in 1971 to evaluate the efficiency and effectiveness of the administrative management program at the Regional field centers and other major field installations. On site evaluations will be made by teams comprised of personnel, accounting, procurement, space or other administrative specialists representative of the program Divisions, as appropriate. The development of a Survey-wide program for evaluating the effectiveness of administrative management is essential to ensure that top management has the necessary information to provide a balanced, responsive program of administrative support.

Field Program - The field program of the Administrative Division is provided by the

Funding of General Administrative Expenses
(Dollars in thousands)

	FY 1969	FY 1970	FY 1971	Increased costs associated with ongoing programs	Administrative costs associated with program increases
Source of Funds for GAE:					
Surveys, Investigations, and Research:					
1. Special resource and environmental projects	-	-	50	-	50
2. Alaska pipeline related investigations	-	4	25	1	20
3. Topographic surveys and mapping	-	139	232	55	38
4. Geologic and mineral resource surveys and mapping	-	149	204	55	-
5. Minerals discovery loan program	-	1	1	-	-
6. Water resources investigations	-	152	283	61	70
7. Conservation of lands and minerals	-	35	75	15	25
8. Earth resources observation satellite	-	5	24	3	16
9. General administration	2,414	2,613	2,604	- 9	-
Total, SIR	2,414	3,098	3,498	181	219
Other funds (primarily other Federal agencies, FPC permittees, and foreign governments)	1,171	1,257	1,233	-	- 24
Total, general administrative expenses	3,585	4,355	4,731	181	195
Relationship to total bureau program:					
SIR:					
General administrative expenses	2,414	3,098	3,498		
Bureau total (New Obligational Authority)	90,917	99,788	105,757		
Ratio, GAE to total NOA	2.7%	3.1%	3.3%		
State and local governments	0%	0%	0%		
Other funds	4.5%	4.5%	4.5%		
All funds:					
GAE	3,585	4,355	4,731		
Total bureau program	139,316	151,827	159,328		
Ratio, GAE to total	2.6%	2.9%	3.0%		

Pacific Coast Regional Office, located at Menlo Park, California and the Rocky Mountain Regional Office at Denver, Colorado. Field personnel offices are also located in Arlington, Virginia and Rolla, Missouri; and a Service and Supply Office at Anchorage, Alaska. Through these offices administrative support is provided to the scientific program in the field. Additional delegations of authority are planned to these field installations in the area of procurement, contracting, and personnel, in order that field problems can be solved in the field to the maximum extent possible.

Contracting and Procurement - The growth in negotiated-type research and development contracts and the increasing complexity and sophistication of equipment needs of the Geological Survey necessitate additional resources being allocated to the contracting program. During the last three years the Geological Survey has used prime contracts in an increasing amount for research and services. As evidence of expanding activity in this area, there were 42 research contracts and grants awarded in FY 1967; 84 in FY 1968; and 100 in FY 1969. A variety of types of contractual coverage is required for the diversity of projects in the Geological Survey. Increased emphasis will also be required in the administration phase of these contracts.

Financial Management - In the financial area, continued emphasis will be placed on improved procedures and methodology through utilization of a third generation computer and an optical scanner. Funds are also required to monitor and improve the Bureau's centralized accounting system and to participate in the development and improvement of the integrated payroll system for the Department of the Interior.

Personnel Management - It is planned to improve the position management classification program through application of various Survey-wide classification studies. Classification planning conferences are also planned which will involve top management, classification officers, (both departmental and field), and operating personnel. A classification maintenance program will be installed in 1971, which will involve cyclic audit and review of positions.

POSITIONS AND EMPLOYMENT CEILING

Mrs. HANSEN. You have 8,285 permanent positions authorized in 1970; your ceiling is 8,090. For 1971 you are requesting 8,285 permanent positions, whereas your personnel ceiling is 8,100. Why should the committee provide funds for the higher number of positions when your personnel limitations will not permit you to fill them?

Dr. PECORA. This is a problem I must face. Item: We would expect a substantial portion of the new funds to be oriented toward things rather than people, acquisition of mobility through helicopter contracts, for supplies, for photography, and things of this kind. I would hope that the personnel squeeze can be somehow or other modified so that we can get people to do this work that only people can do.

If I may ask our Assistant Director for Administration, Mr. McCornack, if he would like to extend my remarks on this at this time.

Mr. MCCORNACK. In the first place, it is a problem, I must grant you.

We would like to have 8,285 positions. We would hope there might be some change during the year. We could utilize that number of positions most appropriately. With the ceiling restriction we are forced to accommodate in one way or another.

Mrs. HANSEN. In what areas do you make your accommodations?

Mr. MCCORNACK. Well, in the first place, we can accommodate a lot through the use of transfer employees from time to time or from WAE's and other types of seasonal employees. We can get a great deal of activity out of these types of people by the proper use of them. That is about the only answer I can give.

Dr. PECORA. If I may ask Mr. Johanson to add some remarks from his program area.

Mr. JOHANSON. This merely accentuates a situation we faced from the very inception of our planning and programing for the budget for 1971. It was obvious from the start that the personnel squeeze would be intense and it would be progressively intensified. So we have had to anticipate that if we are going to meet the needs which we have discussed here today we will have to innovate, find ways to get work done through other devices, through appropriate use of contracting procedures with universities, with State surveys, perhaps a change in the balance of our effort in traditional programs.

As the director said, from the start if we are going to get the work done, we will need the money, we will then find a way and we will meet these needs in some appropriate fashion.

I think this merely means we will have to go further in this direction than we earlier anticipated.

Mrs. HANSEN. You have in your Bureau so many ingredients of knowledge upon which the life of this continent depends. It would seem to me that it would be very difficult to curtail personnel.

Dr. PECORA. I face this problem in the management of this institution. You can't contract everything outside; you can't let machines do all of the work. You have to have some real knowledgeable professional people to do planning and to get the work done.

Now, in the abridgment of personnel due to personnel ceilings, we have been contracting out each year for the last 3 or 4 years, and we are falling upon the truly knowledgeable professionals that we have had. But we are lacking the opportunity to feed the system with young

blood which we have done in earlier years. This to me is the greater tragedy.

Mrs. HANSEN. You are going to find yourself in 10 years without the necessary supply of people to supplant those who will retire?

Dr. PECORA. Exactly. This is what I foresee as the greater tragedy: If we do not build up the kind of personnel we need for future work, not only in the broad base programs of the Bureau, but also to attack the national issues and problems that come about, we will find ourselves unable in 3 to 5 years to handle such situations unless we reverse this terrible trend that we have been facing for the last 3 or 5 years.

EXECUTIVE DIRECTION

Mrs. HANSEN. Insert in the record information on positions and funding for your executive direction costs for fiscal years 1969, 1970, and 1971.

(The information follows:)

	Fiscal year—		
	1969	1970	1971
Positions	40	48	48
Dollars	$697,619	$883,000	$925,000

Mrs. HANSEN. Why do you need an increase for executive direction?

Dr. PECORA. The increase as you know is obtained by taxing program funds. The executive direction includes not only the normal areas of the executive office of the directorship in certain planning functions; it also encompasses certain special project areas where we have been attempting to use the entire survey, as I have said, as a striking force to attack some of these problems with all of the capability we have in the different divisions. I find that this is necessary. For the first time I feel comfortable that the director's office is staffed with the kind of people in the different fields that we have, making it possible for us to enter the decade with the kind of management that I foresee we will need.

PROGRAM EVALUATIONS AT HEADQUARTERS AND REGIONAL FIELD CENTERS

Mrs. HANSEN. You plan program evaluations for your headquarters and regional field centers in 1971. Would the committee be too optimistic in expecting cost reductions for these activities when we look at your 1972 budget estimate?

Mr. MCCORNACK. I won't say there will be cost reductions. I would say we will get greater efficiency for our dollar. This is at least the way I feel about it. In fact, we estimate that such a contract might cost somewhere around $60,000. But to use an airplane illustration, if we can move from the DC–3 administrative machine that we have been running for 10 years, which is a good machine for the problems of its time, not to a 747—that is much too extravagant for us—but say somewhere around a 707 or something of that kind, our unit costs I think will go down. If I didn't feel that way I wouldn't go in this direction.

ITEMIZATION OF ESTIMATES

Mrs. HANSEN. Insert pages 61 through 65 of the justifications in the record.

(The information follows:)

PERSONNEL SUMMARY

	Actual 1969	Estimate 1970	Estimate 1971
Total number of permanent positions	5,553	5,576	5,596
Full-time equivalent of other positions	520	592	646
Average number of all employees	6,095	6,042	6,165
Average GS grade	9.4	9.5	9.5
Average GS salary	$11,173	$12,297	$12,330
Average salary of ungraded positions	$8,808	$9,105	$9,105

ITEMIZATION OF ESTIMATE

Department of the Interior
Appropriation Title: Surveys, Investigations, and Research

Geological Survey

	Actual 1969	Estimate 1970	Estimate 1971	Increase (+) or Decrease (-)
Program and Financing				
Total obligations	$ 90,971,821	$100,237,852	$106,028,415	$+ 5,790,563
Recovery of prior year obligations	- 174,415	- 300,000	- 100,000	+ 200,000
Unobligated balance available, start of year	- 724,562	- 721,415	- 571,415	+ 150,000
Unobligated balance transferred from other accounts (proposed for pay increase)	-	- 2,023,000	-	+ 2,023,000
Unobligated balance available, end of year	721,415	571,415	400,000	- 171,415
Unobligated balance lapsing	122,741	-	-	-
Budget authority	90,917,000	97,764,852	105,757,000	+ 7,992,148
Budget authority:				
Appropriation	90,917,000	96,455,000	105,757,000	+ 9,302,000
Transfer from other accounts	-	22,852	-	- 22,852
Proposed supplemental for civilian pay act increases	-	1,287,000	-	- 1,287,000

		Actual 1969	Estimate 1970	Estimate 1971	Increase (+) or Decrease (-)
Obligations by Objects					
11	Personnel compensation	63,552,662	70,719,000	72,374,000	+ 1,655,000
12	Personnel benefits	5,250,256	5,866,000	6,145,000	+ 279,000
21	Travel and transportation of persons	2,984,799	3,528,000	4,221,000	+ 693,000
22	Transportation of things	1,149,941	1,274,000	1,449,000	+ 175,000
23	Rent, communications, and utilities	4,306,210	4,771,852	5,127,000	+ 355,148
24	Printing and reproduction	1,014,364	1,116,000	1,212,000	+ 96,000
25	Other services	4,213,888	4,732,000	6,991,000	+ 2,259,000
26	Supplies and materials	4,448,659	4,769,000	4,594,000	- 175,000
31	Equipment	3,186,491	3,170,000	3,502,000	+ 332,000
33	Investments and loans	727,562	229,000	350,415	+ 121,415
41	Grants, subsidies and contributions	118,636	65,000	65,000	-
42	Insurance claims and indemnities	20,286	-	-	-
	Subtotal	90,973,754	100,239,852	106,030,415	+ 5,790,563
	Quarters and subsistence charges	- 1,933	- 2,000	- 2,000	-
	Total obligations	90,971,821	100,237,852	106,028,415	+ 5,790,563

Authorization for Purchase of 33 Passenger Motor Vehicles, for Replacement Only

The vehicles requested are used to transport men and equipment over all kinds of roads and terrain and in all kinds of weather, in the conduct of the field work of the Geological Survey. These cars must give dependable service at all times, since a great deal of the transportation required is in areas where repair services are not available. Field use tends to shorten the efficient life of a vehicle.

The 33 vehicles to be replaced, as shown below, will meet or exceed the age or mileage replacement standards prescribed by General Services Administration, and can no longer give dependable and economical service. The vehicles will be used in areas not serviced by vehicle pools maintained by the General Services Administration.

	Sedans	Station Wagons	Total
Replacements requested based on:			
Mileage			
60,000 to 80,000 ----------	13	17	30
80,000 or over ----------	1	-	1
Age ----------	-	2	2
Total ----------	14	19	33
Total passenger vehicles owned by Geological Survey ---------	57	104	161

Miscellaneous Services to Other Accounts

Miscellaneous services performed for other Federal agencies and the public, on a reimbursable basis, by central services unit of the Geological Survey are summarized below:

	Actual 1969	Estimate 1970	Estimate 1971
Electronic data processing and related services	$1,385,914	$1,215,000	$1,605,000
Map reproduction services for other agencies	184,949	128,000	181,000
Sale of maps to other agencies	227,577	288,000	314,000
Sale to the public of photographs and copies of records (43 U.S.C. 45)	25,466	23,000	24,000
Property maintenance services and sale of material from stock to other Federal agencies	88,202	129,000	134,000
Geographic applications program	672,286	780,000	520,000
Total central services reimbursable program	2,584,394	2,563,000	2,778,000

Central Services and Consolidated Accounts

Services to Geological Survey programs, similar to those rendered to other agencies, as well as motor vehicle fleet operation and other common-use services, are financed for reasons of economy through central service and consolidated accounts. Charges initially made to these accounts are ultimately charged to the activity benefited.

The actual costs of these services for 1969 and the estimates for 1970 and 1971, and their distribution by activity, are summarized below:

Central Services	Actual 1969	Estimate 1970	Estimate 1971
Electronic data processing and related services	$3,591,532	$4,262,000	$4,713,000
Map reproduction	2,749,830	2,974,000	3,069,000
Editing and illustration of publications	2,561,430	2,812,000	2,850,000
Distributing of maps and reports, response to public inquiries and related functions	2,685,994	2,966,000	2,998,000
Property maintenance and instrument development	569,860	613,000	624,000
Payroll services for other bureaus	49,515	42,000	42,000
Geographic applications program	672,286	780,000	520,000
Total central services	12,880,447	14,449,000	14,816,000

Consolidated Accounts	Actual 1969	Estimate 1970	Estimate 1971
Motor vehicle fleet operation	$ 796,861	$ 810,000	$ 800,000
Rental and maintenance of certain facilities at headquarters and field centers	1,304,129	1,435,000	1,440,000
Warehouse stock of common-use supplies and materials	670,318	725,000	702,000
Survey's proportionate share of departmental charges, Safety Committee, and contingencies arising from operation of field centers	162,073	165,000	165,000
Total consolidated accounts	2,933,381	3,135,000	3,107,000
Grand total	15,813,828	17,584,000	17,923,000
Less inter-office charges	919,443	1,633,000	1,442,000
Net cost	14,894,385	15,951,000	16,481,000
Distribution by activity:			
Topographic surveys and mapping	4,465,901	5,020,000	5,195,000
Geologic and mineral resource surveys and mapping	4,529,624	4,755,000	4,795,000
Water resources investigations	2,871,047	3,063,000	3,177,000
Conservation of lands and minerals	195,845	220,000	223,000
Earth resources observation satellite (EROS)	500	34,000	34,000
General administration	247,074	296,000	279,000
Miscellaneous services to other accounts	2,584,394	2,563,000	2,778,000
Net cost [a/]	14,894,385	15,951,000	16,481,000

[a/] Includes charges to advances and reimbursements, as well as to "Surveys, Investigations, and Research".

ELECTRONIC DATA PROCESSING

Mrs. HANSEN. What are the cost factors on which you base your charges for electronic data processing and related services furnished to other agencies?

Mr. MCCORNACK. Our computer center performs the service for the Geological Survey as well as services for a considerable portion of the rest of the Department. The Department is billed for such services as we provide them.

DEPARTMENTAL INTEGRATED PAYROLL SYSTEM

One of the major elements of cost this year has been our so-called DIPS program (departmental integrated payroll system), which is being installed, has been since last June, roughly. This envisages placing on one integrated system, the payroll and personnel programs of a large portion of the Department. The costs, at least the maintenance costs, the operating costs for the computers are billed out to the several bureaus of the Department. The systems development costs are, in large part, borne by the Survey, but also in part by other bureaus of the Department.

Mrs. HANSEN. How many bureaus?

Mr. MCCORNACK. Well, the National Park Service is going on the system. Commercial Fisheries is also on the system. The Office of the Secretary is on the system. The Water Pollution Control Administration is on the system.

We are in a very real sense a service agency for a large portion of the Department. Probably it will be another year before they are all completely on the payroll system, the DIPS program.

FUNDING SOURCES FOR COMPUTER SERVICES

Dr. PECORA. If I may extend Mr. McCornack's remarks to be sure the committee recognizes that in earlier years the computer facilities of the Geological Survey have now evolved to become the departmental computer facility, but managed still by the Geological Survey. Those funds which are used for computer services for the Geological Survey come from our program items which are part of this budget. The services provided other bureaus and other departments are paid for on a reimbursable basis on a pro rata share of the total cost. This is approved by the Office of Program and Review in the Secretary's Office.

MISCELLANEOUS APPROPRIATIONS

Mrs. HANSEN. Insert in the record pages 66 and 67 of the justifications.

(The information follows:)

MISCELLANEOUS APPROPRIATIONS

1. Lead and Zinc Stabilization Program. - This program is financed from prior year unobligated balance. Present legislation for the program expired December 31, 1969.

Analysis by Activities

	FY 1969 Amount Available	FY 1970 Amount Available	FY 1971 Estimate	Increase (+) or Decrease (-) 1971 compared with 1970
(a) Stabilization payments -----	$ 216,252	$ 75,000	-	$ - 75,000
(b) Administration	38,815	22,000	-	- 22,000
Total -----	255,067	97,000	-	- 97,000

Estimated requirements for stabilization payment funds stem from two factors: a) estimated production by the small producers; and b) differential between lower market prices for the metals and the base price fixed by the Act.

Estimated stabilization payments are as follows:

	FY 1970 Estimate Lead	Zinc
Short tons ----------	1,300	3,128
Rate of subsidy (per ST)	$24.00	$14.00
Total stabilization payment ----------	$31,200	$43,800

2. Payments from proceeds, sale of water. - When lessees or operators drilling for oil and gas on public lands strike water, water wells may be developed by the Department from proceeds from the sale of water from existing wells (30 U.S.C. 221-229). No obligations are anticipated in 1971.

PERSONNEL SUMMARY

ALLOCATION TO GENERAL SERVICES ADMINISTRATION

	Actual 1969	Estimate 1970	Estimate 1971
Total number of permanent positions	2	2	-
Average number of all employees	2	1	-
Average GS grade	9.5	9.5	-
Average GS salary	$12,282	$13,383	-

ITEMIZATION OF ESTIMATE

Department of the Interior
Appropriation Title: Miscellaneous Appropriations — Geological Survey

	Actual 1969	Estimate 1970	Estimate 1971	Increase (+) or Decrease (-)
Program and Financing				
Total obligations	$ 255,067	$ 97,000	-	$- 97,000
Receipts and reimbursements from Federal funds	- 74	-	-	-
Unobligated balance available, start of year	- 2,586,660	- 2,332,332	$- 19,000	+ 2,313,332
Unobligated balance transferred to other accounts - proposed for pay increase	-	2,023,000	-	- 2,023,000
Unobligated balance available, end of year	2,332,332	19,000	19,000	-
Unobligated balance lapsing	-	193,332	-	- 193,332
Budget authority	665	-	-	-
Obligations by Objects				
Allocation to General Services Administration:				
11 Personnel compensation	24,505	14,500	-	- 14,500
12 Personnel benefits	2,054	1,100	-	- 1,100
23 Rent, communications, and utilities	256	200	-	- 200
24 Printing and reproduction	-	200	-	- 200
25 Other services	12,000	6,100	-	- 6,100
26 Supplies and materials	-	100	-	- 100
41 Grants, subsidies, and contributions	216,252	74,800	-	- 74,800
Total obligations	255,067	97,000	-	- 97,000

COMPTROLLER GENERAL'S REPORTS

Mrs. HANSEN. I will insert in the record the digests of Comptroller General's Reports No. B–118678, dated September 3, 1969, and December 17, 1969. I would like you to insert in the record any comments you have to make in connection with this report.

Dr. PECORA. That will be done.

(The information follows:)

COMPTROLLER GENERAL'S REPORT TO THE CONGRESS

OPPORTUNITY FOR SAVINGS AND BETTER SERVICE TO MAP USERS THROUGH IMPROVED COORDINATION OF FEDERALLY FINANCED MAPPING ACTIVITIES, GEOLOGICAL SURVEY, DEPARTMENT OF THE INTERIOR, B–118678

Why the review was made

The Geological Survey (Survey) is responsible for the production and distribution of a series of topographic maps covering the United States under the national topographic mapping program. Survey is responsible also for the operation of the Map Information Office (MIO), which was established to collect, classify, and disseminate information on maps available from Federal agencies and other sources.

Survey's fiscal year 1969 appropriations included about $26 million for mapping and related activities, of which about $400,000 was for MIO's activities.

The review was made because the General Accounting Office (GAO) noted that State and local agency mapping activities financed in part by Federal funds were not contributing to the national mapping program and that information on the mapping was not being collected and disseminated by MIO.

Findings and conclusions

State and local agencies have been doing a significant amount of mapping under certain programs of the Departments of Transportation and Housing and Urban Development, without procedures to coordinate this mapping with the national mapping program. (See pp. 8–21.)

If State and local agencies in doing their mapping would use scales and standards comparable to those of Survey and then make the results available to Survey, some steps in the preparation of Survey's maps for unmapped areas and in the revision of existing maps could be eliminated. Savings could be realized by Survey.

However, there would be additional costs to Federal programs that finance in part State and local agency map preparation to meet Survey's standards. GAO did not determine the potential net savings to the Federal Government.

Generally, MIO has collected and disseminated information only on the National Topographic Map Series. Consequently, Federal, State, and local agencies producing maps for their own purposes have to contact numerous sources to determine what maps are available. This is time consuming and costly, and a governmental agency might not obtain all the maps that could be useful. (See pp. 22–28.)

GAO concluded that expansion of the activities of MIO so that it would serve as a central source of information on mapping activities of Federal agencies and State and local agencies which conduct mapping with the assistance of Federal funds, would—

Assist Survey in carrying out its coordinating responsibilities by having readily available information on all mapping activities financed in whole or in part with Federal funds;

Promote increased and more effective use of maps and help reduce overlapping in mapping activities; and

Minimize time and effort expended by Government agencies in locating usable data.

GAO did not ascertain the cost of expanding MIO activities to serve as a central map information source.

Recommendations or suggestions

GAO suggested that mapping by State and local agencies under Federal programs be accomplished, where appropriate, in a manner enabling such work to

contribute to the national mapping program as outlined above. GAO is recommending that Survey (1) determine the extent of mapping data on which MIO should collect information and (2) develop procedures for the central collection and dissemination of the information.

Agency actions and unresolved issues

Officials of the Departments of the Interior, Transportation, and Housing and Urban Development and of the Bureau of the Budget agreed generally with GAO's findings. Appropriate actions have been taken or are planned. (See pp. 19 to 21 and 28.)

Matters for consideration by the Congress

GAO is bringing this matter to the attention of the Congress so that it may be aware of efforts to improve the coordination of mapping activities financed in whole or in part with Federal funds.

COMPTROLLER GENERAL'S REPORT TO THE CONGRESS

OPPORTUNITY FOR THE GEOLOGICAL SURVEY TO INCREASE REVENUES THROUGH CHANGES IN ITS MAP-PRICING PRACTICES, DEPARTMENT OF THE INTERIOR, BUREAU OF THE BUDGET, B-118678

Why the review was made

The Geological Survey produces and sells a series of topographic maps of the United States. They are used in developing and managing the Nation's natural resources; planning airports, highways, and dams; routing pipelines and transmission lines; selecting industrial plant sites; and many other types of activities.

The Bureau of the Budget (BOB), in implementing legislative requirements, sets forth the user charges program in BOB Circular No. A-25. The circular requires that Federal agencies make a reasonable charge to each identifiable recipient for a measurable unit or amount of Government service or property from which he derives a special benefit above and beyond that accruing to the public at large. For a service, a charge is to be imposed to recover the full cost to the Government of rendering that service; for resources or property, a fair market value is to be obtained.

During a survey of Federal mapping activities, the General Accounting Office (GAO) noted that the Geological Survey (Survey) did not appear to be pricing its maps in accordance with the intent of BOB's directive. This review was therefore undertaken.

Findings and Conclusions

Survey sells its maps at prices based on cost because it believes that map sales are a service and not a resource or property. Survey's map prices are based essentially on direct costs associated with printing and distributing the maps being sold, and they do not provide for recovery of the more basic survey and original map-preparation costs incurred by the Government.

GAO believes that maps are tangible commodities and that they would more properly be considered as resources or property. Therefore, GAO believes it reasonable for Survey not to restrict its prices which are based on the cost of printing and distribution but, rather, to price the maps at levels up to fair market value, so as to maximize the recovery of all categories of costs incurred in the mapmaking process.

GAO believes that an opportunity exists for the Federal Government to realize additional recoveries of cost because it found indications that the fair market value of Survey's maps exceeds the established prices. These additional revenues could be significant because of the large volume of maps sold by Survey—5 million in 1968.

Recommendations or suggestions

BOB has advised GAO that, for purposes of establishing pricing guidelines, it plans to undertake a review to determine whether maps produced by Federal agencies are services or property. In view of the potential additional cost recoveries that may be obtainable, GAO is recommending that BOB undertake the review as soon as possible.

Agency actions and unresolved issues

The Department of the Interior disagrees with GAO's finding and remains of the opinion that Survey's maps are a service and should be priced to recover the cost of printing and distributing the maps. However, as mentioned above, BOB plans to undertake a review with the objective of developing policy guidance for the pricing of services and products including Survey's maps.

Matters for consideration by the Congress

This report is being submitted to the Congress—

To inform it of GAO's views on Survey's application of the guidelines established by the Congress and BOB for the user charges program.

Because of the interest expressed by the Subcommittee on the Department of the Interior and Related Agencies of the Committee on Appropriations, House of Representatives, during recent years' hearings on Survey's map prices.

DEPARTMENT'S COMMENTS

Comments on "Opportunity for Savings and Better Service to Map Users Through Improved Coordination of Federally Financed Mapping Activities," B–118678, December 17, 1969.

GAO concluded that there is an opportunity for the Federal Government to realize savings by having mapping performed, where appropriate, by Federal, State and local agencies under programs financed in part with Federal funds in a manner that will enable such mapping to contribute to the national topographic program. Also, that there is a need for the Map Information Office to expand its activities so as to serve as a central information referral point.

The Geological Survey is in general agreement with the recommendations in the report and has created a focal point for the coordination activity by establishing the position of coordinator for Federal mapping. The initial steps taken are designed: (1) to identify those Federal agencies and programs through which Federal funds have been and are expended for mapping, aerial photography and related survey data; (2) to establish liaison with the appropriate agencies; (3) to determine the volume, quality, and nature of the mapping materials available from each agency; and (4) to develop by consultation with each agency, the appropriate mechanism and interagency agreements necessary to expedite the transfer of their available map-related information to the Geological Survey.

* * * * * * *

Comments on "Opportunity for the Geological Survey To Increase Revenues Through Changes in Its Map-Pricing Practices," B–118678, September 3, 1969.

Topographic maps serve many purposes, but the principal purpose is to provide Government with fundamental knowledge of the physical character of its domain. It has long been held that a basic responsibility of the Geological Survey is to provide topographic maps to various Federal agencies and for other official depository and congressional users. Making additional map copies available to the public provides direct benefits to identifiable recipients and indirect benefits to the Nation through the improvement in other actions made possible by quadrangle map material. Governmental need is such that map coverage undoubtedly would be completed even if no copies were made available for purchase by the public. The printing of copies to serve public needs reflects an extension of use beyond the primary need of Government. The basis for establishing the sale price of these additional copies is the question at issue.

In its report, GAO presents the concept that Geological Survey maps are resources or property rather than a service and that they should be sold at a price based upon fair market value. The Geological Survey has essentially followed the practice of pricing its maps in accordance with the service provisions of BOB Circular No. A–25.

The sale prices for maps are intended to recover the cost of printing and distributing the maps but are not intended to recover the cost of the original mapping. Present sale prices for maps were established in 1966 on that basis. Included in these costs are charges for rent on areas used in the reproduction and distribution functions, for depreciation of equipment, and for other collateral or supporting services.

It has long been recognized that a major responsibility of the Geological Survey is to collect topographic, geologic, and hydrologic data and to produce

maps sufficient to meet official needs. This information is public property, and reproducibles are available to the public for the cost of supplying them. There is a unit price at which it would be profitable for commercial printers to purchase Government reproducibles and print copies of certain maps for public sale; however, only the most popular maps would be selected for commercial production while maps of limited sales appeal could not be made available to the public except through Government publication.

Mrs. HANSEN. Dr. Pecora, I want to thank you and each and every member of your staff for a very informative hearing.

The committee finds this one of the most fascinating hearings of the year. It is a tremendous environmental review of knowledge that we only wish every Congressman could share. You do it most ably.

Mr. REIFEL. Just one question to ask, and we may strike it off the record afterward.

UNESCO FINANCES VOLCANO WORK IN ITALY

You have been invited to Italy in connection with the volcanic action. Who pays for that?

Dr. PECORA. UNESCO. The United Nations would pay for the trip, and any equipment that would be provided would be bought out of their funds.

Mr. REIFEL. But even if we had to pay for it out of our own funds, wouldn't that be a pretty good investment in having people on the ground in a situation of this kind, to have an opportunity to bring back to our own shores the experience that was had there?

Dr. PECORA. Mr. Congressman, I personally feel we should do more and more of this scientific and technical work in the international area for both reasons that you mentioned. One, we learn something about the problem ourselves to apply here in our country.

Secondly, we are teaching others that which we have learned and which they can apply. I know of no better effort toward international good will than working toward a common good of mankind. This is why I feel such programs should be encouraged.

At the present time we do not have funds specifically oriented toward work of this kind in other countries. We rely on AID money from the State Department or from funds from the United Nations. At some time in the future when we get our international program better organized I would like to come before this committee to explain what might be done in this area, and perhaps get a special item of budget for just this kind of emergency.

Mr. REIFEL. I hope that opportunity will be made available to you. I went over to Europe during November. In Rome the Forest Service had only one representative on FAO. For a big nation such as ours to have only one person there, I thought was regrettable.

I visited the Forestry people in Paris. I asked, "How many people do you have on F.A.O.?" He started apologizing. They had three full time.

I think that we need to be a little more internationally minded, it seems to me, in these scientific programs.

Mrs. HANSEN. Congressman Reifel, I am convinced that the more this country is represented in some of these affairs the more we will save on our programs because of the knowledge we will gain.

Dr. PECORA. Exactly. This is the point. I think it is an area of extreme benefit and good will, as well as exchange of knowledge which both sides can use.

Mr. REIFEL. Dr. Pecora, you and your group here are the greatest.

Dr. PECORA. You are very kind, Congressman Reifel.

If I may add another remark to Mrs. Hansen's and other members of the committee: I always look forward to these dialogs with your committee. You are very knowledgeable about our problems and the problems of the Nation. You know what we are trying to do. You constantly give us comfort. You beat us over the head where you think we ought to be beat, and I think this is the kind of a dialog that a Federal bureau should have with its congressional committee.

Thank you for your kindness.

Mrs. HANSEN. Thank you very much.

LIST OF WITNESSES

	Page
Akina, Arthur	581
Alldredge, R.B	581
Aumoeualogo, S. S. P	334
Balsley, Dr. J. R	971
Beirne, J. P	161
Bruce, L. R	1
Camacho, Hon. C. G	547
Clarke, F. E	971
Corgan, J. A	781
Crow, J. O	161
Dole, H. M	1
Dunn, L. H	1
Falcam, L. A	581
Farrington, Mrs. E. P	485, 581
Fischer, W. A	971
Glasgo, Dr. L. L	1
Haydon, J. M	334
Hayes, Dr. E. T	781
Heller, Samuel	485
Hendricks, E. L	971
Hickel, Hon. W. J	1
Hite, R. R	1, 161, 334, 485, 547, 581, 781, 971
Howard, T. E	781
Ingling, G. W	547
James, Dr. H. A	971
Johanson, J. M	971
Johnston, E. E	581
Kaufman, Alvin	781
Klein, C. L	1
Lamb, F. D	781
Lander, Dr. W. J	781
Leedom, C. B	485
Lipper, H. W	781
Loesch, Harrison	1, 161, 334, 485, 581
Lyddan, R. H	971
McCornack, W. F	971
Meeuwsen, Carl	334
Melich, Mitchell	1
Nosek T. M	581
Olter, Bailey	581
Pecora, Dr. W. T	971
Quarles, J. R., Jr	1
Radlinski, W. A	971
Rampacek, Carl	781
Rasmussen, B. L	161
Samuel, Henry	581
Setik, Raymond	581
Stearns, F. E	971
Thomson, Elwood	781
Tubbs, Emerson	581
Tuiolosega, Tagaloa	334
Utu, F. S	334

	Page
Wayland, Dr. R. G	971
Wheeler, H. P	781
Winn, P. E	485
Wohlfeld, William	334
Won Pat, A. B	547
Yarberry, R. B	581
Zinner, Paul	781
Zumwalt, Dr. E. V	161

INDEX

A

Page

Appropriations to the Interior Department, 1961–71 33

B

Budget for fiscal year 1971, compared with 1970 ..... 2, 14, 19

E

Expenditures, 1967–71 41

F

Financial tables 19–58

G

Geological Survey 971–1153
- Alaska:
  - Offshore shelf 1003
  - Pipeline investigations 1000, 1010–1014, 1041
    - Resource studies in pipeline area 1040
- Amchitka studies 984
- Atomic Energy Commission, funds from 1022
- Budget for fiscal year 1971, policy on formulation of 974
- Comptroller General's reports 1149
- Conservation of lands and minerals 1111
  - Geophysical data evaluation prior to lease sale 1123
  - Lease management 1121
  - Mineral lease management 1126
  - Onshore oil and gas lease management 1123
- Continental shelf (*See* outer continental shelf)
- Coordination of activities with ESSA 983
- Earth resources observation satellite (EROS) program 974, 1126
  - Contributions of other agencies 1129
  - Funds used for pay increase 1022
  - National User Data Center 1025
- Earthquake studies 983, 985
- Gas, natural:
  - Shortage of 981
  - Value of supply on public domain 977
- General administration 1134
  - Positions and employment ceilings 1138, 1141
  - Program evaluations 1139
- Geologic analysis, reduction in 978
- Geological and mineral resources surveys and mapping 1062
  - Coal resources 977
  - Copper deposits in Puerto Rico 987
  - Earthquake and crustal studies 1081
  - Geological and mineral resources surveys and mapping 1062
  - Gold production and reserves 989
  - Heavy metals program 989
  - Marine geology 980, 1089
  - Mineral deposits, potential 989
  - Mineral resources 1075
  - Mineral resource surveys, reduction in 1074

Geological Survey—Continued
Geological and mineral resources surveys and mapping—Continued Page
Mineral studies 986
Oil shale 977, 1079
Primary mineral supply 1075, 1080
Volcanic hazards 1087
Gulf of Mexico, studies in 1008
Leasing, mineral, geological data on 979, 980
Mapping activities 997
Mine wastes, deep-sea disposal of 987
Minerals discovery loan program 1089
Minerals on public land, evaluation of 978
Miscellaneous appropriations 1146
Lead and zinc stabilization program 1026, 1147
Moon exploration, participation in 982
Naval petroleum reserve No. 4 1001
Outer Continental Shelf 105
Exploration of 983
Oil reserves 1007
Petroleum deposits in deep water areas 1008
Petroleum potential in outer continental shelves of the world 1007
Pollution from operations in 1005
Regulation of operations in 1006
Pay increase costs 1022
Permafrost studies 1000, 1001
Priorities, setting of 978
Receipts from mineral leasing 978
Resources of United States, energy 975
River pollution from acid mine drainage 994
Space program, benefits from 982
Special resources and environmental projects 1026
Arctic Alaska resource investigations 1039
Studies in pipeline area 1040
Interdisciplinary pilot urban area studies 1032
Contractual services 1037
Surveys, investigations, and research 1014
Topographic surveys and mapping 1048
Mapping in Trust Territory of Pacific 1060
National atlas project 1061
National cartographic information center 1059
National mapping program 1056
Use of funds for purposes other than for which appropriated 1023
Water resources investigations 1092
Cooperative water resources investigations 990
Core program of hydrologic investigations and research 1105
Federal plan for water data acquisition 1105
Federal-State program 1108
Subsurface waste storage 1108
Supporting services 1108

I

Indefinite appropriations 38

L

Land Management, Bureau of 161–333
Administrative provisions 332
Aircraft, replacement of 332
Audits 332
Construction and maintenance 288
Boise Interagency Fire Center 297
Deferral of projects, list of 297
Funds placed in reserve 296
Johnny Horizon program 300
Litter problem 284, 299
Maintenance of buildings 299, 300
Recreation areas, program in 165

Land Management, Bureau of—Continued
Construction and maintenance—Continued Page
Road maintenance, Lower Colorado River area 301
Unobligated balances 296
Employees 332
Justification material, summary 226
Management of lands and resources:
Cadastral surveys, Alaska and other areas 272, 285
Environmental health, activities regarding 236
Fire protection 163, 278
Adequacy of funds 280
Alaska 163, 164, 280
Fire suppression costs 164, 280
Job Corps activities 278, 279, 280
Requests to Budget Bureau 281
Value of timberland destroyed by fire 164
Fire rehabilitation funds 286
Coordination with Forest Service 287
Forest management 178, 233, 274
Commercial forest land administered by bureau 169
Demand for timber 234
Log exports 176–178
Japanese products and housing program 177
Restrictions under Public Law 90–554 180
Round logs 237
Wood chips, export of 180
Presidential task force on timber 235
Reforestation backlog 233, 275
Salvage and thinning program 276
Salvage of timber in Oregon 179
Soil and watershed conservation 276
Timber cutting schedule 275
Timber sales 232, 233
Western Oregon forestry program 165
General administration 288
Grazing fees 181
Justification material 237
Land classification and mineral examination 272
Land under jurisdiction of bureau, breakdown by States 168
Leasing of land:
Case backlog and effect on receipts 169
Government field notes, accuracy of 271
Mineral leasing 271
Records improvement 271
Mineral resources 163, 169
Offshore oil leases, administration of 181
Additional funds needed 185
Geological data, report by Geological Survey 185
Leasing of oil shale lands 225
Oil and gas leasing maps 286
Oil spills 286
Revised regulations, impact of 185
Studies underway 186
Range Management 274
Receipts 165, 166
Breakdown by sources 230
Distribution of receipts, by States 167, 231
Mineral leasing receipts 232
Timber sales receipts 232
Recreation program:
Adequacy of budget for 170
Construction program 165, 283, 298
Coordination with Bureau of Outdoor Recreation 170, 282
Lands administrated by the bureau, breakdown by States 168
Litter problem 284, 299
Lower Colorado River and California Desert 282, 285

Land Management, Bureau of—Continued
Management of lands and resources—Continued
Page
Recreation program—Continued
Visitors to recreation areas 165, 170, 282
Preparation for 171
Research activities 171
Oregon research studies 172
Results of projects 174
Total funds for R. & D. and other scientific activities 172
Universities involved in studies 173
Timber sale contract renewals 178
Trans-Alaska Pipeline System 163, 186
Financing of inspection work 225, 285
Personnel assigned to project 222
Road construction permit 187
Surveillance activities of bureau 223
Wild game killed 224
Oregon and California Grant Lands 310
Acreage and timber production 327
Expenditures for timber management 326
Statute on timber sale receipts 327
Unobligated balances 326
Public Lands Development roads and trails 301
Funds placed in reserve 307, 308
Miles of roads 310
Road construction procedures 309
Unobligated and unexpended balances 307
Range improvements 329

M

Mines, Bureau of 781–970
Administrative provisions 951
Appalachia Act funds 969
Appalachian Region mining area restoration program 794
Balance of payments problem, United States 885
Budget for fiscal year 1971:
Budget Bureau reduction in 802
Increases requested in 783
Cedar Avenue mine fire 968
Conservation and development of mineral resources 820
Coal and mineral resources, supply of 790
Coordination of mineral exploration 810
Copper prices, supply and demand 796, 800, 817
Culm bank fires 901
Destruction of land in mining 798
Foreign production of minerals 795
Gas supply and consumption 799
Imports of selected metals and minerals 818
Mineral supply-demand ratios 893
Mineral usage, national policy on 893, 900
Mining leases and permits 820
Nickel, supply and price of 818
Oil development in Alaska 810
Research:
Coal 794, 798, 891
Coal burning and air pollution 879
Coal science and analysis 879
Conversion to electricity 878
Gasification plant 798, 878
Magnetohydrodynamic generator 879
Coordination with private industry 801
Elimination of waste 882
Extraction systems, improved 890
Project Badger 890, 891
Fuel combustion and automotive exhaust emissions 880
Incinerators, smokeless 887

Mines, Bureau of—Continued
Conservation and development of mineral resources—Continued
Research—Continued
Page
Iron and steel technology 884, 886
Marine mineral mining 891
Mining in methane environment 888
New technology, development of 800
Oil shale research 882
Recovery of metals and minerals from incinerator residue 804
Trans-Alaska pipeline 881, 884
Waste disposal and reuse 804, 882
Resource development 801
Sale of stockpile materials 901
Supply and demand studies 904
Wilderness survey 820
Contributions from other government agencies 967
Contributions to bureau's activities by industrial organization 952
Efficiency of bureau operations 802
Environmental health:
Automobile emissions 811, 880
Bureau's antipollution efforts 792, 810
Coal burning 879
Mining in methane environment 888
Smokeless incinerators 887
General and administrative expenses 943
Employee compensation benefits 883
Positions 949
Health and safety (*see also* Environmental Health) 786, 905
Accidents, major mine 931
Advisory Board 930
Age of miners, average 938
Coal mine inspection 786, 813
Inspectors 786, 806
Contractual services 932
Disaster survival and rescue 807
Dust inspections 935
Equipment testing 934
Facility planning 937
Federal Coal Mine Health and Safety Act of 1969 812, 814, 815
States affected by mine safety law 813
Fires 939
Metal and Nonmetal Mines Safety Act 816
Mines to be inspected 933
Office of Mine Health and Safety Appeals 814
Recruiting Health and safety personnel 931
Reductions in 805
Research 787, 940
Noise 941
Respirable dust 940
Safety research 942
State grants program 936
State participation and funding 939
Statistics 934
Technical support 933
Training of inspectors 935
Mines safety academy 936, 937, 939
Transfer of funds to Office of the Secretary 930
Transfer of funds to Solicitor's Office 930
Helium, fund 788, 935
Accomplishments of Helium Labs 967
Matching funds, State of Pennsylvania 793
Obligations 959
Oil reserves 791
Reserve, funds held in 793

O

Page
Outlays by appropriations, 1967–71 ---- 41

P

Permanent appropriations ---- 36, 142
Positions:
Number and ceiling on ---- 82
Permanent, fiscal years, 1969–71 ---- 55

R

Receipts ---- 14, 63, 64
Research and development appropriations, 1969–71 ---- 53
Reserve, funds placed in ---- 66–81
Release of ---- 80

S

Secretary of Interior, testimony of ---- 1–160
Accomplishments in past year ---- 59
Alcovey River project ---- 130
Commercial fisheries program ---- 17, 60, 82, 126
Congressional mail ---- 132
Construction cutback ---- 69
Employment:
Positions, number and ceiling ---- 82
Turnover of ---- 83
Environmental functions, jurisdiction over ---- 67
President's message on ---- 99
EROS program ---- 66
Flag display at national shrines ---- 133
Forest Service, transfer to Department ---- 128
Geological Survey ---- 15, 122
Grazing fees ---- 101
Indian Affairs, Bureau of:
Navajo Indian irrigation project ---- 113, 137
Reorganization of ---- 14, 111
Tribal development fund ---- 14
Information supplied the committee ---- 126
Legislation pending ---- 126
Mines, Bureau of ---- 16, 123
Culm banks and strip mines ---- 86
Helium program ---- 17, 124
Underground mine subsidence ---- 85
Natural resources, national program needed for ---- 60
National Park Service ---- 15, 18
Areas planned for parks ---- 100
Park areas, use of ---- 100
Policy on operation of parks ---- 138
Preservation of historic properties ---- 142
Oil and Gas, Office of:
Gulf of Alaska oil lease sale ---- 92
Offshore leasing ---- 63, 64, 92
Oil import program ---- 125
Oil leasing in California areas ---- 63
Oil shale program ---- 84
Outer continental shelf ---- 65
Tankers, problems of large ---- 92
Transportation of oil, laws on ---- 93
Outdoor Recreation, Bureau of ---- 15, 119
Land and water conservation ---- 15, 121, 128
Policy guidelines used in 1871 budget ---- 59
Priorities in budget, changes in ---- 83
Receipts ---- 14, 63, 64
Regulations regarding use of resources ---- 65
Reorganization of Department ---- 66
Indian affairs ---- 111

Secretary of Interior, testimony of—Continued Page
Reports to Congress 131
Reserve, funds placed in 68–81
Release of 80
Saline water program 18, 136
Secretary, Office of the 126
Subway system for the Nation's Capital 94
Territories, Office of 14, 116
Airports in San Juan and Virgin Islands 100
Jurisdiction over 130
Nonvoting Delegate from 131
Trans-Alaska pipeline system leases 102–111
Water pollution control 81

T

Territories, Office of 334, 485
Administration of Territories 486, 487
Affiliation with United States 495
American Samoa 334–484, 488, 490
Accounting procedures 453, 471
Agricultural development 431, 432, 466
Bank of American Samoa 480
Birth rate 416, 460
Business potential 431
Central business area development 476
Construction programs 474
Costs and design 452
Control of funds by legislature 460
Cooperation between Governor and legislature 433
Crime 456
Donated funds, use of 461
Drug problem 457
Economic development 428
Education program 416–426
College students 463
Community college 462
Contract with University of Hawaii 416, 417
Cost per child 419
Educational television 422
Enrollment 419
Scholarship loans 480
School construction 475
Teachers 418, 420, 423–425
Vocational training 463
Fishing industry 430
Crown of thorns starfish problem 481
Fringe benefits for U.S. employees 455
Governor, statement of 335
Governor's Office 459
Grant program, participation in 426
Health and sanitation 451, 459, 467
Diseases 464
Sewage treatment facilities 468, 473
Hotels 435, 450
Contract with Intercontinental Hotels Corp 436
Housing problems 428
Inflation and interest rates 433
Judiciary, cost of 460
Justification material 353
Land and water conservation fund 466
Loans, housing and other 480
Parks and recreation 465
President of the Senate, statement of 352
Problems facing new Governor 426

Territories, Office of—Continued
Administration of Territories—Continued
American Samoa—Continued
Page
Revenues, local ... 478, 482
Electric power ... 479
Use of ... 461
Roads, construction of ... 474
Salaries, equalization of ... 454
Speaker of the House, statement of ... 352
Supplemental funds, need for ... 451
Tourism ... 435
Training programs ... 456
Transportation program ... 470
Airport development ... 477
Travel costs ... 479
Unobligated and unexpended balances ... 481
Water projects ... 472
Budget for fiscal year 1971, summary of ... 488, 527
Budget formulation, involvement of legislatures of territories in ... 509
Funding by other Federal agencies ... 513
General administration, Washington office ... 524, 528
Carryover funds ... 529
Pay raise costs ... 529
Guam ... 547
Air terminal development ... 579
Comptroller's Office ... 486, 487, 489
Construction program ... 552, 575
Cost of living ... 573
Crime ... 575
Drug problem ... 574
Economic development assistance ... 556
Economic growth ... 495, 552
Education ... 576
Funding by other Federal agencies ... 513
Housing ... 572
Income, average ... 572
Justification material ... 559
Labor problems in ... 496
Land acquisition by the U.S. military ... 501, 556
Loans and repayment ... 552
Navy expenditures ... 571
Oil refinery ... 501, 502
Population growth ... 552, 556
Port project ... 567
Rehabilitation projects ... 488, 567, 568
Sinajana urban renewal project ... 568
Roads ... 573
School enrollment ... 569
Sewer system ... 552, 567, 570
Tax incentive program ... 502
Unobligated and unexpended balances ... 567
Water systems ... 571
Land acquisition by the U.S. military ... 501
Oil refineries in ... 501
Policies with respect to ... 495, 496
Priorities ... 512
Studies being conducted ... 499
Tourism ... 499
Trade with United States ... 499, 501
Virgin Islands ... 489, 491
Airport facilities ... 532
Alien labor problems ... 406, 503
Comptroller's Office ... 486, 487, 489, 521, 523
Auditing by ... 507
Economic development of ... 495, 530, 542

Territories, Office of—Continued
Administration of Territories—Continued
Virgin Islands—Continued
Page
Funding by other Federal agencies 513, 524
Governor's Office 521, 523, 531
Income and expenditures 500
Industry in 500
Living standards 497
Oil refinery in 501, 503
Royalties from, use of 504
Peace Corps work in 524
Population growth 530, 540
Revenues 506, 531, 542
Task force in 498
Director, statement of 486
Trust Territory of the Pacific Islands 486, 581–780
Accomplishments in past year 595
Affiliation with United States 507, 596
Agriculture 590
Authorization ceiling 730
Autonomy of 495
Bikini atoll 604, 605
Budget Committee, joint 603
Civil action teams (Navy Seabees) 511, 767
Construction projects 769
A. and E. revolving fund 776
Management of 763
Resources development facilities 774
Copra production 587
Crime 735
Ebeye facilities 604, 772
Economic development 587, 593, 747
Loans 747–750
Education administration 586, 740, 779
Electric power 588
Executive office operations 756
Fish meal, development of 591
Foreign investment 599
Funding by other Federal agencies 607
Grant-in-aid program 516, 747
Health 586, 589
High Commissioner's Office 734
Hospitals and out-island health services 738
Housing loan fund 752
Income, average 588, 593
Increases requested 732
Involvement of Micronesians in government 585
Justification material 608
Lands and surveys 755
Legislation regarding 503, 519
Legislature, relations of Washington office with 602
Living costs 588
Marine resources 751
Crown-of-thorns starfish 751
Members of Congress, statements of 591
Micronesia Development Co., lease with 762
Micronesians in government 600
Midcorridor islands 604
Native craft development 766
Obligation of funds 732
Peace Corps activities 766, 767
Ponape Transportation Authority 596, 767
Population and size of 588, 596
Priorities 512

Territories, Office of—Continued
Trust Territory of the Pacific Islands—Continued
Page
Problems in, major 597
Public domain land 777, 779
Recreation facilities 778
Rehabilitation programs 736
Repair of buildings and drainage problems 595
Report to the United Nations 510
Representative in U.S. Congress 594
Revenues, local 589
Sanitation program 740
Small projects emphasized 510
Status of 495
Tariff situation in 502
Tourism 587
Trade with United States 598
Training programs 733
Transportation Office 757
Air routes, status of 761
Truk hospital 737
Trusteeship agreement 598
Tuberculosis in cattle on Tinian and Saipan 763
Unexpected and unobligated balances 730
Wages 600
Yap 511, 776
Trust funds 39

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