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DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR 1977

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS HOUSE OF REPRESENTATIVES

NINETY-FOURTH CONGRESS

SECOND SESSION

SUBCOMMITTEE ON THE DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES

SIDNEY R. YATES, Illinois, *Chairman*

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J. DAVID WILLSON and BYRON S. NIELSON, *Staff Assistants*

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DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR 1977

UNITED STATES DEPARTMENT OF THE INTERIOR BUDGET JUSTIFICATIONS, F. Y. 1977

BUREAU OF INDIAN AFFAIRS

DEPARTMENT OF THE INTERIOR

BUREAU OF INDIAN AFFAIRS

HIGHLIGHT STATEMENT

The Bureau of Indian Affairs proposes a budget of $759.8 million for fiscal year 1977, of which the largest single item is $243.8 million for Indian Education. The most significant changes in requested amounts are an increase of $22.8 million to implement the Indian Self-Determination Act (P.L. 93-638), a decrease of $40 million for the Alaska Native Fund authorized under the Alaska Native Claims Settlement Act, and an increase of $9 million to fund programs in accordance with priorities established by tribes in the budget formulation process.

The Regulations for P.L. 93-638, the Indian Self-Determination and Education Assistance Act, were published in final form on November 4, 1975 after a series of consultations with the Indian people and a period for public comment. The regulations took effect December 4, 1975 and are now available for use by tribes in any initiatives they may propose in furthering the self-determination and education of their people. At this time interest is high on the part of most tribes. The budget requests provide for strengthening tribal governments to enable them to take advantage of the opportunities to plan and contract for the operation of Federal programs for their benefit.

The $30 million requested for the Alaska Native Fund, a decrease of $40 million from 1976, is in accordance with the schedule set forth in the Alaska Native Claims Settlement Act (P.L. 92-203).

Emphasis was again given to tribal involvement in the budget formulation process. Priorities established by tribes were used to determine the funding requests for programs for which a total of $364.1 million is requested. Allocations of appropriated funds to the local level for these programs will be based on the priorities established.

The funds requested will provide for:

Indian Education - $243.8 million. The request represents a $772 thousand increase over 1976. Within the total, $3.0 million will be used to operate new facilities presently under construction, an additional $2.3 million will be used for scholarship grants, and an additional $697 thousand for adult vocational training. The request does not include the $3.0 million provided in 1976 by the Congress for transition funding of the Johnson-O'Malley educational assistance program.

Indian Services - $154.7 million. The increase of $25.2 million for Indian Services is requested primarily to implement the Indian Self-Determination Act, P.L. 93-638, and to meet increased unit costs in the Social Services programs. An additional $22.2 million is requested for Self-Determination Services, including grants, technical services and training to increase the administrative and programmatic capability of tribal governments; and funding of additional overhead and programmatic costs anticipated when tribes contract for programs currently operated by the BIA.

An increase of $5.9 million is needed to meet anticipated increased costs of the general assistance, child welfare assistance, and other social service programs.

An additional $1.8 million is requested to provide for the construction and improvement of additional housing units and to strengthen tribal housing authorities.

Tribal Resources Development - $88.7 million. In fiscal year 1977 $88.7 million is requested for the development of tribal resources, an increase of $5.2 million over fiscal year 1976. Primary efforts will be directed to manpower development programs including increased opportunities for Indian employment; an intensified program for the conservation, development and utilization of natural resources, including the development of the second 10,000 acre block of the Navajo Indian Irrigation project; and improved road maintenance services.

An expanded program for direct employment will provide placement and training services to an additional 600 participants.

The additional $2.8 million over the fiscal year 1976 level for forestry and agriculture will be used to further strengthen conservation, development, and utilization efforts on the 51 million acres of Indian lands. Included are an additional $1.0 million for completing on-farm development work on the second 10,000 acre block of the Navajo Indian Irrigation project to which water deliveries are expected in the fall of 1977. Also included is $0.9 million for the water resource program on the Navajo reservation.

The $1.2 million increase for road maintenance will provide improved levels of service on the 24,642 miles of Indian road network serving 179 reservations.

Trust Responsibilities and Services - $24.0 million. The request of $24.0 million for fulfilling the Government's trust responsibilities in fiscal year 1977 provides for an increase of $2.7 million over fiscal year 1976. Primary emphasis will be directed to protecting Indian rights in water and other property, and in strengthening real estate and financial management services.

An increase of $1.9 million for water, hunting and fishing, and other rights protection work will provide for initiating additional water studies, for completing water use plans now underway, and for filing or appealing additional litigation cases. Also, programs will be strengthened to assure that environmental quality standards are being maintained.

An $0.8 million increase for trust services will provide for urgent backlogged land appraisal and lease and management services, increasing the number of appraisals by 600, and land conveyance, rights-of-way, and other lease services by over 5,000. In addition, trust fund management and accounting services will be strengthened for the estimated $542 million in Indian monies invested, and for tribal and individual Indian accounts being serviced.

General Management and Facilities Operations - $76.2 million. Included in the fiscal year 1977 budget request are funds to provide for the general management and administration of the Bureau ($8.3 million); annual program planning and development at the reservation level ($2.9 million); safety management and employee compensation ($2.2 million); operation, repair and maintenance of physical facilities in support of Bureau programs ($57.4 million); $5.4 million for space provided by GSA in GSA-owned or leased facilities and for space leased directly by the Bureau under leasing authority granted by GSA.

Construction (Buildings and Utilities) - $16.7 million. The construction program is estimated at $44.1 million using $27.4 million of unobligated funds at the close of the Transition Quarter and $16.7 million of new authority. The new authority provides $252 thousand to complete the Chevak Elementary Day School, Alaska; $1.9 million for the Alakanuk Elementary Day School, Alaska; $2.4 million for the Jemez Elementary Day School, New Mexico; $2.0 million for the Mekoryuk Elementary Day School, Alaska; $1 million for phase I of the Pine Ridge Rehabilitation Center, South Dakota; $500 thousand for a domestic water line to serve administrative and shop facilities for the Navajo Indian Irrigation Project, New Mexico; $1.2 million for the sewage collection system at Mt. Edgecumbe, Alaska; and $7.3 million for deferred equipment, water exploration, facility improvements, and architectural, engineering, and program support services.

Irrigation Construction - $29.6 million. The budget estimate for irrigation systems for fiscal year 1977 provides $22.0 million for the Navajo Indian Irrigation Project located in New Mexico and $7.6 million for other Indian irrigation projects and related power systems.

Road Construction on Indian Reservations - $68.5 million. The Bureau of Indian Affairs will continue to emphasize in fiscal year 1977 the need for developing adequate road systems on Indian reservations. Obligations for FY 1977 are proposed at $1.8 million above the amount for FY 1976.

Alaska Native Claims - $30 million. Included in the fiscal year 1977 budget request is $30 million for payment to the Alaska Native Fund for settlement of land claims of Alaska Natives as authorized by P.L. 92-203, December 18, 1971. This settlement will be accomplished in conformity with the real economic and social needs of the Natives and with their maximum participation in decisions affecting their rights and property. Funding to date has been $12.5 million in 1972, $50.0 million in 1973, $70.0 million in 1974, 1975, and 1976, and $40.0 million in the Transition Quarter.

Revolving Funds for Loans and Indian Loan Guaranty and Insurance Fund. The Indian Financing Act of 1974 (P.L. 93-262) authorized an increase of $50.0 million for the Indian Revolving Loan Fund for which $41.0 million was appropriated in fiscal years 1975 and 1976. A loan level of $14.3 million is projected for 1977 using collections and unobligated funds carried forward into 1977. The Act also authorized $20.0 million for three consecutive years (FY 1975, 1976, and 1977) to cover costs of administering the Indian Financing Act, and to establish a Loan Guarantee and Insurance Fund to cover the costs of interest subsidies and losses on guaranteed and insured loans. The estimates include $20.0 million for these purposes in fiscal year 1977, an increase of $10 million over 1976.

BIA Permanent Full-Time Employment. The employment levels set forth in the justifications represent a decrease of 236 in permanent full-time end-of-year employment. In addition, the number of permanent positions have been further adjusted downward to bring the number of permanent positions more nearly in line with anticipated permanent full-time employment. The number of positions shown reflects lapses of approximately six percent.

Federal Government Obligations. The Federal Government holds title, in trust, for 40.8 million acres of tribally-owned land and 10.2 million acres of individually-owned land.

Population. The United States Census for 1970 reports there are 792,730 Indians and 34,378 Aleuts and Eskimos in the United States. This is a total of 827,108 Americans claiming Indian or Alaska Native ancestry. In March 1973, the Bureau of Indian Affairs estimated about 543,000 Indians living

on reservations and nearby, including all rural California Indians in counties containing trust land.

Program Direction. The Administration will continue to provide the American Indian the opportunity to live in prosperity, dignity and honor, and to help determine their destiny through their participation and involvement. Special emphasis will be given to implementing the Indian Self-Determination Act. This budget supports those directions.

DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS
(In thousands)

Summary by Appropriation and Activity

Appropriations and Activities	Fiscal Year 1976 Appropriation	Pay Cost Supplemental	Amount Available	FY 1977 Estimate	Increase (+) or Decrease (-) 1977 Compared with 1976
OPERATION INDIAN PROGRAMS:					
1. Education	237,585	5,500	243,085	243,807	+ 722
2. Indian Services	128,761	770	129,531	154,735	+25,204
3. Tribal Resources Development	82,265	1,313	83,578	88,744	+ 5,166
4. Trust Responsibilities & Services	20,892	445	21,337	24,010	+ 2,673
5. General Management & Facilities Operations	71,315	2,431	73,746	76,174	+ 2,428
6. Navajo-Hopi Settlement Program	2,100	15	2,115	2,040	- 75
Total	542,918	10,474	553,392	589,510	+36,118
CONSTRUCTION:					
1. Irrigation systems	30,400	- - -	30,400	29,600	- 800
2. Construction of Buildings and Utilities	43,522	- - -	43,522	16,663	-26,859
Total	73,922	- - -	73,922	46,263	-27,659
ROAD CONSTRUCTION:					
1. General Road Construction-Appro.	66,705	- - -	66,705	46,795	-19,910
(Obligational Authority)	(66,705)	- - -	(66,705)	(68,544)	(- 1,839)
(Budget Authority)	(-)	(-)	(-)	27,205	+27,205
MISCELLANEOUS APPROPRIATIONS:					
1. Alaska Native Claims	70,000	- - -	70,000	30,000	-40,000
Revolving Fund for Loans	3,000	- - -	3,000	- - -	- 3,000
Loan Guaranty	10,000	- - -	10,000	20,000	+10,000
TOTAL APPROPRIATIONS	766,545	10,474	777,019	759,773	-17,246

BUREAU OF INDIAN AFFAIRS

Operation of Indian Programs

Appropriation, 1975	$467,000,000	
First supplemental	2,814,000	
Second supplemental	6,800,000	
Pay act supplemental	9,318,000	
Total appropriation, 1975		$485,932,000
Appropriation, 1976	542,918,000	
Pay cost supplemental	10,474,000	
Unobligated balance	304,643	
Total available, 1976		553,696,643

SUMMARY OF INCREASES AND DECREASES, 1977

	Base for 1977	Increase 1977
Education	$243,189,643	$617,357
Indian services	129,531,000	25,204,000
Tribal resource development	83,778,000	4,966,000
Trust responsibilities	21,337,000	2,673,000
General management and facilities operation	73,746,000	2,428,000
Navajo-Hopi settlement program	2,115,000	-75,000
Annualization of October 1975 pay raise		(3,595,000)
Total, net increase, 1977		35,813,357
Budget Estimate, 1977		589,510,000

BUREAU OF INDIAN AFFAIRS

OPERATION OF INDIAN PROGRAMS

Analysis by Activities

Activity	FY 1975 Amount Available	(Direct Appropriation) Fiscal Year 1976 Total Appropriation	Pay Cost Supplemental	Unobligated Balance Available	Amount Available
1. Education	$226,391,762	$237,585,000	$5,500,000	$104,643	$243,189,643
2. Indian services	98,702,699	128,761,000	770,000	--	129,531,000
3. Tribal resource development	75,276,769	82,265,000	1,313,000	200,000	83,778,000
4. Trust responsibilities	18,553,733	20,892,000	445,000	--	21,337,000
5. General management and facilities operation	66,597,609	71,315,000	2,431,000	--	73,746,000
6. Navajo-Hopi Settlement program	--	2,100,000	15,000	--	2,115,000
Unobligated balance available	304,643	--	--	--	--
Unobligated balance lapsing	104,785	--	--	--	--
Total	485,932,000	542,918,000	10,474,000	304,643	553,696,643

BUREAU OF INDIAN AFFAIRS

OPERATION OF INDIAN PROGRAMS

Analysis by Activities

(Direct Appropriation)

Activity	FY 1975 Amount Available	FY 1976 Amount Available	FY 1977 Estimate	Increase (+) or Decrease (-) 1977 Compared with 1976	Page Reference
1. Education.....	$226,391,762	$243,189,643	$243,807,000	$+617,357	4
2. Indian services.....	98,702,699	129,531,000	154,735,000	+25,204,000	13
3. Tribal resources development...	75,276,769	83,778,000	88,744,000	+4,966,000	28
4. Trust responsibilities.....	18,553,733	21,337,000	24,010,000	+2,673,000	48
5. General management and facilities operation.....	66,597,609	73,746,000	76,174,000	+2,428,000	54
6. Navajo-Hopi Settlement Program.	---	2,115,000	2,040,000	-75,000	59
Unobligated balance available..	304,643	---	---	---	
Unobligated balance lapsing....	104,785	---	---	---	
Total.....	485,932,000	553,696,643	589,510,000	+35,813,357	

1. Education

Education: Fiscal year 1976, $243,085,000; fiscal year 1977, $243,807,000; increase of $722,000. The increase consists of:

	Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(a)	+ $641,000		$156,893,000		Increased costs and for operation of new facilities.
(b)	-3,000,000		27,952,000		Reflects the elimination of the 1976 congressional add-on to hold-harmless the State distribution of JOM funds under new regulations.
(c)	+3,081,000		58,962,000		Increase for scholarships, adult education and adult vocational training.
	(1,887,000)				Annualize increased pay costs as per E.O. 11883.
	+ 772,000	-211	243,807,000	7,519	

Major Program Changes

(a) School Operations, +$641,000, total $156,893,000.

Proposal. The $641,000 increase will be used in two general program areas as follows:

(1) $3,000,000 will be used to operate a number of new school facilities, including nine new kindergarten classrooms, which are presently under construction and which are planned for completion and operation in fiscal year 1977.

(2) A decrease of $859,000 is for program reductions reflecting tribal priorities.

(3) In fiscal year 1976, funds in the amount of $1,500,000 were made available to supplement the operation of 10 previously private schools (4 boarding and 6 day). These funds are not included in the fiscal year 1977 request.

Justification. The $3,000,000 for new school facilities will provide an education opportunity for an additional 1,100 students not now being served by the Bureau at the respective locations.

Cost Factors. Operation of 9 new kindergartens, $639,000; Phase II of Santa Rosa School expansion, $350,000; new school facility at San Simon, $600,000; and the expansion of Gray Hills High School, $1,411,000.

(b) Johnson O'Malley Educational Assistance. -$3,000,000; total $27,952,000.

The decrease reflects the full operation of the JOM regulation revision of September 1974 and as revised December 1975 following a year of transition when the Congress appropriated an additional $3.0 million in FY 1976 to offset

any reduced public school assistance allocation under the revised Johnson-O'Malley distribution formula. The Congress has indicated these additional funds should be limited to fiscal year 1976.

(c) Career Development, +$3,081,000; total $58,962,000.

Proposal. The proposed increase will be used to provide additional career development services in three general areas as follows:

(1) Higher Education. An increase of $2,306,000 is requested for additional scholarship grants for Indian students.

(2) Adult Education. An increase of $78,000 is requested for adult education services.

(3) Adult Vocational Training. An increase of $697,000 is requested to assist individual adult Indians in pursuit of formal vocational training activities throughout the United States of which $305,000 will be utilized to reduce the socio-economic impact in the Navajo-Hopi disputed area as families are relocated under the provisions of P.L. 93-531.

Justification.

(1) Higher Education. The demand for scholarship assistance from the Bureau is expected to increase. Higher education has enjoyed a high priority among tribal groups in determining tribal priorities in fiscal year 1977. It is expected that nearly an additional 2,000 scholarship grants will be awarded in line with tribal priority expressed concerning this program.

(2) Adult Education. The additional funds requested will provide for a continuation of the adult education program at approximately the same level as fiscal year 1976.

(3) Adult Vocational Training. This program increase will provide an opportunity for additional Indian people to attain a skill and obtain reasonable and satisfactory employment, thereby affecting the unemployment rate and average per capita annual income.

Cost Factors.

(1) Higher Education. This is an increase of 2,000 over fiscal year 1976. The additional $2,306,000 will provide funding for the increased number of students and also funding at a more appropriate level based on the needs of the student on an equitable basis.

(2) Adult Education. No increase in number of adults served.

(3) Adult Vocational Training. The additional $697,000 will provide for an additional 244 adult vocational training opportunities at an average cost of $2,863 per adult served.

Program Description

The Bureau operates 76 boarding and 114 day school facilities where public schools are not available or cannot meet the special needs of Indian children. States, school districts, or Indian corporations may contract for supplemental programs or operational support. Grants are made to Indian students attending college. Federal school plans include: adequate base funding of the Indian education program; improvement in the home living program; and provision for the

special needs of local schools and communities. The Bureau coordinates the development of basic and continuing institutional or non-institutional education programs for Indian adults.

Education Funding

	FY 1976	FY 1977	Increase and Decrease
(a) School operations	$156,252,000	$156,893,000	$+ 641,000
Day school students	(18,651)	(21,601)	(+2,950)
Boarding school students	(32,652)	(34,340)	(+1,688)
(b) Johnson-O'Malley educational assistance	30,952,000	27,952,000	-3,000,000
(c) Career development	55,881,000	58,962,000	+3,081,000
Annual increased pay costs per E.O. 11883		(1,887)	
Totals	243,085,000	243,807,000	+ 722,000

(a) School operations. Federal Indian schools exist for two specific reasons: (1) because of geographic isolation caused by distance or lack of an adequate road system, and (2) for the accommodation of students who can benefit from the controlled environment of a boarding school. This would include rejected or neglected children and those whose behavior problems are too difficult for solution by their families or through existing community facilities.

Typically, Indian children have special needs and problems over and above those of the average American child. These include the necessity of learning a language different from their own, the effects of isolation, the painful process of bridging two cultures, and the need for meaningful involvement of their parents in the life of the school they attend.

The primary objective of Federal schools for Indian children living on Indian-owned or trust lands is to prepare them for successful living. In pursuit of individual goals, children in Federal schools develop basic academic skills, acquire an understanding of the social and economic world which surrounds them, learn improved standards of living, follow practices which assure optimum health, acquire the necessary vocational training to qualify for gainful employment, and obtain sufficient education to enter special schools and institutions of higher learning.

Under the Snyder Act of November 2, 1921 (25 USC 13), the school operations program provides for the operation of boarding schools, dormitories, and day schools for Indian youth at the kindergarten, elementary, high school, and post-high school levels. A pilot program for pre-kindergarten children is presently underway at two locations.

Boarding schools provide instruction and residential facilities at the elementary, high school, and post-high school levels. Enrollment is made up of those Indian children who do not have suitable education opportunities in their home communities, who are orphans, or who, for social reasons, must be educated away from their homes. These schools also provide a home living program to assist students in making social and cultural changes necessary for successful school adjustment.

Dormitories house children who attend public schools. These are children who do not have public schools available in their home communities. They are enrolled at both the elementary and secondary levels. The dormitories provide housing, feeding, and out-of-school recreation and tutoring activities.

Day schools provide instruction for local students within busing distance of the facility. The majority of those enrolled in day schools are in the elementary grades with only around five percent in high school. Most of these schools are small schools in isolated locations. Programs are designed to compensate for the effects of isolation and economic and social deprivation experienced in such locations. Kindergarten classes are provided for five-year old children.

In fiscal year 1975, the Bureau operated or contracted for the operation of schools which provided educational opportunities for 49,723 students. Approximately 1,800 students received high school or post-high school diplomas.

Fifteen schools were contracted to Indian tribal groups for management and operation of the local school program. These fifteen schools enrolled 2,799 students in grades ranging from kindergarten through twelve. In addition, there were numerous smaller contracts for various educational components such as summer programs, bilingual education, transportation services, and so on.

The Bureau of Indian Affairs has underway a program to develop regulations to meet the requirements of law provided by the Freedom of Information Act, Privacy Act of 1974, and the Buckley Amendment to Public Law 93-380. Interim guidelines have been issued to the Field and formal rules have been promulgated. This work is very appropriate in that it relates well to the student rights and responsibilities program and to the Management Information System which are innovations in the education program. The entire work should be completed by the end of June 1976.

Starting with the school year 1974-75, the Bureau of Indian Affairs implemented throughout its system a program in Student Rights and Responsibilities.

The innovation included rules for student rights and procedural due process that were made a part of the Code of Federal Regulations, a new section in the Indian Affairs Field Manual, and the development of law related curriculum. An evaluation of the school year 1974-1975 reflects implementation in all of the high schools and 87 percent of the elementary schools. Our goal is 100 percent in all schools and this should be achieved in the immediate future. A new curriculum guide entitled "Guidelines for Teaching Concepts of Fairness, Justice, and Democracy in BIA and Tribal-Contract Schools" has been developed and distributed to all the schools and dormitories. General guidelines and principles on which the program were based anticipated last year's court decisions and meant that Indian children in Federal schools have full protection and support in relationship to their rights while in school. There have been a large number of requests for materials and information about the program.

A new charter for the Institute of American Indian Arts was approved authorizing the institute to issue an Associate of Arts Degree. The school will be reflecting the needs of modern Indian youth and will offer instructions in grades 11-14. In addition to the Junior College level degree, they will award a high school diploma. This has given the school a renewed spirit and offers the prospect for an exciting future.

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The Bureau is well into implementing an Education Information System (a version of a management information system). The system is comprised of five subsystems with the Student Enrollment System to be the first to be implemented. Following closely after the SES is the Enrollment and Staff subsystems. The SES will improve BIA statistics in this area considerably over what they have been in previous times. The other subsystems include those of facilities and communities.

(b) Johnson-O'Malley educational assistance. The Bureau of Indian Affairs is committed to the development and maintenance of quality education programs for Indian students within the Bureau's service population. These programs include assistance to public and tribally controlled and operated schools, and providing a school system for those children for whom no other program exists.

The Bureau, also, is committed to the policy of meaningful Indian self-determination which will permit Indian people to decide the direction of educational programs for their children.

To implement this policy, the Bureau will enter into contracts to provide educational programs for Indian children from 3 years of age through grade 12, who are 1/4 or more degree Indian blood and are recognized as being eligible for Bureau educational services because of their status as Indians.

The goals of this program are to provide the quantity and quality of educational services and opportunities which will permit Indian children to compete and excel in the life areas of their choice and to achieve the measure of self-determination essential to their social and economic well being.

Contracts will be let to provide financial assistance to those program efforts designed to meet the specialized educational needs of eligible Indian students, including school operational support where such support is necessary to maintain established State educational standards and when such expenditures are approved by the local Indian Education Committee.

Funds for the support of contracts under this part shall be apportioned among the States on a substantially equal basis, based upon the number of eligible Indian students for whom funds are sought with allowances being made for the actual cost of delivering educational services in each State. Contractors within each State will receive approximately the same amount for each eligible student to be served under the contract.

Contracts are supported by an educational plan developed cooperatively by the Indian Education Committee and the contractor.

The educational plan is a comprehensive document describing such things as:

1. Educational objectives
2. Individual programs to be implemented
3. State standards to be maintained
4. Procedures for administrative and fiscal management
5. Other pertinent requirements

Committees receiving contracted funds, except those which have a school board composed of a majority of Indians, shall have an established Indian Education Committee which shall participate fully in the planning, development, implementation, and evaluation of all contracted programs. Contracted programs need not be conducted in the school or operated by the school. Approval and disapproval authority of all programs to be contracted is a primary responsibility of the Indian Education Committee.

Contracts may also provide assistance in financing the cost of education of out-of-state, non-resident children housed in Federal dormitories who attend public school peripheral to the reservation. A contract is negotiated with each such district for a specified number of Indian students. These funds are not supplemental in nature and amounts per pupil will vary depending upon the actual cost to the school district which provides the educational service. For these students, the contract provides for the full per pupil cost of education. From the total budget request an amount not to exceed $750,000 will be made available for this special purpose.

One of the most significant accomplishments in the past few years has been the increased involvement of the local Indian parents and the educational committees in the planning and monitoring of the Johnson-O'Malley program.

There has been a great increase in the number of special supplemental educational programs for eligible students in public schools. There has been an increase in the number of individuals from the local communities, most of them Indian, working in public schools as teacher aides, home visitors, and counselors. They are available as cross-cultural contributors of behavior to teachers, children, and parents. They represent a way of incorporating Indian adults directly into the educational system and they provide a means by which Indian adults can become better informed concerning the education of their children.

As the following chart will indicate, the number of contracts has increased from 27 in 1972 to 114 in 1975. We believe this has moved the program closer to the people being served.

1972	1975
4 tribal contracts	34 tribal contracts
11 district contracts	71 district contracts
12 state contracts	4 statewide contracts
—	5 partial state contracts
27	114

History of Enrollments and Appropriations:

Fiscal Year	Enrollment	Appropriation
1972	86,765	$22,652,000
1973	93,767	24,352,000
1974	99,718	25,352,000
1975	115,225	28,352,000
1976	130,000	30,952,000
1977 (estimate)	150,000	27,952,000

(c) Career development. This subactivity provides for a single coordinated career development program. The program uses a coordinated approach to solving the problems individuals face in career selection. A career counselor is available locally to provide guidance in making activities selection and then to coordinate the funding for the activities considered appropriate for the individual being counseled. Under the career development program, funds may be used for any of a full range of activities including higher education, institutional vocational training or adult education. Funding may be considered separately for one of these program components or in combination. This kind of funding approach insures that programs complement each other in meeting the needs of the individuals served. In most instances the trained career counselor can be the single contact necessary for the applying individual to enter any phase of the

Career Development Program. The counselor is also well suited to act as a clearing agent for funding assistance from non-BIA sources such as other Federal, State, tribal, or private sources which might be available.

The following table indicates estimated amounts for the Career Development Program in fiscal years 1976 and 1977.

Career Development Estimates of Funding
by Program Component

Program Component	FY 1976	FY 1977
Higher education.....	$33,119,000	$35,425,000
Adult education.....	2,703,000	2,781,000
Adult vocational training...	20,059,000	20,756,000
Totals.....	55,881,000	58,962,000

The overall goal of the career development program is to provide the means through which American Indian and Alaskan Native people can realize their full potential and contribute maximally to the societies in which they operate, as well as to their own self-determination.

The objectives for arriving at this overall goal are to provide services which will enable this target population to realize accomplished successes. These services are as follows:

(1) Career education
(2) Career counseling
(3) Adult education (high school equivalency and self-improvement training not necessarily leading to a job or degree but which may contribute as stepping stones to these goals).
(4) Adult vocational training (institutional technical training specifically designed as eligibility for direct employment).
(5) Higher education (academic training leading to a degree and/or a profession).

Higher education assistance for American Indian or Native Alaskan students to attend colleges or universities is an important part of the career development program concept. The higher education assistance program of the Bureau of Indian Affairs is designed to assist the entitled applicant who meets the criteria of one-fourth or more blood quantum of a federally recognized tribe or band. Applicants for assistance are expected to gain entrance to a college or university of their own choice and to cooperate with the financial aids officer of their institution in preparing a financial assistance application based upon his individual need. Such assistance may range from paying cost for one unit of work to complete support at the graduate level. This could be a range of as little as $50 to more than $4,000 depending upon the individual circumstances. The fiscal year 1975 appropriation was used to assist 14,256 students in attaining their goals for the year.

Higher education financial assistance is considered to be planned for supplemental use; that is, each applicant is expected to strive to help himself gain support from other public sources, and to search all avenues of financial assistance which may be used in combination with the BIA financial help.

It is estimated that the higher education assistance appropriation for FY 1977 will be $35,425,000. Of this amount approximately 95 percent is administered through the Area Offices either directly or by their contracting to Indian tribal organizations. Additional funding for the American

Indian-Alaskan Native students is obtained through various programs administered by USOE.

Bureau policy regarding the utilization of Higher Education Assistance funds mandates that other sources of funding be explored before Bureau assistance is applied on an equitable basis. Basic Educational Opportunity Grants from USOE have become a major source of other than BIA assistance for Indian students. This year the Bureau conducted a major information dissemination program concerning the availability of BEOG funds and it is anticipated that all eligible Indian students will be recipients of funds from this source in the future.

Financial support for the Navajo Community College has been placed in the tribal priority determination process. The level of funding is contingent on the priorities set by the tribe. This amounts to $4.5 million in fiscal year 1977, an increase of $1.5 million.

Approximately 17,000 American Indian and Alaskan Native students will be assisted by the higher education financial aid program of the Bureau in fiscal year 1977. In fiscal year 1975, the Higher Education program included 14,256 students. Approximately one-half of the students enrolled are in some aspect of training for the field of education. Other programs funded include the Indian law scholarships, school administrators, and scholarships for professionals.

Adult education is another important part of the career development program concept which enables adult Indians (generally 17 years of age or over) to improve their opportunities for employment or levels of self-confidence by expanding their education. The individual participates in part-time educational programs near his own home. Plans are underway to extend programs to target groups who are not now receiving services. Major emphasis is placed on expressed local needs. Most frequently these needs deal with basic literacy and high school equivalency examinations. However, courses are offered in a variety of subjects including consumer economics, Indian language and culture, safety, nutrition and civics.

The program of work for fiscal year 1976 allows for the establishment of reservation learning centers in a number of locations from Navajo to Sacramento to Albuquerque. Training of staff necessary to man these centers was built into the program as well as professional evaluation processes.

Adult education in the BIA is uniquely designed to meet the developmental needs of adults who are not yet competent to enter formal or instructional programs they might desire. Adult educators work towards developing opportunities for adults who have been dropouts from formal programs and who need additional educational services if they are to lead lives which are personally, socially, economically, satisfactory to them. Adult education services are desired at a multitude of levels; such as, basic literacy, high school equivalency, pre-entry requirements for vocational training or college, social-political competence, initial employment or employment upgrading, or personal satisfaction.

Learning centers or more properly, career development centers, are designed to provide a local community the resources which will allow individuals or groups of individuals to pursue educational endeavors for private use or common purposes. Subject matter content and student time compete with individual needs and desires to cause a direction of effort. The total career development organizational concept is to provide the means for more coordination among the component programs involved: adult education, career education, adult vocational training and higher education.

Adult education services in fiscal year 1975 show the accomplishments described on the following table:

Adult Education Enrollment and Achievements
Fiscal Year 1975

Marginal Enrollment	
Adult basic education	3,200
General education development	3,400
Other institutions	11,700
Total	18,300
Achievements	
GED's obtained	1,200
Unemployed hired	1,800
Employed promoted	400
Entered college	700
Enrolled in other programs	1,900
Total	6,000
Learning centers (career development) in operation	24
Location in which some form of additional education was implemented	55

Adult vocational training is designed to assist Indian individuals in obtaining vocational skills to enable them to compete for a job on an equal basis with all other citizens. The services, authorized under Public Law 84-959, as amended, and provided under this program include vocational guidance and counseling, institutional training in recognized vocations and trade for a period of no more than 2 years. In addition, 3 years of training is available to those interested in pursuing Registered Nurse training. Participants are also offered assistance in community living, money management, and housing. Financial assistance grants are provided for transportation to place of training, subsistence enroute, maintenance during training period, tuition and related costs, health assistance, and maintenance for one month after training while being placed in employment.

The adult vocational training activity is a part of a Bureau career development concept which has as its goal a unified and closely coordinated system of the delivery of BIA education and training resources to adult Indians. As such, the concept provides personal counseling and testing services to Indians and assists them in identifying and solidifying career goals. When the goal is established, the Indian applicant is assisted in making arrangements for training, adult education, etc., and provided funding when necessary. Career development encompasses college scholarships, basic and adult educational and vocational training, and is closely allied with the job placement and other educational activities for a full range of services and resources.

In fiscal year 1975, approximately 6,575 individuals were assisted directly by adult vocational training services to enter formal vocational training activities throughout the United States.

2. Indian Services

Indian Services: Fiscal Year 1976, $119,531,000; fiscal year 1977, $154,735,000; increase of $22,187,000. The increase consists of:

Increase(+) or Decrease(-) Amount	Positions	Total Program	Total Positions	Explanation
(a) -4,625,000		9,480,000		Responsibility for the TGDP function and part of comprehensive planning transferred to Self-Determination Svcs. and expiration of single year fishing rights funding.
(b) +5,877,000		71,902,000		Meet increased unit costs in general assistance, child welfare assistance, TWEP incentive payments & burial assistance. Also provide for increased caseload in child welfare & increased cost in the social services counseling and administrative programs.
(c) +1,778,000		16,146,000		Continue assistance for Indian housing authorities and renovation and building of new homes.
(d) +22,187,000		32,887,000		Provide additional contract support for tribes contracting for services; meet P.L. 93-638 responsibilities for self-determination grants and training and technical assistance.
(e) -13,000		24,320,000		All other programs.
(264,000)				Annualize increased pay costs as per E.O. 11883.
$ 25,204,000	+62	$154,735,000	1,157	

(a) Aid to Tribal Government, -$4,625,000; total $9,480,000.

Proposal. For the past 4 years the Bureau has operated a tribal government development program (TGDP) which contracted with small low income tribes for projects designed to improve the capability of their tribal government. Also, for the last 3 years the Bureau has through its tribal planning services program contracted with tribes for the development of comprehensive plans which recognized tribal goals and objectives and were designed to meet the socio-economic and environmental needs of the reservation.

In FY 1977, the Bureau will be operating under the authority of the Indian Self-Determination and Education Assistance Act, P.L. 93-638. Section 104(a) of this act authorizes grants to tribes for strengthening or improving tribal governments, including tribally funded programs or operation of tribal facilities or resources. It also authorizes grants for the planning, design, monitoring and evaluation of Federal programs serving the tribes.

As the self-determination services program becomes operational it is proposed to fold in both the existing TGDP program and that portion of tribal planning associated with contracts with tribes for comprehensive plans.

It is also proposed however, to continue under aid to tribal government to meet the need for activities such as assistance in the preparation of tribal membership and payment rolls, processing enrollment appeals, preparing judgment fund legislation and holding hearings of record, advising on the processing constitution and by-law actions as well as corporate charters, and review of general and claims counsel contracts, technical assistance in comprehensive planning, agriculture extension and other special youth related programs.

The Bureau's FY 1976 Aid to Tribal Government budget was increased by $2,152,000 to cover expenses associated with Indian fishing rights in the northwest. This brought the total funding for this purpose up to $3,407,000 in FY 1976. Funding in FY 1977 will be $2,255,000 (see page 51 for detail) of which $245,000 is for aid to Tribal Government.

Justification. The Bureau of Indian Affairs has long had as an objective the improvement of tribal governments. Public Law 93-638 now offers broad authority to do just that. The flexibility offered by the act will enable tribes who were excluded from TGDP to now receive funds for government improvement projects and programs. The TGDP had been applied for TGDP and 115 of those were found eligible to participate. Under the proposed self-determination grants program it is estimated that 420 tribes will be eligible to participate.

The tribal planning function is clearly within the authority of P.L. 93-638 and as such should be operated under that authority and be coordinated with and compliment other associated governmental improvement projects.

Under tribal government services, the Act of October 19, 1973 (Public Law 93-134, 87 Stat. 466), the Indian Judgment Fund Act, requires that the Bureau conduct public hearings of record in assisting tribe beneficiaries of awards made by the Indian Claims Commission or the Court of Claims in determining judgment use plans. In FY 1977, the Bureau will be involved in research, preparation of plans and hearings of record in 40 judgment cases. This figure could be higher as the Indian Claims Commission approaches the end of its work.

In FY 1977, roll work will commence on 56 new judgment payment rolls; work will continue on about 84 which will carry over from FY 1976, making a total of 140 rolls in progress (98 membership rolls and 42 descendancy rolls). There are presently on hand pending consideration and determination approximately 4,100 individual appeals relative to judgment cases. Certain judgment funds cannot be distributed until these appeals are completed and the entitlement of appellants to share in the funds is settled. Each new roll being prepared for use in distributing judgment funds results in more appeals varying in volume and complexity.

It can be expected that P.L. 93-638 will generate an increased workload of reviewing and approving proposed tribal constitution and charter actions. It may also be necessary to conduct special elections and referendums associated with new programs or methods of operation under P.L. 93-638.

Basically, the proposal for aid to tribal government for FY 1977 is justifiable so that the Bureau can concentrate those resources utilized for tribal government improvement in one comprehensive program under the authority of P.L. 93-638 and at the same time meet the need for on-going governmental operations in the fields of rolls, judgments, governing instruments, agricultural extension, planning technical assistance, and youth programs.

Cost Factors. In arriving at the net FY 1977 decrease of $4.6 million for aid to tribal government, the following increases and decreases are proposed.

	FY 1977
Increased workload in tribal operations	$ +590,000
Increased workload in agricultural extension	+299,000
Transfer to self-determination services:	
TGDP	-2,896,000
Comprehensive planning	-466,000
Expiration of fishing rights funding	-2,152,000
	$-4,625,000

(b) Social Services, $+5,877,000; total $71,902,000.

Proposal. It is estimated that the caseload for various types of assistance required of the Bureau in fiscal year 1977 will be:

General assistance (average persons per month)	68,000
Child welfare (average children per month)	3,300
Burials	1,200
Social services; non-financial services (average cases per month)	15,700

The Bureau's FY 1977 budget proposes to meet this need at a cost of $71,902,000 which is an increase of $5,877,000 over FY 1976. General and child welfare assistance as well as burial assistance will continue to be provided by BIA or under contract with tribes as in past years. This proposed program does not include a new program structure nor any major new initiatives. The major change required is in the level of funding and is directly related to increased unit costs across the board coupled with a minor projected increase in child welfare caseload.

Justification. During fiscal year 1977 the social services program will be required to provide Indian people and communities with financial assistance and social services which will enable them to effectively cope with individual and community social problems. In carrying out this mission, the Bureau must administer a program of social services on and in some instances, near major reservations and in the Bureau's administrative jurisdictions in Alaska and Oklahoma. The program undertakes to provide necessary financial assistance and social services for Indians on or near the reservations and in the jurisdictions referred to above only when such assistance and services are not available through State or local public welfare agencies. The operational elements of the social services program are general assistance, child welfare assistance, miscellaneous assistance and social services.

The caseload and funding data relating to meeting these needs for FY 1975 - 1977 are:

Program	FY 1975 Actual	FY 1976 Estimate	FY 1977 Estimate	Change
1. General assistance	$47,510,060	$49,573,000	$52,366,000	$+2,793,000
(caseload)	(65,000)	(68,000)	(68,000)	---
2. Other welfare assistance:				
(a) Child Welfare	$8,153,310	$7,776,000	$9,374,000	$+1,598,000
(caseload)	(3,100)	(3,200)	(3,300)	(+100)
(b) Miscellaneous assistance	521,533	490,000	986,000	+496,000
(burials)	(250)	(300)	(1,200)	(+900)
3. Social services	7,734,000	8,186,000	9,176,000	+990,000

Total.....	63,918,903	66,025,000	71,902,000	+5,877,000

Cost Factors. The general assistance caseload is estimated to be 68,000 persons per month in fiscal year 1977. The average cost of providing general assistance to each of these persons is estimated at $61.33 per person per month for a fiscal year cost of $50,044.000. This cost reflects an expected unit cost increase of $3.11 in fiscal year 1977 over 1976. In addition, the Bureau's general assistance program will provide, through tribal contracts, work experience for an estimated 4,300 employable general assistance recepients under the tribal work experience program (TWEP). Approximately $2,322,000, reflecting a work cost payment of $45 per TWEP participant per month, will be required to fund the TWEP at that level of participation. This cost reflects a $5.00 unit cost increase in the TWEP work cost payment in fiscal year 1977 over 1976 for a combined total cost for general assistance of $52,366,000; an overall increase of $2,793,000 in fiscal year 1977 over 1976.

Approximately 3,300 children per month will require child welfare assistance during fiscal year 1977. Funding in the amount of $9,374,000 is required for the Bureau to meet its responsibilities of providing necessary foster care for these children. This funding reflects an estimated $236.72 unit cost per month per child a unit cost increase of $34.22 in fiscal year 1977 over 1976. It also reflects an increased caseload of 100 children in fiscal year 1977 over 1976. The overall increase in child welfare assistance is $1,598,000 in fiscal year 1977 over 1976.

In fiscal year 1977, the Bureau must be prepared to meet the burial expenses of an estimated 1,200 indigent Indian persons. The substantial increase in miscellaneous assistance costs is because the Bureau policy of providing for burial services for all indigent Indian persons was inauguarated in early calendar year 1976 upon passage of the FY 1976 appropriation act. Prior to passage of this FY 1976 appropriations act, the Indian Health Service, U.S. Public Health Service, provided burial services to indigent Indians who died in Indian Health Service facilities. The average cost of each burial is estimated at $500, representing a $50 unit cost increase in fiscal year 1977 over 1976, and also representing a total burial cost for fiscal year 1977 of $600,000; an increase of $465,000 in fiscal year 1977 over 1976. The Bureau must also be prepared to assist tribes to meet costs associated with food programs. These costs are estimated to be $386,000; an increase of $31,000 in FY 1977 over 1976. The combined burial and food distribution miscellaneous costs for FY 1977 are estimates to be $986,000, an overall miscellaneous cost increase of $496,000 in FY 1977 over 1976.

In fiscal year 1977 the Bureau will have to provide counseling and other non-financial assistance to an estimated 15,700 persons per month. Also it is anticipated that many tribes will establish tribal social services programs via P.L. 93-638 contracting. These tribal programs will require Bureau funding to recruit, train and employ tribal social services staff. Most of these tribal programs will initially parallel and compliment existing Bureau services. This will help maintain quality of service in the initial stages of tribal contracting and will also help facilitate a desirable separation of general assistance eligibility determination from the provision of services only. Such a separation is in keeping with Federal Welfare policy and operating standards. These activities together with other costs associated with administration of the overall social services program (general assistance, child welfare assistance, miscellaneous assistance) will require estimated funding totalling $9,176,000, an increase of $990,000 in fiscal year 1977 over 1976.

(c) Housing. $1,788,000; total $16,146,000.

Proposal. The long-range mission of the Bureau's housing program is to carry out programs leading to the elimination of substandard housing on Indian reservations. To accomplish this will require the construction of 51,100 new homes and the repair of 26,600 existing houses. As part of that overall goal the Bureau's housing proposal for fiscal year 1977 is to provide, through the housing improvement program

(HIP), 400 new homes and 2,500 renovations and/or enlargements.

The Bureau must also be prepared to provide staff and technical assistance to approximately 134 local Indian housing authorities to which the Department of Housing and Urban Development (HUD) has committed over 12,500 units. This assistance will enable tribes to successfully acquire and manage HUD sponsored housing.

Justification. The estimate of housing need has been determined from the fiscal year 1975 Housing Survey which shows:

Service population (families).....	127,300
Less:	
Existing dwellings in standard conditions.....	-49,600
Families in need of housing assistance.....	77,700
Houses suitable for renovation to standard.....	26,600
New homes required.....	51,100

The Bureau's housing improvement program (HIP) is designed to (1) deal with the estimated 26,600 houses which can be renovated to standard, and (2) provide new housing for certain segments of the Indian population and areas that were thought to be eligible for other Federal programs but simply cannot be served. The housing development program provides technical and administrative assistance to Indian housing authorities in their dealings with HUD which provides the majority of new housing and Indian Health Service (IHS) which is responsible for water and sanitation services.

The renovation effort has been and continues to be an important element in producing standard Indian housing. Indian families receive the direct benefit of improved housing which is decent, safe and sanitary and results in reduced health and social costs which might be created by an unsafe and unsanitary environment.

It has been found most important that the renovation effort be of a quality and sufficiency that the recipient can take pride in the finished product. renovations must include not only the basic necessities of water and utilities but must provide for the modern conveniences including living space and storage space that are so necessary for family living.

The Housing and Community Development Act of 1974 contains the first statutory set aside (in terms of units) for Indian housing construction financed by the Department of Housing and Urban Development (HUD). This legislation is interpreted by HUD as a commitment for fiscal year 1975 and fiscal year 1976 of over 12,500 units. It requires the direct support of the Bureau Housing Development program which provides technical and administrative assistance to Indian housing authorities in developing housing project applications and proposals for financial assistance under the Federal housing programs as well as technical construction management and inspection.

The Bureau is also responsible for the coordination of various other agency inputs (roads, water and sewer) necessary to complete construction. The increased responsibility under the new Act directly affects the requirements for record keeping and statistical analysis by the Bureau. Application and interpretation of statistical data and daily contact with Indian housing authorities enables the Bureau to advise Indian housing authorities and HUD on housing progress.

Cost Factors. As indicated above there are approximately 77,700 families in need of housing services. During fiscal year 1977 it is estimated that the proposed budget of $16,146,000 will provide direct assistance to 2,900 families as follows:

New homes	
HIP.....	400
Renovations	
HIP.....	2,500
Total units.....	2,900

The average cost of a new HIP home is estimated to be $12,000. A HIP renovation averages $3,100 per house. Total HIP cost for FY 1977 is $4,776,000 for new homes and $7,700,000 for renovations; a total of $12,476,000.

The provision of technical and administrative housing development assistance to Indian tribes and housing authorities amounts to $3,670,000 for FY 1977.

(d) Self-Determination Services. $+22,187,000, total $32,887,000.

Proposal. The establishment of self-determination services is the most significant major program change to be proposed within Indian Services for FY 1977. The Indian Self-Determination and Education Assistance Act (P.L. 93-638) became law on January 4, 1975.

There are two basic approaches to Indian self-determination intended by Congress and stated in the Act. The first is contracting. The Act directs the Secretary of the Interior to enter into contracts with tribal organizations for the planning, conduct or administration of programs that the Secretary is authorized to administer for the benefit of Indians provided certain conditions are satisfied. The second approach can be termed capacity building.

Under Section 104(a), the Secretary is authorized to contract with or make grants to tribal organizations for strengthening or improving tribal government; to build tribal capacity for contracting; and to plan, design, monitor and evaluate Federal programs serving the tribe. The intent of Congress was clearly to provide authority to the Secretary to strengthen tribal government and where such government exists or when it has been developed to require the Secretary to honor tribal proposals for the contracting of federally administered programs. In order to carry out the intent of the Act the Department and the BIA must have the resources necessary to facilitate contracting, and to strengthen tribal government in order to implement the Administration's self-determination strategy.

Fiscal year 1977 will be the first full year in which the Act will be operational. The operational goals of self-determination services are intended to accomplish the intent of Congress and they are:

1. Provide tribes with the resources to develop soundly conceived and well prepared plans to assume the operation of Bureau programs and services under contract.

2. Provide funds for overhead costs of Indian tribes or organizations associated with contracting with the Bureau of Indian Affairs and for costs related to the displacement of Federal employees as a result of these contracts.

3. Provide the resources required to train tribal officials and personnel in the knowledge and skills necessary to conduct and administer new programs and otherwise improve the effectiveness of tribal government.

4. Increase tribal ability to operate Federal programs under contract and enhance the overall quality and effectiveness of tribal government by establishing programs to improve managerial capacity as well as other facets of tribal administration and program operations.

5. Provide tribes with the support necessary for them to plan, direct, administer, monitor, evaluate, and otherwise control the gamut of Federal services provided for the benefit of Indian people.

In order to meet these goals three distinct funding operations must take place in fiscal year 1977. They are:

1. Provision of contract support funds to (a) offset overhead costs which tribes will experience in association with contracting; (b) additional costs associated with the displacement of Federal employees whose functions are contracted with tribes.

2. Provision of funding for training and technical assistance for both participating tribes and Bureau staff to prepare them for effective new roles operating under P.L. 93-638.

3. Funding self-determination grants to tribes to be utilized for facilitating contracting and improving the capacities of tribal governments.

Justification. During FY 1977 the Bureau will implement an intensive program designed to carry out the policy of Congress as stated in P.L. 93-638 (Section 3). This section recognizes the obligation of the United States to respond to Indian desires for self-determination by assuring maximum Indian participation in the direction of services provided to them. Congress further declares that the policy requires implementation of an orderly transition from Federal domination to a situation where Indian people participate in the planning, conduct, and administration of those same programs and services. The intent of the Act cannot be carried out unless significant amounts of money are made available for the programs being proposed for the following purposes:

1. Grants to tribes for improving the capacity of tribal governments.

2. Adequate resources to offer training and technical assistance to tribes and Bureau staff requiring such help.

3. Funding to offset the additional overhead which will occur when tribes contract for current BIA programs.

The following components of the proposed program are based on a combination of needs expressed by tribes, on the interpretation being given the intent of Section 104(a) by this Bureau and recognition that planning, Government capacity building, and training/technical assistance, are in most cases, pre-requisites for tribes to contract for Bureau programs or otherwise implement the intent of the Act.

Justification for the approval of each of these proposed funding components can be summarized as follows:

1. Self-Determination Grants - Section 104(a). This component is a crucial and necessary component to the self-determination strategy. The passage of P.L. 93-638 has afforded tribal governments opportunities for the exercise of an increasing number of activities which are generally characteristic of local governmental units, and which may result in Indian people having maximum control over their own affairs. However, the Act also recognizes that in many instances tribes have not yet developed the capacity to carry out these self-determination objectives by virtue of either the lack of resources to do so or due to inadequate development of their governmental capabilities or other reasons.

Grants will be made available to tribes for planning, training tribal staff to administer Bureau programs, tribal government improvement, contract and grant proposal preparation, and basic studies and analysis. The Bureau will set aside a definite amount of funds which will be distributed upon application for tribal projects related to the activities described above.

The initial funding set aside has been determined by a formula based on tribal population modified to account for economies of scale and realities of the population variation among tribes.

The rationale supporting the proposed formula is:

a. Tribes may be grouped according to their population for purposes of determining funding requirements.

b. Each tribe should be eligible for a self-determination grant which recognizes that higher costs will be experienced by larger tribes but still permits small tribes sufficient funding to achieve significant results.

c. Incentive funding should be provided to encourage tribes to associate with others in management and administrative groups to obtain economies of scale.

d. Provision should be made to fund worthwhile programs and projects of those small tribes who cannot obtain sufficient funds through the formula or by association with other tribes.

The formula does not, in accordance with the intent of P.L. 93-638, penalize tribes because of tribal income or assets.

2. Training and Technical Assistance. The training and technical assistance to be made available under the Act will focus both on participating tribes and Bureau staff. Funds will be made available under this element to cover costs of training tribal personnel to achieve the objectives of P.L. 93-638. Training will focus on the opportunities afforded by P.L. 93-638 and important areas like the following: developing skills in financial administration, merit personnel systems and general managerial abilities and other areas of study relating to administering Bureau programs and improving tribal government. Training and technical assistances along these lines will be provided primarily at these points in time: (a) prior to contracting, (b) during the declination process, and (c) after contracting and attempting to avoid retrocession.

Tribes have indicated, in a very strong manner, their need to have a source of independent technical assistance in those situations where the tribe and the Bureau have differing views on how a program should be operated. Assistance would be provided for financial management skills in contract negotiations, and the range of problems associated with the declination process. In addition, resources will be required to train Bureau staff so that our people in the field will be able to undertake the new functions embodied in the Act.

It is critical that focal points in the Bureau be created for the implementation and oversight of those program activities under Section 104(a) of P.L. 93-638 for which the funds in this budget are being requested. Therefore, the Bureau plans to establish a Division of Self-Determination Services in the Washington Office which will have the responsibility for policy development, oversight, and direction of the training and technical assistance effort, as well as for the administration of the self-determination grants program. This unit will be responsible for development and

implementation of a plan for orienting all Bureau employees concerning the purpose and substance of P.L. 93-638 and for training of key Bureau personnel so that they might respond effectively to the issues and questions raised by the Act and bring them actively into the process as advocates of the new policy. Also it will develop a plan for extended and in-depth orientation and training of tribal leadership and key tribal staff members at the reservation level, to enable them to exercise their options under the legislation in an informed manner.

The unit should initially include professional persons with experience in (a) tribal government and tribal development, (b) the operation of the Bureau and the capability and attitude of its staff, and (c) training and technical assistance services. This unit will require twelve additional staff positions including support personnel. Each area office will be required to establish a self-determination unit to monitor the implementation of self-determination policy and act as a coordinator of training and technical assistance. Each unit will consist of three positions at each of the twelve area offices for a total personnel requirement of 48 positions.

Grants and contracts for technical assistance and training for tribes from outside sources will amount to $3.0 million. An additional $1.0 million is requested to carry out BIA staff training. This will enable the Bureau to produce the materials and supplies, conduct training sessions, and in some instances contract for additional necessary services required to provide a thorough orientation concerning the Act to all Bureau employees.

3. Indian Contract Support. Tribes that contract with the Bureau for services are faced with funding problems. In order to maintain at least the level of services offered prior to contracting, they must obtain funding to cover overhead or indirect costs. Many tribes are reluctant to contract with the Bureau because they feel it costs them more in terms of tribal and/or program dollars. To solve this problem the Bureau in fiscal year 1976 established an Indian contract support program for which appropriate overhead rates for contracts were made available to cover auditable overhead costs. Provision was also made to pay the costs of severance pay and lump sum leave payments for Federal employees displaced by contracting.

Cost Factors. Developing cost factors to be used in costing out a new program such as self-determination services is often of necessity an imprecise endeavor. Based upon what data was available and best estimates of what will be required of each of the operating components are:

1. Self-Determination Grants. There have been 421 tribes identified as being eligible for self-determination grants. Using the rationale shown above in the justification section, the cost factors used to arrive at the proposed total for self-determination grants were:

P.L. 93-638 Grant Funding Factors

Population	Per Capita Funding
For first 2,000 members	$50
Next 2,000 members	$40
Next 2,000 members	$30
Next 2,000 members	$20
Next 2,000 members	$10
All other members	$ 3

The total annual need in terms of funding for self determination grants using the above formula is:

Tribal Population	Number of Tribes	Estimated Total Population	Total Cost
2,000 and under	383	124,000	$6,200,000
2,001 - 4,000	22	61,500	2,900,000
4,001 - 6,000	7	35,900	1,500,000
6,001 - 8,000	5	33,400	1,300,000
8,001 - 10,000	1	9,300	300,000
Over 10,000	3	164,000	1,300,000
Total	421	428,100	13,500,000

In addition to the above formula distribution, special provision is to be made for tribes whose population is less than 300 persons. Tribes falling in this category will be eligible for incentive payments if they combine with other tribes to administer self-determination programs. These incentive payments are intended to raise the amount of grant aid for which a small tribe is eligible to a minimum of $25,000. Provision will also be made for special grants to small tribes who find it impossible to combine with other tribes and whose normal entitlement is not enough to fund a worthwhile self-determination program. The total full-year cost for this "small tribe" aspect of the P.L. 93-638 grants is estimated to be $3,660,000.

2. Training and Technical Assistance. For fiscal year1977 it can be estimated that there will be about $40 million in increased contracting under P.L. 93-638. A further estimate is that a factor of 6 percent of this new contracting amount, or $2.5 million, would be adequate to meet the training and technical assistance for tribes which will be secured from sources outside the Bureau. Training for BIA staff will require $1.0 million in staff requirements for self-determination services and $1.0 million for a staff of 58 nationwide to direct training and technical assistance and administer the programmatic aspect of the self-determination grant process. The total requirement for training and technical assistance is $4.5 million.

3. Indian Contract Support. During fiscal year 1976 tribes will have available to them $10.7 million to offset overhead indirect costs resulting from contracting for the operation of programs. An additional $0.4 million is required in fiscal year 1977 to maintain the same level of effort for contract support.

4. Cost Summary.

	FY 1976	FY 1977	Change
Self-determination grants.....	-	$17,160,000	$+17,160,000
Training and technical assistance.	-	4,597,000	+ 4,597,000
Contract support.....	$10,700,000	11,130,000	+ 430,000
Total.....	10,700,000	32,887,000	+22,187,000

Program Description

The Indian Services activities provides resources through which program operate to promote the welfare and development of individual Indians and Indian communities, assist tribes in developing local government services for Indian communities and assist tribes in developing their capabilities for self-government and contracting Federal programs. The 5 subactivities which operate to achieve the purpose of Indian services and their respective funding levels are shown below:

Program	FY 1976 Amt. Available	FY 1977 Estimate	Change
Aid to tribal government.....	$14,105,000	$9,480,000	$- 4,625,000
Social services.....	66,025,000	71,902,000	+ 5,877,000
Law enforcement.....	24,333,000	24,320,000	- 13,000
Housing.....	14,368,000	16,146,000	+ 1,778,000
Self-determination services..	10,700,000	32,887,000	+22,187,000
	129,531,000	154,735,000	+25,204,000

1. Aid to Tribal Government, -$4,625,000; total $9,480,000.

The funding change for aid to tribal government should not be construed as a de-emphasis of the program. One of its programs, TGDP, and a portion of tribal planning services performed functions which will be part of the new self-determination services program and their appropriate funding is being transferred to the new program. Also, additional funding associated with northwest fishing rights has not been included in the fiscal year 1977 budget.

In addition to the increased activity anticipated as the Indian Claims Commission nears the end of its existence, the passage of P.L. 93-638 is also expected to heighten activity in other areas involving aid to tribal government. As tribes are given new recognition and status under the Act, along with the anticipated resources necessary to direct Federal programs and carry out local governmental functions, indications are many tribes will either develop new or amend existing tribal governing documents. This will create a considerably increased workload reviewing and approving such actions. Similarly, it is expected that a need for additional special elections will be required to address matters spawned by the legislation. Furthermore, the trend of recent years involving tribes desiring to expand the jurisdiction of their tribal authority in some cases seek recognition previously not available require additional capability on the part of the Bureau to provide appropriate assistance.

Tribes will as in the past look to aid to tribal government as a valuable resource available to improve and enhance the operations necessary to the effective administration of governmental affairs. As such, aid to tribal government will act as a solid foundation which P.L. 93-638 programs can build upon. Estimates of certain activities are:

	FY 1976	FY 1977
Judgement cases in progress...	32	40
Judgement rolls in progress...	106	140
Ortho-photo maps.....	10	3
Constitution/organic document actions.....	84	96

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2. Social Services, $+5,877,000; total $71,902,000

The social services will continue to provide, through general assistance, direct financial grants according to need determined by using the same budgetary standards applied by State welfare agencies for State public assistance programs. Additionally, Indians requiring institutional or nursing home care will be provided for. Employable Indians may participate in the TWEP which provides an incentive payment of $45 per month over and above the general assistance grant for work on tribal projects such as home construction and repair, road repair, building maintenance and development of recreational facilities.

Through child welfare assistance the Bureau will secure foster homes, place Indian children in foster homes when living in their own homes is not desirable or possible, identify handicapped Indian children in need of special care and arrange for such care, and provide services and consultation to tribal courts so as to assist them in carrying out more effectively their legal responsibilities for the protection and care of Indian children.

Miscellaneous assistance will provide for burial costs for persons or families without other resources to defray their expense and also provide for assisting tribes with costs associated with food programs.

Social services will continue to provide individual and family counseling services and assistance to tribes in the development of tribal social services and work experience programs as well as actual administration of the general assistance, child welfare assistance, and miscellaneous assistance programs.

Selected outputs and workloads for social services functions are:

	FY 1976	FY 1977
General assistance - average person per month...	68,000	68,000
Child welfare - average children per month.....	3,200	3,300
Burials per year.....	300	1,200
Non-financial services per month.....	15,700	15,700
TWEP participants.....	4,300	4,300

3. Law Enforcement, $-13,000; total $24,320,000

Proposal. The Bureau's law enforcement program operates in 18 states where it provides enforcement, judicial and detention services to Indian communities with a total population in excess of 375,000 persons. The total Indian criminal justice system was the subject of an extensive study recently completed which recommends a phased upgrading of the operating elements of the criminal justice system to a point where Indian communities can expect to receive exemplary service.

As a result of the study the FY 1976 President's budget was amended to provide significantly increased resources as the first increment in an implementation program of improvements in enforcement, judicial and detention operations as well as associated support services such as training and inspection/evaluation.

The Bureau proposes that funding be continued at approximately the FY 1976 level in order to establish a firm operating base which will provide experience to both the Bureau and the tribes from which further improvements can be planned.

Justification. Crime statistics indicate the following:

The rate of major crimes on reservations is 1,654 per 100,000 population compared to 1,085 per 100,000 in rural areas as a whole; the incidence

of violent crimes in Indian country outnumber that in rural America by 1,068 to 144 per 100,000 population; and aggravated assaults are nine times as common on Indian reservations as in rural America generally. Murders are almost three times as common and rape (including attempted rape) is almost five times more common on Indian reservations.

During FY 1977 the Indian criminal justice system will operate at a minimum adequate level. This minimum adequate level is such that operations under it can be expected to contain the crime problem on Indian reservations at manageable levels.

The police will continue to be engaged in a crime prevention effort at each Agency in cooperation with other local agencies and community resources. This objective is based on the assumption that crime prevention is the first task of any criminal justice system.

The Bureau will require adherence to a code of professional conduct comparable to that of other Federal law enforcement agencies and will establish a mechanism to assure its observance. Such a code will also be required for any law enforcement programs under contract with the Bureau.

Adequate procedural safeguards will be continued in all CFR courts and the Bureau will work with tribal governments to assure that the rights of the accused are protected. The Bureau clearly has the responsibility to assure that the constitutional rights of all parties are protected.

There will be adequate funding and staffing to make jails physically safe and non-hazardous to health. It is essential that 24-hour supervision be provided at all jails in order to reduce the number of prisoner assaults and virtually eliminate deaths by suicide. Matrons will be on duty whenever women are imprisoned.

During FY 1977 the following workload is expected:

	FY 1976	FY 1977
Complaints investigated	133,000	152,000
Non-enforcement responses	339,000	390,000
Prisoners detained per day	480	500
Court cases conducted	90,000	95,000

Cost Factors. The FY 1977 costs associated with the proposed operating program described above as compared with FY 1976 are:

	Current Year FY 1976	Budget Year FY 1977
Enforcement	$ 14,033,000	$ 14,850,000
Judiciary	2,600,000	2,760,000
Detention	3,100,000	3,290,000
Training	400,000	425,000
Tribal planning	2,500,000	1,250,000
Inspection	140,000	149,000
Prisoner release	269,000	286,000
Administration and supervision	1,291,000	1,310,000
Total	$ 24,333,000	$ 24,320,000

4. Housing, $+1,778,000; total $16,146,000

The Bureau's housing program will continue to furnish funds and assistance

to provide and improve housing for Indians in Indian areas. It also provides technical assistance to tribes and liaison with HUD and the Public Health Service (PHS) to achieve the greatest possible housing benefit to Indians and their communities. During FY 1977 the housing program accomplishments are expected to be:

	FY 1976	FY 1977
New house starts (HIP)	400	400
Renovations (HIP)	2,250	2,500
HUD assisted new homes	6,000	7,500
Indian housing authorities units under occupancy	25,000	28,000

5. Self-Determination Services, $+22,187,000; total $32,887,000

During FY 1977 the 421 tribes considered eligible to benefit from the self-determination provisions of P.L. 93-638 will be offered grants to assist them in projects leading to improvement in the capacity of their tribal governments. A self-determination staff will be established within the Bureau and will administer grants under the program and also oversee the training and technical assistance effort for those tribes whose applications for contracting are approved. There will be adequate resources available to meet overhead costs associated with contracting. It is expected that as time progresses this program will become the foundation for a new operating relationship between the Bureau and the tribes it serves.

3. Tribal Resources Development

Tribal Resources Development: Fiscal Year 1976, $83,578,000; Fiscal Year 1977, $88,744,000; increase of $5,166,000. The increase consists of:

	Increase(+) or Decrease(-) Amount	Positions	Total Program	Total Positions	Explanation
(a)	$- 467,000		$12,119,000		Business Enterprise Development--Discontinue funding for Bicentennial observance and for lower priority activities in accordance with Tribal determinations.
(b)	+ 99,000		3,277,000		Credit -- Primarily to meet increased costs.
(c)	+1,149,000		14,311,000		Direct Employment -- Expand training and placement services.
(d)	+1,244,000		10,756,000		Road Maintenance -- To provide improved maintenance service levels and to maintain additional paved roads.
(e)	+2,827,000		29,647,000		Forestry and Agriculture -- Farm unit development work on the Navajo Indian Irrigation Project, water resource program on the Navajo Reservation, and other program improvements.
(f)	+ 301,000		4,507,000		Minerals Mining, Irrigation and Power -- Intensify minerals and mining programs with special reference to energy.
(g)	+ 13,000		14,127,000		Indian Action Team -- To meet cost increases.
	(+ 451,000)				Annualize increased pay costs as per E.O. 11883.
	+5,166,000	-28	88,744,000	1,657	

Major Program Changes

(a) Business Enterprise Development, -$467,000; total $12,119,000.
The decrease reflects discontinuance of the Bicentennial program (-$300,000); and reduced technical services to tribes in accordance with their program priorities (-$167,000).

(b) Credit, +$99,000; total $3,277,000 .
The increase is primarily to meet rising costs.

(c) Direct Employment, +$1,149,000; total $14,311,000.
Proposal. The increase will be used to provide training and placement services to approximately 600 additional participants and to meet increased pay costs.

Justification. The program increase is in accordance with Tribal priorities which reflect the severe unemployment problems on Indian reservations, where a high unemployment rate persists. The target group for employment programs totals over 137,000 Indians. The program is designed to assist Indian people who possess employable skills to find and retain suitable employment, and to acquire additional skills.

Cost Factors.	
Services to 600 additional participants @ $1,825/participant	$1,095,000
Annualized pay cost	54,000

(d) Road Maintenance, +$1,244,000; total $10,756,000.
Proposal. The increase will be used as follows: $999,000 to improve maintenance services on 24,642 miles of roads in the total roads maintenance system, including 361 miles of newly paved roads constructed in FY 1976, and operation of the newly activated ferry on the Colville reservation; $95,000 for maintenance work on roads in the Navajo-Hopi Joint Use Area; and $150,000 for increased pay costs.

Justification. Roads that are not maintained properly do not provide continuous local transportation service. They deteriorate at a rapid rate requiring premature reconstruction at higher total costs. The additional maintenance funds are needed to provide service and to protect the federal investment in facilities. The current average cost to maintain roads on reservations at $368 per mile is about 40 percent of what states and counties are spending for maintenance on similar types of roads. The increase is in accordance with tribal priorities, reflecting their determination of the need for improved road maintenance services.

The additional funding for the Navajo-Hopi Joint Use Area is requested to meet the Federal responsibilities related to the settlement, under the provisions of P.L. 93-531, of the conflicting right and interests of the Hopi and Navajo Tribes to and in the lands located within the Joint-Use Area.

Cost Factors. Improved maintenance of 24,642 miles at an average increase of $41/mile	$ 999,000
Restoration and maintenance of roads in the Navajo Hopi Joint-Use Area	$ 95,000
Increased pay costs	$ 150,000
Total	$1,244,000

(e) Forestry and Agriculture, +$2,827,000; total $29,647,000.
Proposal. The requested increase is to be used as follows:

(1) $1,000,000 for farm unit development costs on Block II of the Navajo Indian Irrigation Project;

(2) $ 930,000 for partial funding of the Navajo Tribal water works program;

(3) $ 400,000 for forestry program improvements including timber sale administration, forest development, and fire protection services, and for added pay costs; and

(4) $ 497,000 for improvements in other agricultural, range, wildlife, and water conservation and development work, and for added pay costs.

Justification.

(1) Water delivery to the first two 10,000-acre "blocks" of the Navajo Indian Irrigation Project is scheduled as follows:

Block I - Spring, 1976
Block II - Fall, 1977

Total farm unit development costs for each Block are estimated at $3.4 million. In addition, heavy investments are required for facilities to process and market agricultural products. To achieve effective use of the lands scheduled for irrigation, it is expected the Federal government will participate in the farm unit development work on the first five Blocks to be developed at a level not to exceed $2.9 million per Block. Federal funding by Block through FY 1977 is shown in the following table:

Total Obligations		Obligations by Block	
FY	Amount	I	II
1975	$2,000,000	$2,000,000	$ --
1976	1,400,000	900,000	500,000
1977	2,400,000	--	2,400,000

(2) The proposed partial funding of the Navajo Tribal water works program results directly from tribal participation in the budget formulation process. The Navajo Tribe placed a very high priority on this item. The proposed funding of this program is made possible by constraining funding of other programs on the Navajo reservation, in accordance with Tribal priorities as expressed in the band analysis process.

(3) The proposed increase for forestry is needed to expand the timber sales activity to reduce the gap between allowable cut and actual harvest, and to improve fire protection services. The increase is consistent with Tribal priorities established in the budget formulation process. Increasing timber sales increases Indian income and employment through the effective use of Indian resources. Increased funding for fire protection will be used in support of the Boise Interagency Fire Center operations. BIFC has been designated as the centralized interagency support and dispatching center for wildfire control in the United States. It is the only organized defense available to combat large project fires on Indian lands. If proper wildfire protection service is to be provided to the Indian people, the BIA must actively participate in and support BIFC operations.

(4) The increase for the agricultural, range, wildlife and water conservation work is derived from tribal priorities expressed in the budget formulation process. The work is needed to achieve improved levels of resource conservation and development.

Cost Factors

(1) NIIP farm unit development:

10,000 acres of Block II developed at $340/ac.	$3,400,000
less Tribal Funding	-500,000
less FY 1976 Funding	-500,000
Federal Cost, FY 1977	$2,400,000

(2) Navajo Tribal Water Works Program:
It is expected this program will be operated by the Tribe under contract with the Bureau...One contract 930,000

(3) Forestry:

Timber sales and forest improvements.....	282,000
Support of Boise Interagency Fire Center.....	50,000
Added pay costs.....	68,000

(4) Other Resource Work:

Additional surveys, investigations, plans, and measures for soil, range, water and wildlife conservation....	$363,000
Added pay costs.....	$134,000

(f) Minerals, Mining, Irrigation and Power, +$301,000, total $4,507,000
Proposal. The increase is to be used to extend Phase I of the mineral inventory program to an additional 10-15 reservations, and extend Phase II to 2-3 additional reservations.

Cost Factors. Initiate 10 additional Phase I inventories @ $20,000 per inventory..... $ 200,000
Initiate two additional Phase II inventories @ $50,000 per inventory..... $ 100,000

(g) Indian Action Teams, +$13,000; total $14,127,000.
The increase is needed to cover increased operating costs.

Program Description

The objectives of the Tribal Resources Development activity are to stimulate reservation economies through the development and utilization of tribal resources, and to help the Indian people participate fully in the economic life of the community and the Nation. Business enterprises are encouraged and assisted through programs of technical and financial assistance, with emphasis on enterprises owned and operated by Indians. Indian individuals and tribal organizations are assisted with securing and managing loans for resource and business development, housing, education, and other purposes. Individual Indians are assisted in qualifying for, finding, and occupying jobs both on and off the reservation. Roads are maintained to provide for the safe and effective movement of people and goods. The conservation, development, and utilization of land, water and related resources is encouraged and assisted.

Tribal Resources Development Funding

	FY 1976 Estimate	FY 1977 Estimate		Change
(a) Business Enterprise Development	$12,586,000	$12,119,000	-	$467,000
(b) Credit	3,178,000	3,277,000	+	99,000
(c) Direct Employment	13,162,000	14,311,000	+	1,149,000
(d) Road Maintenance	9,512,000	10,756,000	+	1,244,000
(e) Forestry and Agriculture	26,820,000	29,647,000	+	2,827,000
(f) Minerals, Mining, Irrigation & Power	4,206,000	4,507,000	+	301,000
(g) Indian Action Teams	14,114,000	14,127,000	+	13,000
Pay Act Annualization		(451,000)		(+451,000)
Totals	$83,578,000	$88,744,000		$5,166,000

(a) Business Enterprise Development, -$467,000; total $12,119,000.

The objective of the Business Enterprise Development program is to help Indians increase their levels of employment and income in their home communities by the establishment and or expansion of business enterprises on or near reservations with emphasis on Indian ownership, entrepreneurship and management.

The FY 1977 funding requested for this activity includes $8.5 million for business grants authorized under the Indian Financing Act of 1974. FY 1977 is the third and last year that appropriations for this purpose are authorized under this Act. The business grants are intended to provide readily available sources of equity capital to Indian individuals, tribes and organizations to establish and/or expand Indian-owned enterprises which will benefit Indian reservations and communities. This program was very active in FY 1975. Current data indicate that almost 1,000 applications were submitted requesting funds in the amount of about $18 million. More than 600 applications were approved and grants totaling the full $10 million appropriation were made. It is estimated that nearly 3200 jobs were created with an annual payroll of approximately $17 million. Additional capital generated from other lending sources amounted to about $32 million.

Selected FY 1975 Data for the
Indian Business Development Program(IBDP)

Appropriation ($000)	10,000.0
Applications received No.	982
Amount of IBDP requested ($000)	17,934.0
Amount IBDP Expended ($000)	10,000.0
Impacts:	
Additional capital generated ($000)	31,690.1
Job created No.	3,184
Estimated Annual Payroll generated($000)	16,740.1
Average IBDP grants per job created($)	3,140
Average additional capital generated per job created ($)	9,950
Amount of IBDP granted per approved application ($)	16,260
Amount additional capital generated per approved project ($)	51,530
Ratio IBDP funds to capital generated	1:3.2
Ratio of IBDP funds to annual payroll generated	1:1.7

Other aspects of the business enterprise development program involve technical assistance which will enable some 40 tribes to obtain needed feasibility determinations and market analyses.

Also carried on will be a continued program of contracting and providing industrial firms with information indicating the advantages of locating in Indian areas. Approximately 400 personal contracts are made yearly on behalf of Indian tribes. It is anticipated that approximately 20 of the firms will locate on reservations during FY 1977. In connection with this a major thrust of the program will be directed toward working with both private industry and government sources to obtain production contracts for Indian-owned and controlled companies. A goal of $10 million in contracts has been set for FY 1977. Last year's goal of $3.5 million was reached. Cooperation with the American Indian Travel Commission in their effort to develop Indian tourism resources is still another phase of the Indian Business Enterprise activity. The Commission was the first to initiate training in hotel and motel management for Indians. Selected brochures and tourism promotion literature was distributed to over 15,000 individuals in response to inquiries received as a direct result of the Bureau's participation in the Discover America Travel Showcase.

The Program of Work for FY 1977 is planned to include: (1) working with tribes in the preparation of inventories of their local business resources; (2) developing and disseminating information about the advantages of locating in Indian areas; (3) cooperating with the American Indian Travel Commission in their effort to develop Indian tourism resources; (4) assisting Indian tribes to find various sources of financing to fund business ventures; (5) assisting Indian tribes in their efforts to establish Indian-owned and operated financial institutions: Including a banking system; (6) market analyses, feasibility determinations, development plans, and business evaluations; and (7) working with SBA, GSA, and private industry to obtain private and government contracts for Indian products and services. Efforts will continue in working with tribal groups to determine feasibility of potential business ventures that show a promise of becoming viable tribal enterprises. The Seneca Nation of Indians recently completed a 16 lane bowling alley and is planning a commercial campground.

Funding for the Indian Arts and Crafts Board is included in this item. The Board encourages and promotes the development of Native American arts and crafts, thereby fostering the cultural, social, and economic life of the Native American people. The Board seeks to innovate in the interpretation and preservation of these arts, to foster cultural education, and to stimulate support for Native American culture.

As specified by Public Law 74-355, the Board provides the following professional services to Indian, Eskimo, and Aleut artists and craftsment, with ancillary benefits to the general public: (1) experimentation; (2) correlation of public and private programs; (3) technical advice and assistance; (4) market research and promotion; (5) management advice; (6) trademark and related protective legislation.

These national advisory, promotional, and informational services are implemented primarily through two arts and crafts specialists and a co-ordinated system of three regional museums administered and operated by the Board: the Museum of the Plains Indian and Crafts Center, Browning, Montana; the Sioux Indian Museum and Crafts Center, Rapid City, South Dakota; and the Southern Plains Indian Museum and Crafts Center, Anadarko, Oklahoma.

The following table provides data on selected accomplishments items.

Item	Unit	FY 1974 Actual	FY 1975 Actual	FY 1976 Estimate	FY 1977 Estimate
Enterprise Grants	No.	--	591	530	530
Enterprise Plans and Studies	No.	365	559	688	650
Enterprise given management assist.	No.	687	888	1,189	1,100
Individuals given management assist.	No.	958	1,385	1,891	1,800

(b) Credit, +$99,000; total $3,277,000

The Bureau's Credit and Financial Assistance Program was established to assist federally recognized Indian tribes and other organizations and individual Indians to obtain financing needed to develop and utilize their own resources to improve economic conditions on Indian reservations. If needed financing is not available from commercial and other government lending institutions serving the general public, financing is provided to the extent of available resources through the Bureau's programs of direct revolving loan funds, guaranteed or insured loans from commercial lenders, and non-reimbursable grants for establishing or expanding Indian-owned profit-making business enterprises. The program encompasses 27 states and includes some 60 Indian agencies which serve all of the federally recognized Indians in the country. The credit staffs at the area and agency levels assists Indians in preparing financing plans and budgets for proposed business enterprises and in many other credit and financing matters.

In FY 1977 the program of work will include the following project activities:

Technical services to assist in evaluating proposed investment ventures and in developing those that appear worthwhile. Work with banks and other financial institutions to develop loan programs for Indians; including loans guaranteed or insured under the Loan Guaranty and Insurance Fund.

Assist Indians in obtaining credit from other Federal agencies and from private sources.

Administer the Indian Revolving Loan Fund, including the processing of loan applications, making loans, receiving and depositing collections, etc.

Provide technical services to Indian borrowers and grantees to help them succeed in the enterprises or other venture for which they received a loan or grant.

Selected Accomplishment Data are provided in the following table

	Unit of Measure	FY 1975 Actual (Tentative)	FY 1976 Estimate	FY 1977 Estimate
BIA supervised direct loans - new	No.	5,761	9,036	12,161
BIA supervised direct loans - new	Mil. $	18.1	38.1	48.5
BIA supervised direct loans - outstanding (EOY)	No.	11,554	13,003	15,236
BIA supervised direct loans -outstanding (EOY)	Mil. $	85.6	105.6	116.7
BIA assisted Commercial loans - new	No.	4,991	23,500	23,500
BIA assisted Commercial loans - new	Mil. $	18.3	22.3	22.3
Assisted other Federal loans - new	No.	1,052	1,750	1,750
Assisted other Federal loans - new	Mil. $	25.2	35.7	35.7

(c) Direct Employment, +$1,149,000; Total $14,311,000.

Despite progress in the area of economic development, Indian unemployment continues to be critical. The unemployment rate on Indian reservations is estimated to be over 39%, as compared to the 8.2% for the nation. There is a total employment target group of over 137,000 Indians. It includes the unemployed, those who work but earn less than $5,000 per year, high school graduates who do not pursue additional training or college education and high school and college dropouts.

The Direct Employment Program is designed specifically to assist Indian people who possess employable skills to find and retain suitable employment. Within this framework the program for FY 1977 will include direct placement services, on-the-job training with private or Indian-owned industries, and some formalized vocational training.

Placement Services are provided to assist Indian people who possess an employable skill to find suitable employment in urban areas as well as on or near reservations. The applicant receives the following services: Transportation to job and living site, maintenance, medical care, personal appearance, employment and family counseling, tools for employment, emergency assistance, home purchase program, solo-parent child care assistance, and large family assistance. Creating job opportunities and the placement of Indian people into those jobs, who possess the necessary skills are the main objectives of this program. Those Indian applicants who are underemployed because of lack of training are assisted by being referred to training opportunities that are available, or are placed in on-the-job training positions.

On-the-Job-Training is designed to assist industry, private or Indian-owned, to train Indian employees in needed skills, and to locate on or near reservations. The employer (and training contractor) is paid one-half of the established entry wage for specified training periods for each Indian participant. In addition to the training provided by the contractor, the Indian participant and his family are provided family or individual counseling service on such matters as the basic demands of steady employment; wise use of wages to meet the practical needs of the family; pride in achieving and keeping their economic independence; and other elements of stability and reliability which are essential to social and economic growth. In addition the trainee is assisted in the purchase of tools, medical care, transportation, etc.

Formalized Vocational Training is carried on at the residential family training centers at Madera, California, and Bismark, North Dakota. These centers are operated under contract with Indian organizations: The American Indian Enterprise in Van Nuys,California, and the United Tribes of North and South Dakota.

Both centers will continue operations in FY 1977. Vocational training at public institutions is funded under the Education item. In the case of residential center training, courses are carefully selected and may last as long as two years. Training is provided in vocations which offer expectancy of employment at the completion of training.

Program Staff Services. Bureau Employment Assistance staffs are located at 55 Indian agencies, seven field offices (Chicago, Illinois; Cleveland, Ohio; Dallas, Texas; Denver, Colorado; Los Angeles, California; Oakland, California; and Washington, D. C.); eleven area

offices; and the central offices in Washington, D. C. Program specialists in these offices work with local, State, and Federal agencies to help the Indian acquire gainful and rewarding employment and to become a satisfied and self-sufficient member of the citizenry.

The following table provides selected accomplishment data.

Program Accomplishments

	FY 1974	Estimate FY 1975	Estimate FY 1976	Estimate FY 1977
Placement Services - No. of participants	6,590	6,800	6,400	7,000
On-the-Job-Training - No. of participants	2,586	2,300	1,950	1,950
OJT Contract - No.	75	80	90	90
Residential Training Center - No. of participants	480	475	480	480

(d) Road Maintenance, +$1,244,000; total $10,756,000.

The road maintenance program provides for the maintenance and repair of all roads on reservations under the Bureau's jurisdiction that are open to the public. The Bureau is responsible for the maintenance of approximately 24,642 miles of roads on 179 Indian reservations. This network provides the principal, and often the only transportation route to, from, and on reservations. Serviceable roads are essential for commerce, for transporting school children, for obtaining health care, and for other essential services requiring the movement of people and products. To this end, the goal of the road maintenance program is to assure that safe roads are open for traffic continuously, and to protect them from excessive damage and deterioration. Included in this program is all preventative maintenance, snow removal, and emergency repair work which amounts to approximately fifteen percent of the total program.

Maintenance priorities are established locally in terms of levels of service and available funding. Generally the higher levels of service are scheduled for those routes with the highest sustained traffic volume and school bus routes. Paved roads normally receive high priority for maintenance services.

Maintenance on gravel surfaced roadways is generally less than adequate and requires reconstruction or major repairs sooner than the anticipated life of the road. Seventy-five percent of all roads that directly serve Indian families are earth surfaced; only twenty percent of these roads being maintained on a scheduled basis. The remainder are maintained on an emergency or "on-call" basis.

The road maintenance program will perform work on the following roads by surface type.

Paved Surface. 3,504 miles of 2 lane bituminous surface roadway.

Gravel Surface. 2,833 miles of 2 lane natural gravel or crushed rock wearing surfaced roads.

Earth Surface. 18,245 miles of combined 2 lane and single lane roads.

(e) Forestry and Agriculture, +$2,827,000; total $29,647,000.

In order to clarify the description of this highly diversified item the discussion is presented by each major resource type.

Forestry

The goal of Indian forest management is to realize from the forest resources the highest economic and social return to the Indian people, on a sustained basis. This goal is achieved by carrying out forestry functions of timber sale administration, forest development, forest protection, inventories, and management planning and assistance to individual Indian entrepreneurs and tribal enterprises.

The harvesting and processing of Indian timber provides valuable income and employment to Indian owners. Besides the direct income and employment benefits, receipts from timber sales extend socioeconomic benefits to all Indian people by providing funds to Tribal governments to manage, develop and improve their Tribal operations and programs.

Information on timber cut under contract, paid permit and special allotment timber cutting permit is as follows:

Fiscal Year	Volume Cut (MBM)	Value
1971	770,927	$23,234,943
1972	927,188	37,952,965
1973	976,282	57,042,935
1974	878,126	73,223,357
1975 (est.)	875,000	60,000,000
1976 (est.)	900,000	70,000,000
1977 (est.)	925,000	72,000,000

Preliminary information from an in-depth study now being conducted of Annual Allowable Cut and program requirements indicate that an additional 100 million board feet of Indian timber could be harvested annually with a resultant gain to the Indian people of $6,000,000 in direct income and 700 potential jobs. The proposed increase for FY 1977 will provide for some expansion of the timber sales activity.

In the future each timber sale and its contract will be more closely tailored to the specific needs of the owners, protection of the environment, and considerations of future forest use and other values. Contractual devices to encourage employment--or other tribal needs--will be more common. This will result, in general in higher program costs per unit of timber sold.

Investment in forest development is part of a well established trend and derives from an increase in forest values and the potential further increases in these values that adequate reforestation, thinning and other cultural work can provide. Forest improvement work enhances both the quality of the timber stand and the potential for greater future harvests. Both of these result in increases in future timber values and employment. This growing investment effort requires intensive technical guidance to minimize unit costs while maximizing benefits. In calendar year 1974, 7,575 acres were reforested and timber stand improvement was carried out on 18,833 acres.

Forestry is responsible for fire prevention and presuppression on Indian lands and provides funds to pay the cost of suppressing wildfires and for necessary rehabilitation of lands burned over by wildfires. In order to effectively carry out the expanding requirements of this function, protection programs must be upgraded and additional emphasis directed toward cooperative, presuppression and suppression activities with other Federal agencies. Assumption of an active role in Boise Interagency Fire Center operation is essential to accomplish this task.

The amount of $800,000 included for fire suppression and emergency rehabilitation is a token appropriation. Uncontrollable factors in estimating fire control needs make it necessary to submit a supplemental request to cover the actual costs of fire suppression. Obligations for the past five years were:

FY 1971	FY 1972	FY 1973	FY 1974	FY 1975
$4,826,675	$6,935,015	$3,704,919	$5,500,768	$5,985,045

Calendar Year statistics(1974):

Land Protected (acres):	Forest & Range	59,453,681
	Forest Lands	12,910,028
Number of Fires Suppressed:		2,379

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Agriculture

The Agriculture program area includes -

- making inventories of soil, range and water resources
- assistance in the planning of programs and projects for conservation and use of farm, ranch, watershed and other reservation lands.
- assistance in the application or installation of measures for soil, water and range conservation.

Special emphasis is given to Indian participation in the making of decisions that affect the development, use and management of their agricultural resources. The program provides services to establish stocking rates, administer grazing permits, provide technical assistance for planning range use, make compliance checks for permitted land, conduct range resource investigations and make physical range improvements. Range condition trend studies and forage utilization checks are made to determine needed adjustments in stocking rates, season of use, unit and pasture boundaries, and to determine locations, sources, quantity and quality of water and other rangeland development and improvement needs. The use of appropriate conservation measures and good management on the part of the land users is encouraged. Program emphasis will concentrate on priorities established by the Indian people.

Working with the Indian owners and with leasees and permittees of trust lands, conservation measures are designed to increase the return to Indians from their resources, and make a maximum contribution to an improved environment.

Program outputs shown in the following portray recent accomplishments of the Agricultural program, and goals for the budget year.

Output	Accomplished F.Y. 1975	Estimate F.Y. 1976	Goal F.Y. 1977
Farm Management Contacts	58,352	63,866	60,387
Range Management Contacts	30,232	34,534	35,545
Agricultural Engineering Layouts	3,530	4,024	4,022
Range Inventories (M acres)	9,649.6	10,841.4	11,169.8
Soil Surveys (M acres)	2,674.5	2,850.5	2,416.4
Farm Management Plans Prepared	5,552	5,956	6,005
Soil Conservation projects - farm land	1,545	1,879	3,709
Water Conservation projects - farm land	931	1,152	1,050
Range Conservation Projects	743	865	1,002
Water Conservation Projects - rangelands	883	1,067	1,035
Agricultural lease-supportive actions	10,805	11,813	12,074
Range permits modifications actions	5,021	6,057	6,133
Compliance actions	17,727	21,739	22,121
On-farm development (acres) Navajo	---	10,000	10,000
Ranch Management Plans Prepared	1,156	1,492	1,425

Water Resources

The water resources program area includes assistance to Indians to inventory, conserve, develop and use their water resources, with particular reference to water resource problems and uses of a special nature. The program area has only recently been identified as a separate function within the scope of the Forestry and Agriculture item. Thus, the base funding level is very limited, amounting to only $31,000 in FY 1976. The major increase for FY 1977 is to partly fund the Navajo Tribal Water Works program. This program was started by the Bureau several years ago as a range water development program. Wells were driven, windmills erected, water catchments and piping installed, etc. As the program developed, responsibility for funding was assumed by the tribe. The program currently consists of maintaining, rehabilitating and extending the water development facilities. The facilities are essential for the utilization of the range resource.

With tribal expenditures increasing, and tribal income declining, the Tribe is proposing that funding be constrained in other program areas on the Navajo reservation and used to partially fund the Tribal Water Works program. The proposal was made by the Tribe through the band analysis process--a process to involve tribal governments in the budget formulation process of the Bureau. Tribal involvement in the budget process is an important element of the self-determination policies of the government.

The following are the anticipated work items related to the Navajo program:

Project	No.	Est. Costs Each	Total
1. Stock well repair	15	$22/ft. x900'	$297,000
2. Stock well cleaning & bailing	90	$250/well	22,500
3. Windmill			
(a) repair	307		80,000
(b) replacement	15 at	$7,000	105,000
4. Pump Jack			
(a) repair	90 at	$ 500	45,000
(b) replacement	25 at	$4,000	100,000
5. Steel Storage tank replacement	30 at	$4,000	120,000
6. Earthen stockpit repair, cleaning & replacement	80 at	$ 500	40,000
7. Pipeline & Water			
(a) Trough placement or replacement	100 at	$ 175	17,500
(b) Livestock Spring development & water line	206,000 ft. at	50¢	103,000
		Total	$930,000

Wildlife and Parks

This program provides for the conservation, development, and utilization of Indian wildlife and park resources. Surveys and investigations are conducted to identify and quantify wildlife and park resources, develop comprehensive plans, and determine feasibility of projects. Financial assistance and technical services are provided to tribes for habitat improvement, fish and wildlife management, and park development. Emphasis is placed on those projects where tribes have on-going, well-planned programs. More than half of the total effort under the program is concerned with fishing by Northwest Indian tribes.

The following table portrays recent accomplishments and goals for the budget year:

Output	Unit	Accomplished FY 1975	Estimate FY 1976	Goal FY 1977
Wildlife Inventories	No.	84	128	158
Recreation & Related Inventories	M acres	2102.9	2485.3	2634.2
Wildlife Management Plans	No.	49	84	99
Outdoor Recreation Plans	No.	44	85	103
Projects Assisted - Wildlife & Parks	No.	82	139	189

(f) Minerals and Mining; Irrigation and Power, $+301,000; total $4,507,000

Minerals and Mining

The recent national and world recognition of shortages in energy producing mineral resources as well as other minerals, has placed a high priority on developing this nation's potential for more self-sufficiency in satisfying the needs for these resources. In the past, little information has been available to the Indian tribes and managers which would aid in the definition of their mineral resource development potential. It is imperative that the tribes and allottees be provided with an inventory of their mineral resources so that they, and the trustee, may initiate constructive programs to meet the high demands that will be made for the inclusion of their resources in the national programs.

The minerals and mining program as evolved during FY 1975 and 1976 consists of Phase I data collection and compilation, and more intensified Phase II work on the ground. This has been a joint undertaking with other Federal Agencies on a cooperative, reimbursable basis.

Phase I: Data and records are gathered from colleges and universities, private sources and Federal Agencies for all Indian mineral resources.

The source data are analyzed and compiled on a reservation-by-reservation basis and provided to the respective tribes.

Phase II: Data are generated at specific locations and are much more definitive than Phase I information.

This data enables Indian owners to become more informed and involved in decisions concerning the development, utilization, and marketing of their mineral resources.

Phase III: Developmental: Identification of additional resources to enter into intensive quantification, leading to development of mineral resources identified in Phases I and II.

Progressing concurrently with the mineral resource inventory program is an effort to establish, within tribally-controlled cooperatives, a pool of available expertise whereby the tribes will be able to contract for specific consultation services. The Bureau will stand ready to provide coordinating services between the tribes and other Federal Agencies who may monitor the consultant contracts for adequate compliance standards. In addition to, and complementing the general inventory program, was the initiation of actions to collect, analyze, and prepare data for tribally-established priorities where urgent mineral demands or litigation were involved. With the proposed funds for FY 1977, the emergency projects will be accelerated to meet priorities established by various tribes and to maintain progress on the general mineral resource inventory program objectives.

OUTPUT DATA

FY 1975	Phase I	15 reservations
FY 1976	Phase I	23 additional reservations
	Phase II	Initiated on 3 reservations
FY 1977	Phase I	10 additional reservations
	Phase II	2 reservations - more detailed effort with extended projections
	Phase III	Initiate where possible.

Irrigation and Power

The Irrigation and Power program provides funds to pay the operation and maintenance assessments for those Indians who are financially unable to pay their assessments. Paying assessments for those Indians who are financially unable to pay will provide those water users, both Indian and non-Indian, who have paid their assessments, adequate and proper operation and maintenance services for which they were required to pay in advance. Also, proper and adequate maintenance avoids unnecessary and costly crop failures. Continued neglect of the system because of inadequate funds would eventually require major rehabilitation costs.

Collections are deposited in the operation and maintenance receipt account and are available for operating and maintaining the respective projects pursuant to the provisions of the Act of August 7, 1946 (60 Stat. 895). These collections include payment by Indian and non-Indian water users and payments made on behalf of Indian water users who are financially unable to pay their assessments for current annual operation and maintenance. Collections from Indian water users for prior year assessments which have previously been paid from reimbursable appropriated funds are deposited directly into the Treasury, to the Miscellaneous Receipts Account as a repayment of reimbursable indebtedness. Where non-Indians receive water services from Indian irrigation systems, they are required to pay the full per acre cost.

Indian irrigation systems and projects fall into the following categories:

(1) Projects which are economically feasible on the basis that there is a sufficient quantity of water to supply the assessable area. The lands have characteristics which will produce crops under sustained irrigations and have repayment capabilities which will permit landowners and water users as a whole to pay the full annual cost of the operation and maintenance of the system. The assessment rates on these projects are fixed to return the full operation and maintenance costs. Any unpaid assessment becomes a lien against the land for which the assessment is paid.

Funds requested for payment of assessments under this category will be used when necessary to pay into the Collection Account that part of the uncollectible current annual per acre assessment against Indian-owned lands. Funds so paid into the Collection Account to cover such unpaid assessments become reimbursable debts due the U. S.

(2) Projects where the repayment capabilities of the land will not permit payment of the full annual operation and maintenance costs. Assessment rates for Indian water users on these projects are based on the ability of the Indian to pay, and therefore, do not cover the full cost of operation and maintenance. All or any part of any unpaid assessment becomes a lien against the land for which such assessment is not paid.

Funds requested for payment of costs under this category will be used when necessary to pay into the Collection Account that part of the annual operation and maintenance cost on Indian-owned lands in excess of the annual assessment and any part of the uncollectible annual per acre assessment against Indian-owned lands. Funds so paid into the Collection Account to cover these costs become reimbursable debts due the U. S. when used to pay all or any part of the annual costs included in the assessment rate. Costs in excess of the assessment rate are non-reimbursable.

(3) Irrigated areas, such as subsistence garden tracts and tracts of a few acres which do not represent economical units, but provide Indian landowners with a means of supplementing their livelihood. Because of the low income of the Indian landowners and water users on these irrigated areas and tracts, it is not feasible from an economic standpoint to assess these lands. Accordingly, the operation and maintenance costs are non-reimbursable and do not become a lien against the lands benefitted.

Funds requested for payment of costs under this category will be used when necessary to pay into the Collection Account the total cost for operation and maintenance of these subsistence garden tracts and irrigated areas, or if no Collection Account has been established, and it is not desirable or proper to establish such an account, the funds will be expended when necessary directly from the appropriation account.

(4) Irrigation systems and reservoirs serving Indian-owned lands located within and operated by various private and public irrigation districts and water user associations. Assessments for operation and maintenance of the irrigation systems and reservoirs serving these Indian-owned lands are made by the irrigation district or water users association embracing and serving such Indian-owned lands.

Funds requested for payment of assessments under this category will be used when necessary to pay into the Collection Account for payment to private and public irrigation districts and water users associations for operation and maintenance costs assessed for Indian-owned lands included within such irrigation districts and water users associations. Funds used for payment of assessments covering these costs are reimbursable and become debts due the U. S., except for those payments that are non-reimbursable by legislation.

(5) Projects that are operated by this Bureau at no cost to the Indian landowners and water users, as provided for under legislation.

Funds requested for payment of assessments under this category will be used when necessary to pay into the Collection Account appropriated funds for irrigation projects operated by this Bureau at no cost to the Indian water users, as required by legislation.

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The estimates include $203,000 to continue the operation and maintenance program on the Navajo Indian Irrigation Project.

(g) Indian Action Teams, +$13,000; total $14,127,000.

The limited availability of trained and skilled personnel in Indian communities continues to hamper the organization, ownership, management, and operation of commercial enterprises by Indians. Improvements would be a major factor in generating employment opportunities, developing a productive work force, and stimulating Indian self-determination. These are the goals of the Indian Action Team program.

In responding to the policy of self-determination an increasing number of Indian tribes have asked to contract directly for operation and management of Indian manpower and tribal enterprise development programs. The Indian Action Team activity is designed to provide the capability that will enable Indian tribes to manage these contracts. Indian Self- determination is the underlying theme of the Indian Action Team Program. The vehicle of IAT is a training program, simulating a construction corporation, operated by a tribal entity, on a re-imbursable contract basis. In FY 1977, the program will fund approximately 55 contracts with about 1,800 Indian participants. It will involve over 200 Indian tribes. Some 45,000 to 60,000 Indian individuals will benefit directly from the program.

One of the major considerations in the development of the Indian Action Team program was to provide desired training for the stable family man of the reservation. The Indian Action Team program does just that. The family is not relocated or disrupted; the trainee can concentrate on this training while maintaining his family at home. The program is capable of training at any level, although the initial thrust is to train well motivated and able individuals who need to broaden and formalize their knowledge and skills. Leadership is stressed throughout the training. The training is tailored to tribal needs, as expressed in the proposals, and further developed in contract negotiations. Particularly attractive features of the program to the Indian people are that training is provided in the home community and that the training projects become part of the community itself. Projects completed to date by Indian Action Teams are valued at approximately $5,000,000.

The following table provides selected accomplishment data.

	Entered Training	Completed Training	Job Placements	Contracts
FY-74	1,200	607	250	30
FY-75	1,238	834	700	31
FY-76 Est.	1,175	810	675	60
FY-77 Est.	1,100	810	675	55

4. Trust Responsibilities

Trust Responsibilities: Fiscal year 1976, $21,337,000; fiscal year 1977, $24,010,000; increase of $2,673,000.

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(a) $+1,870,000	--	$ 6,636,000	--	Rights Protection, litigation support, water inventories and plans, an environmental quality services.
(b) + 803,000	--	17,374,000	--	To provide critically needed real estate and appraisal services and to reduce backlog.
(+153,000)		---		Annualize pay costs
+2,673,000	-13	24,010,000	717	

Major Program Changes

(a) Indian Rights Protection, $+1,870,000; total $6,636,000.

Proposal. The increase will be used as follows:

$794,000 for contracts for 16 additional water rights inventories and plans to acquire information to support additional litigation and to undertake resolution of additional unresolved Indian rights issues.

$1,000,000 to assist tribes to comply with the qualifications and conditions stipulated by the Court in U.S. v. Washington (Boldt decision). The increase in this account is associated with a decrease of $2,152,000 in the Indian Services account (page 14) so that the net program change is a decrease of $1,152,000.

$76,000 to review environmental impact statements within the requirements prescribed by the Council on Environmental Quality and in accordance with project priorities set by tribes.

Justification. In fulfilling its role as trustee of Indian lands and related resources, aggressive and effective action is demanded of the Government to protect the rights of Indians in those resources. As pressures mount on scarce resources, especially water and energy resources, program efforts must be expanded to assure that Indian rights are effectively protected.

Funds are needed to enable the tribes to establish the systems and programs necessary to exercise their treaty rights, and enable them to participate in the implementation of the Court decision, U.S. v. Washington, on a basis equivalent to the State of Washington.

To comply with the National Environmental Policy Act, each Environmental Impact Statement affecting Indian lands held in trust by the Federal Government must be reviewed and impacts identified.

Cost factors. Contracts for 16 additional water rights inventories and litigation support, $794,000; implementation of the Court decision, U.S. v. Washington, which includes development of salmon and steelhead population indices, catch monitoring, training in fishery management, establishment of uniform gear identification, coordination (Northwest Indian Fisheries Commission), and legal services, $1,000,000; staff support for reviewing environmental impact statements, $76,000.

(b) Real Estate and Financial Trust Services, $+803,000; total $17,374,000.

Proposal. The increase will be used to contract for additional professional and technical real estate services to keep pace with the expanding real estate transaction workload, and for counseling and management assistance in accordance with priorities set by the tribes.

Justification. As Indians and tribes become more involved in the self-determination process, the Real Estate program must keep pace with an expanding demand for advice, counseling and evaluation services. Indians and tribes place special emphasis on, and an intense interest in, the continuity of land ownership and use. As they become more involved in land development and management, the Government, as trustee, must provide the services necessary to meet the changing concepts and abilities of the beneficiary. The requested increase will permit initiation of actions to meet these demands and the Bureau's responsibilities to conduct a real estate services program responsive to Indian needs.

Program Description

The objectives of the Trust Responsibilities activity are to carry out the Federal Government's trust and legal responsibilities to protect the rights of Indians in their trust property and those rights affecting trust property that arise out of the inherent authorities of tribal self government; to carry out the authorities vested in the Secretary of the Interior by various laws concerning Indian trust property; and to provide Indians the services they need to make decisions required of them in the application of these laws; and to carry out programs to facilitate the trust.

Trust Responsibilities Funding

Program	FY 1976 Estimate	FY 1977 Estimate	Change
(a) Indian Rights Protection	$ 4,766,000	$ 6,636,000	$+1,870,000
(b) Real Estate and Financial Trust Services	16,571,000	17,374,000	+ 803,000
Pay Act Costs		(153,000)	(+ 153,000)
Totals	21,337,000	24,010,000	+2,673,000

(a) Indian Rights Protection, $+1,870,000; total $6,636,000.

The Rights Protection program area includes the function of directing every aspect of the Interior Department's effort to assert and protect the rights of Indians in their trust property, i.e., to: (1) identify all Indian water rights problems on every federally-recognized land base (277 reservations); (2) develop technical information and comprehensive lists of potential land and water uses for Indian reservations and communities needed to develop economically, including nature of and location of such use; (3) coordinate initiating action, both initial or corrective, needed to establish or defend Indian water rights, and other rights of Indians in their natural resources,

including drafting regulations and reporting on proposed legislation; (4) coordinate the preparation of water adjudication suits for submission through the Interior Department Solicitor to the Department of Justice; (5) coordinate, guide and supervise the Department's agencies, Bureau field staffs, and tribes, and advise and inform tribal attorneys, in all Indian rights efforts; and (6) carry out all above activities with continuing consultation with the affected Indian tribes.

In fiscal year 1976, 57 rights issues are expected to be resolved; and in 1977, the Bureau plans to undertake resolution of an estimated 60 unresolved Indian rights issues. An "issue" is defined as any point in question or matter that is in dispute that pertains to the Bureau's trust or legal responsibility relative to all matters involving Indian rights, including those arising out of tribal soverignty.

In the area of water inventories and litigation support, the Bureau will:
1. Accumulate information to support actions in Indian water rights matters currently in litigation.
2. Acquire specific data to supplement and support any litigation where encroachment of Indian resources is threatened or imminent.
3. Gather and record information necessary for Indian participation in the National Water Assessment and Northern Great Plains Studies.
4. Gather data to inventory Indian water resources and needs in all other federally-recognized land base reservations.

Estimated water rights inventories:	FY 1975	FY 1976 Estimate	FY 1977 Estimate
Phase I	36	54	55
Phase II	25	27	30
Phase III	4	9	10
Total	65	90	95

Definitions:

Phase I. To dimension the water resource base geographically related to Indian reservations, both in terms of quantity and quality. This includes the determination of total water supplies, including groundwater recharge, natural surface flow, and impoundment possibilities.

Phase II. To determine present and future Indian water requirements through comprehensive resource investigations, in accordance with tribal goals and objectives.

Phase III. Preliminary investigations of projects and alternatives to fulfill requirements specified in Phase II. This includes sufficient detail regarding feasibility for selection of program or projects best suited to fulfill tribal needs.

In implementing the court decision, U.S. v. Washington, the Bureau will contract with the various tribes to address a wide range of activities, depending upon the capabilities of the particular tribe and their relative progress in meeting the qualifications and conditions to become self-regulating as provided in the decision. The range of contracts will be from general administrative direction on the part of the less sophisticated tribes, to the development of a comprehensive management program for the fishery resource of a self-regulating tribe, with a complete and independent management staff.

Funding, by account and by program element, for this work is presented in the following table:

Account and Program Element	1975	1976	1977 Estimate
Indian Services Account:			
Aid to Tribal Government	$ 245,000	$ 279,000	$ 245,000
Law Enforcement	717,000	1,157,000	717,000
Rights Protection	--	1,678,000	--
Trust Responsibilities Account:			
Rights Protection	338,000	293,000	1,293,000
Total	$1,300,000	$3,407,000	$2,255,000

With major emphasis on operations at the field level, the following environmental activities are conducted:

1. Proposed actions affecting resources are examined to separate those potentially within the purview of NEPA.
2. Upon investigation, an environmental assessment is prepared and determination made as to each action's environmental significance.
3. When actions are determined to be significant, an environmental impact statement is prepared and processed.
4. Environmental statements received from other agencies are reviewed, tribal consultation obtained as necessary, and comments provided.
5. As a trust agent for the Secretary of the Interior, the Bureau coordinates with tribal organizations involved and with inter-related agencies, all actions affecting Indian interests.

The proposed program level provides for reducing processing time of environmental statements received from other agencies to allow more time for the effective review, preparation of comments, and consultations with involved tribal organizations. It does not provide funds for the preparation of major statements. Methods of improving the examinations performed on proposed actions will be studied to minimize the problems of identifying those actions either requiring or not requiring the preparation of environmental statements.

The following table provides selected workload and accomplishment data:

	FY 1975	FY 1976	FY 1977
Environmental assessments.....	935	1,491	1,555
Environmental examinations.....	1,923	2,335	2,636
Environmental consultations.....	2,364	2,857	3,183
Environmental impact statements prepared.....	2	10	10
Environmental statements reviewed....	562	---	---

(b) Real Estate and Financial Trust Services, $+803,000; total $17,374,000.

Real Estate Services

The Real Estate Services program is designed to provide counseling, management, and appraisal services pursuant to the special trust relationship which exists between the United States and Indian individuals or tribes owning interests in trust lands or resources. Two basic responsibilities are performed: (1) provision of planning, consultation, evaluation and management services to Indians and tribal organizations involved in the decision-making process affecting the utilization, development, and protection of their trust lands; (2) provision of those technical services, facilities, reviews, and recommendations necessary in the above-mentioned process, in compliance with existing statutes. The program consists of:

real property management to accomplish surface and sub-surface leases; rights of way; acquisitions , disposals, partitions and exchanges of interests in land; maintenance of systematic land titles and ownership records, basic family history data and estate inventories for probate purposes; and contractual performance and compliance services. It also includes: appraisal or valuation services that include preparation of professional appraisals; valuation counseling; land use planning and development of feasibility analyses.

In addition to the primary responsibility of services for Indians and tribes, there are other programs concerned and dependent upon real estate services for integrated implementation of their activities toward use and development of Indian lands. The program is designed so that the components will facilitate services to other programs such as: Indian rights protection; road construction, housing construction and rehabilitation; irrigation project construction and operation; industrial, commercial and tourism development; social and welfare services; and the Office of Hearings and Appeals.

Adjustment in program design and operations are being made in compliance with new statutes as well as consideration of the social, cultural and environmental factors of the Indian communities. These necessitate increased emphasis on Indian involvement in preplanning, planning, and compliance and inspection programs to balance the economic aspect with the environmental factors. Strip mining for coal, copper, uranium and other minerals; fossil fuel electrical generation; gasification of coal; and urban and commercial development leasing are critical areas for monitoring and supervision on a continuing basis. The national emphasis on self-sufficiency in energy resources places additional demands upon this phase of the program.

The following table provides selected workload and performance data:

	Unit	FY 1975	FY 1976 Estimate	FY 1977 Estimate
Boundary Surveys Completed...	Miles	4,031	4,369	4,369
Land Acquisitions/Disposals Completed.....	No.	10,879	12,636	14,910
Surface Lease Modification Actions.....	No.	18,723	21,434	24,070
Sub-surface Lease Modification Actions.....	No.	5,897	6,193	6,707
Lease Enforcement Actions....	No.	3,590	3,987	4,477
Realty Management Counseling Contacts.....	No.	193,074	208,111	226,840
Land Title Changes Processed.	No.	16,268	18,755	21,877
Land Records Provided.....	No.	38,361	42,197	46,417
Appraisals.....	No.	10,745	11,320	11,920
Land Use Plans in Preparation.....	No.	855	1,174	1,499
Land Use Plans Completed.....	No.	1,674	1,891	2,134

Financial Trust Services

The Bureau of Indian Affairs is charged by various laws and regulations with the responsibility of accounting for and disbursing tribal and individual Indian monies which come into custody of the Bureau as a result of the sale or lease of tribal resources, chiefly: land, timber, minerals, and water power; and the disbursement of per capita payments resulting from judgments, awards, and claims settlements. Investment activities are a part of the trust obligation and are maintained for all Indian tribes and individual

Indians within the jurisdiction of the Bureau. Tribal trust funds are invested for the tribes by authority of the Act of June 24, 1938. Currently there are 195 tribes in the program.

An automated accounting system prepares reports monthly for each tribal trust fund under jurisdiction of the Bureau, which are distributed to the applicable tribes. Each Area Office of the Bureau is furnished a weekly report that shows the average interest rates realized, comparative rates quoted by the Wall Street Journal, and rates being paid on U.S. Treasury Bills. Individual Indian money accounts are maintained primarily as a repository for trust funds of Individual Indian minors and adults, as well as for Indian tribes. There are 39 disbursing stations throughout the United States where accounts are maintained on an individual basis. Accountability is the responsibility of the Indian Service Special Disbursing Agent in Albuquerque, with a Deputy Disbursing Agent at each of the stations. Investments are centralized, and earnings are distributed each six months to 145,000 account holders.

Listed below are indicators of the activity:

	As of 6/30/74	As of 6/30/75
Total invested.....	$487.3 million	$542.3 million
Per annum earnings.....	40.4 million	47.1 million
Tribes serviced.....	180	195
IIM accounts.....	145,000	145,000

Other accomplishments in the past year include:

Savings of about $78,000 for tribes by purchasing portions of time certificates of deposit prior to maturity, with Individual Indian money; combining funds of tribes to make investments of $100,000 or more, which at present rates doubles the earnings on smaller amounts; making 10 presentations on the investments program to about 185 people; completing the last of the field level investments transfers to Albuquerque, so that the investment operations are now 100% centralized.

5. General Management and Facilities Operation

General Management and Facilities Operation: Fiscal year 1976, $73,746,000; fiscal year 1977, $76,174,000; increase of $2,428,000. The increase consists of:

	Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(a)	$-276,000	--	$11,183,000	--	Management and Administration-increase due to field priorities in program planning and development and decreased cost in postal services.
(b)	- 64,000	--	2,203,000	--	Program Support Services-improved safety management, and decrease in Employee Compensation costs.
(c)	+2,768,000	--	62,788,000	--	Facilities Management - provides funding for increased cost of operation and maintenance of facilities; operation and maintenance of new facilities, and space rental.
	(834,000)	--		--	Annualize increased pay costs, E. O. 11883.
	+2,428,000	-42	76,174,000	1,818	

Major Program Changes

(a) Management and Administration, $-276,000; total $11,183,000.

Proposal. An increase of $16,200 is necessary to fund field priorities in program planning and development, $50,000 to annualize the pay increase approved in fiscal year 1976, and a reduction of $209,800 attributable to an improved Bureau-wide mail flow system.

Justification. Emphasis being placed on Indian self-determination in the past few years has led to much more tribal participation in the entire program planning and development process. This involvement includes a voice in the development of agency budgets, workshops and meetings, and the periodic feedback of information.

(b) Program Support Services, $-64,000; total $2,203,000.

An increase of $61,000 is requested for improved safety management, and $7,000 to annualize the pay increase approved in fiscal year 1976. The amount required for Employee Compensation payments is $132,000 less than required for fiscal year 1976.

(c) Facilities Management, $+2,768,000; total $62,788,000.

Bureau programs; and the management of personnel, property and records. Administrative costs involved in the operation of a centralized accounting, payroll and data processing system and for Agency and Area Offices are charged to program funds.

Funds are also included for the Bureau's Safety Management Program which covers the safety activities required under Title 5, U.S.C., Section 7902, under P.L. 91-596, "The Occupational Safety and Health Act of 1970"; P.L. 91-54, "Construction Safety Act of 1969"; and Executive Order 11612.

Employee compensation payments made as a result of accidents causing injury and/or death to Bureau employees are also included.

The Bureau operates and maintains 8,736 individual buildings containing 28,700,000 square feet of floor area together with related utility systems to support facilities at 400 separate locations. The Facilities Management program provides for the operation of these facilities and for the repair and maintenance necessary to keep these facilities and utility systems in such condition that they may be continuously utilized at their original or designed capacity and for their intended purposes.

"Public Building Amendments Act of 1972", requires that all agencies be charged for space and related services provided by GSA at approximately commercial charges for comparable space and services that may prevail as of July 1, 1975. Cost rates are based on "standard level user charges" for various types of building space, e.g., office, storage, parking and special use categories on a square foot unit cost.

General Management and Facilities Operations Funding

	FY 1976 Estimate	FY 1977 Estimate	Change
Management and Administration..	$11,459,000	$11,183,000	$- 276,000
Program Support Services.....	2,267,000	2,203,000	- 64,000
Facilities Management.....	60,020,000	62,788,000	+2,768,000
Pay Act Annualization.....	--	(834,000)	(+ 834,000)
Totals.....	$73,746,000	$76,174,000	$+2,428,000

(a) Management and Administration, $-276,000; total $11,183,000.

Tribal priorities from the field indicate an increase of $16,200 for program planning and development. These funds will be used to provide more tribal participation in preparing program plans and in attending workshops and meetings designed to assist tribal members to understand the program planning process and in developing their total needs within the framework of the total Bureau operation. This increase represents an increase of less than one percent of the funds presently available for this purpose.

Highlights of recent accomplishments:

(1) Regulations to implement P.L. 93-638, the Indian Self-Determination Act have been published and distributed to the Indian community. These regulations took effect December 4, 1975, and are now available for use by Tribes in furthering the self-determination and education of their people. P.L. 93-638 orientation sessions have been held in each Area and are now being conducted at Agency levels. The Bureau is currently developing Guidelines and Procedures to more fully explain the Regulations and to provide "how to" information to tribal and Bureau staff. As these are developed, further

Proposal. The requested increase is to be used as follows:

(1) $375,000 for repair and maintenance of newly constructed buildings;

(2) $225,000 for operation of utility systems for the newly constructed facilities;

(3) $1,852,000 for increased cost of labor, materials, fuel, utilities and services related to repair and maintenance of existing Bureau facilities;

(4) $316,000 for space provided by GSA in GSA owned or leased facilities and for space leased directly by the Bureau of Indian Affairs.

Justification

(1) Approximately 302,837 square feet of newly constructed buildings and related utility systems will be placed in operation during FY 1977.

The Bureau's evaluation of new facilities maintenance needs, as well as data developed in the maintenance industry, indicated first year costs are from 75% to 90% greater than subsequent year requirements. New equipment and operating problems during the break-in period require maintenance which is vital if the new facilities are to be placed into untroubled, useful service and if the Government's investment is to be protected.

(2) The increase for utilities will provide funds for the operation of utility systems to furnish necessary utilities and for operational services for the newly constructed facilities.

(3) The increase for repair and maintenance of existing Bureau facilities is needed for increased cost of labor, materials, and services as well as the increased cost of fuel and utilities. The program will provide a 60% level of repair and maintenance.

(4) The increase for space will provide for rental of an additional 36,400 square feet of space from GSA and for space leased directly by the Bureau of Indian Affairs under leasing authority granted by the GSA.

Cost factors. A $2.00 cost factor was applied to the 302,837 square feet of newly constructed facilities.

Cost indexes developed by Engineering News-Record indicated increased cost for the following:

Element	% increase 6/12/74 to 6/12/75
Construction	+10.1
Building Cost	+ 8.4
Common Labor	+10.0
Skilled Labor	+ 7.3
Materials	+ 9.9

Program Description

This activity provides for general management functions including executive direction and other general management and administrative services; such as, policy formulation, development of systems and procedures, program planning and analysis, budget, audit, contract supervision and monitoring involved in many

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orientation activities will be undertaken to explain and implement new policies and procedures.

(2) The Planning- Programming-Evaluation Data System has been fully integrated with the finance system. Efforts continue to revise and improve the accomplishment portion of the PPE system and selected accomplishments have been used in planning efforts for the FY 1977 budget cycle.

(3) Now that the Planning-Programming system has been accepted for budget development, the technical aspects of the process are being upgraded, e.g., more reliance is being placed on the computer processed data and these sheets are the basic planning document for the next budget cycle. Programming and budgeting workshops developed for the FY 1977 cycle were conducted at over 100 agency/tribal levels. These workshops were designed to familiarize the tribal leaders with the complicated budget process and to assist in their participation in the budget preparation and establishment of tribal priorities. These workshops are being expanded and updated for the FY 1977 cycle.

(b) Program Support Services, $-64,000; total $2,203,000.

The Safety Management Program assists tribal councils, India..-owned enterprises and all Bureau facilities to meet safety standards. The increase of $61,000 will provide an additional $11,000 for field priorities. Emphasis will be placed on safety inspections and safety training under the requirements of the Construction Safety Act and OSHA. The following statistics indicate the anticipated workload:

	1976	1977
Number of safety inspections.....	1,045	1,122
Number of employees receiving safety training.....	4,450	5,230

The Bureau of Indian Affairs also contracts with the National American Indian Safety Council, Inc., to provide safety training. This Council provides Reservation and Industrial Inspections, Safety Training (Multi-Media First Aid, Standard First Aid, Community and Home Safety, Occupational Safety) and also surveys needs relative to safety and accident prevention programming. An increase of $50,000 is requested to allow the Council to expand its services to the tribes which are now actively participating in safety and accident prevention programs.

Highlights of recent accomplishments:

Work continues on safety inspections and training of employees under the requirements of the Construction Safety Act and OSHA. Safety services are also provided under a contract with the National American Indian Safety Council. The safety management program continues to assist tribal councils, Indian-owned enterprises and Bureau facilities to meet safety standards.

The employment compensation portion of this program permits the Bureau to fulfill its financial obligations to employees injured or killed in work-connected accidents.

(c) Facilities Management, $+2,768,000; total $62,788,000.

(1) Repair & Maintenance, $+2,052,500; total $30,738,000. The repair and maintenance of buildings and utilities is a continuing program. The $30,738,000 requested for this portion of the program will provide a minimum level of repair and maintenance of Bureau plant facilities located throughout the United States including Alaska. The Bureau operates and maintains approximately 8,736 individual buildings containing 28,700,000 square feet of floor area together with related utility systems to support facilities at 400 separate locations. Seventy-seven boarding schools, 19 dormitories and 117 day schools are among the facilities maintained and operated over an area stretching from Alaska to Florida. The average age of these facilities is in excess of forty years. Utilities operated and maintained at most agencies, which are frequently in remote locations, are equivalent to those of an average community and many are much more extensive due to central plants which provide electric power, hot water, steam, etc. In addition to normal operating requirements, these systems must be operated and maintained on an uninterrupted 24-hour basis to insure the health and safety of Indian school children and Bureau personnel. Also included are funds for the Navajo-Hopi socio-economic impact.

(2) Plant Operations, $+399,500; total $26,609,000. The $26,609,000 requested for the facilities operations portion of the program will provide for the operation of utility systems to furnish necessary utilities and for operational services. The program includes the cost of personal services, materials, supplies, vehicle operation, equipment replacement, upkeep of all tools and equipment used in furnishing utilities, and operational services purchased from commercial or non-Bureau sources. Most of the Bureau's installations are in isolated locations, lacking the normal utilities and services usually available. This requires that the Bureau provide such essential utilities and services as electricity, water, sewage, janitorial, grounds care, heat, garbage and refuse disposal, etc.

(3) Space Rental, $+316,000; total $5,441,000. Public Law 91-313, "Public Building Amendments Act of 1972", requires that all agencies be charged for space and related services provided by GSA at approximate commercial charges for comparable space and services that may prevail as of July 1, 1975. Cost rates are based on "standard level user charges' for various types of building space, e.g., office, storage, parking and special categories on a square foot unit cost. The Bureau of Indian Affairs currently occupies 1,785,572 square feet of space in GSA controlled and/or leased facilities. Projections for FY 1977 indicate a need for 1,821,972 square feet of GSA space, or an increase of 36,400 square feet. An increase of $160,000 is necessary to provide for this additional space. An additional $156,000 is required for space leased directly by the Bureau under leasing authority granted by GSA. The total funding for space requirements for the Bureau reflects $4,760,000 for GSA rentals and $681,000 for space leased directly by the Bureau.

Highlights of recent accomplishments:

(1) In FY 1976 work continued on revision of facilities engineering manuals and standardization of plant facility inventories.

(2) Facilities Management programs service 400 locations involving buildings and utilities. Among the facilities operated and maintained over an area stretching from Alaska to Florida are 77 boarding schools, 19 dormitories and 117 day schools.

6. Navajo-Hopi Settlement Programs

Navajo-Hopi Settlement Programs, - $75,000, total $2,040,000.

Proposal. It is proposed to fund the second increment of the Navajo-Hopi settlement programs in FY 1977. The first increment is contained in the FY 1976 budget in the amount of $2,115,000. The $2,040,000 proposed for FY 1977 when added to the FY 1976 appropriation will provide $2.3 million for livestock reduction, and $1.8 million for restoration and fencing over the two-year period.

Justification. Public Law 93-531 enacted December 22, 1974, provides for final settlement of the conflicting rights and interests of the Hopi and Navajo Tribes to and in lands lying within the joint-use area of the reservation established by the Executive Order of December 16, 1882, and lands lying within the reservation created by the Act of June 14, 1934. Sections of this Act direct the Secretary of the Interior to implement stock reduction, boundary surveys, to institute such conservation practices and methods within the area as to the maximum extent feasible, and to pay any and all appropriate legal fees, court costs and other related expenses brought by the Navajo or Hopi Tribes to determine their rights and interests in the Moencopi area. Funds have been authorized for these purposes to remain available until expended.

The current 120,000 to 125,000 sheep units must be reduced under this order to maintain grazing capacity established at approximately 16,000 sheep units. This will require a reduction of more than 100,000 sheep units.

Land treatment and range restoration are best accomplished by considering watersheds and drainage areas as units to receive treatment. The joint-use area is divided into five drainages, running from northeast to southwest. The Joint-Use Administrative Office has the nucleus of planning and operational staff to carry out reduction, fencing, water developments and range restoration on one drainage area per year. Other considerations are procurement of equipment, fencing materials, plant seeds, herbicides and other materials to carry out the program.

Early relocation of households now being proposed by the Relocation Commission will also require that the above funding be available. Voluntary relocation could not be accomplished until the household has received reimbursement for their livestock.

Cost Factors. The activities contemplated and the associated costs are:

	1976	1977
Stock Reduction	$1,115.0	$1,140.0
Fencing	530.6	530.6
Range control	71.4	71.4
Water development	298.0	298.0
Attorney fees	100.0	-0-
Total	$2,115.0	$2,040.0
Stock Reduction (sheep units)	31,000	31,000
Fencing (miles)	110	110
Range Treated (acres)	1,600	1,600
Water developments	3	3

Program Description

The objective of this activity is to provide the resources required for the Department to comply with P.L. 93-531 which provides for the final settlement of certain conflicting land claims of the Navajo and Hopi Tribes. This authorizes and directs the Secretary of the Interior . . . "to immediately commence reduction of the numbers of all livestock now being grazed upon the lands within the joint-use area and complete such reductions to carrying capacity of such lands, as determined by the usual range capacity standards as established by the Secretary after the date of enactment of this Act. The Secretary is directed to institute such conservation practices and methods within such areas as are necessary to restore the grazing potential of such area to the maximum extent feasible."

ITEMIZATION OF ESTIMATE

Department of the Interior — Bureau of Indian Affairs
Appropriation Title: Operation of Indian Programs

	Actual 1975	Estimate 1976	Estimate TQ	Estimate 1977	Increase (+) Decrease (-)
Program and Financing:					
Total obligations	485,522,572	553,696,643 1/	177,367,000	589,510,000	+35,813,357
Unobligated balance carried forward	+304,643	-304,643	--	--	--
Unobligated balance lapsing	+104,785	--	--	--	--
Appropriation	485,932,000	553,392,000 1/	177,367,000	589,510,000	+35,813,357
Obligations by Objects:					
11 Personnel compensation	186,021,271	203,229,000	52,022,000	212,973,000	+9,744,000
12 Personnel benefits	19,194,090	20,323,000	5,290,000	21,297,000	+974,000
21 Travel & transportation of persons	10,917,971	9,614,000	2,500,000	10,650,000	+1,036,000
22 Transportation of things	4,539,817	5,000,000	1,000,000	5,000,000	--
23 Rent, communications & utilities	16,409,118	16,000,000	2,500,000	16,000,000	--
24 Printing and reproduction	592,315	600,000	200,000	600,000	--
25 Other services	130,602,776	128,454,000	42,981,000	142,027,000	+13,573,000
26 Supplies and materials	39,188,844	40,000,000	12,000,000	40,000,000	--
31 Equipment	7,466,799	6,030,000	1,600,000	6,600,000	+570,000
32 Lands & structures	1,497,088	--	--	--	--
41 Grants, subsidies, and contributions	72,408,173	127,846,643	58,124,000	137,763,000	+9,916,357
42 Insurance claims & indemnities	38,395	--	--	--	--
Subtotal	488,876,657	557,096,643	178,217,000	592,910,000	+35,813,357
Deduct quarters & subsistence charges	-3,354,085	-3,400,000	-850,000	-3,400,000	--
Total Obligations	485,522,572	553,696,643	177,367,000	589,510,000	+35,813,357

1/ Includes $10,474,000 proposed pay cost supplemental.

PERSONNEL SUMMARY

Operation of Indian Programs

	FY 1975 Actual	FY-1976 Estimate	FY-1977 Estimate
Total number of permanent positions.	13,332	13,115	12,893
Full-time equivalent of other positions.....	2,006	3,109	3,504
Average paid employment.....	14,538	15,438	15,800
Average GS grade.....	7.76	7.80	7.84
Average GS salary.....	13,404	14,215	14,357
Average salary of ungraded positions.....	12,070	13,532	15,307

DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS

Construction

Appropriation 1976		$ 73,922,000
Unobligated balance from prior year		44,188,222
Total available for obligation		118,110,222
Decreases:		
Buildings and utilities	$ 82,373,123	
Irrigation systems	35,736,466	
Land acquisition	633	118,110,222
Subtotal		---
Increases:		
Buildings and utilities	55,021,534	
Irrigation systems	34,601,466	
Total available for obligation		89,623,000
Less: Unobligated balance from T.Q. 1976		- 43,360,000
Budget Estimate 1977		46,263,000

BUREAU OF INDIAN AFFAIRS

Construction

Analysis by Activities

Activity	Amount Available 1976	Fiscal Year 1977 Estimated Total Available	Less Unobligated balance from T.Q.	Budget Estimate	Total available 1977 compared to Total available 1976
1. Buildings and Utilities.....	$ 82,373,123	$55,021,534	$38,358,534	$16,663,000	- $27,351,589
2. Irrigation systems.....	35,736,466	34,601,466	5,001,466	29,600,000	- 1,135,000
3. Land acquisition.....	633	---	---	---	- 633
	118,110,222	89,623,000	43,360,000	46,263,000	- 28,487,222

1. Building and Utilities $16,663,000

Construction of Facilities

This program provides construction funds for construction of a water line for the Navajo Indian Irrigation Administration Building; rehabilitation center at Pine Ridge; water exploration and development; technical assistance; purchase of equipment for projects previously funded for construction; and replacement of educational facilities for Bureau schools.

A summary of projects and justification for each follows:

Bureau Facilities Construction

Chevak Elementary Day school Completion, Alaska	$ 252,400	
Alakanuk Elementary Day School, Alaska	1,947,600	
Jemez Elementary Day School, New Mexico	2,420,000	
Mekoryuk Elementary Day School, Alaska	2,000,000	
Pine Ridge Rehabilitation Center, South Dakota (Phase I)	1,000,000	
Water Line, Navajo Indian Irrigation Project New Mexico	500,000	
Mt. Edgecumbe Sewage Collection, Alaska	1,200,000	
Deferred Equipment, Bureau-Wide	1,950,000	
Water Exploration and Development, Bureau-Wide.	100,000	
Facility Improvements, Bureau-Wide	1,000,000	
Technical Assistance and Services	4,293,000	
Total		16,663,000

Chevak Elementary Day School Completion, Alaska $252,400

Location: Chevak is located on the west coast of Alaska, approximately 180 miles northwest of Bethel along the Bering Sea.

Existing Conditions: In May of 1972 the existing Chevak School was demolished by fire. Temporary school facilities were established for the following academic year by utilizing prefabricated structures that were flown in by helicopter. The prefabricated structures were functionally minimal, but did permit a continuing educational program.

Proposed Facilities: It is proposed to complete the school now under construction which encompasses a kindergarten through 12 educational program for 250 pupils. Included will be an Instructional Materials Center for each elementary and secondary division, a gymnasium, toilet rooms, storage and mechanical spaces. Also included will be a 5-plex Staff Quarters, and a Storage and Maintenance Building.

Project Cost Estimate

Building Construction	$250,000
Contingencies	2,400
Total	252,400

Alakanuk Elementary Day School, Alaska, Phase II $1,947,600

Location: Alakanuk is situated at the mouth of the Yukon River on the west coast of Alaska.

Existing Conditions: The present school is in imminent danger of falling into the river and must be replaced. The village has moved across the river and upstream about one mile because the old village site was being eroded by water and ice action. There are times when transporting the students across the river is impossible and/or hazardous. A new school site has been selected near the new village.

Design is underway of a new school facility. Phase I construction will include the shell of the school building, oil storage tanks and a tie-in to the water system. The shell will be heated enough to prevent freezing.

Phase II facilities: This phase will include completion of the school facility to provide classroom space and support facilities for 120 pupils in grades kindergarten through 8. Five sets of staff quarters will be site adapted from the plans for quarters used at Hooper Bay.

Project Cost Estimate

Buildings and utilities	$2,465,000
Contingencies	112,000
On-Site supervision	120,600
Equipment	(87,000)
	2,697,600
Available	750,000
Request	1,947,600

Jemez Elementary Day School, New Mexico $2,420,000

Location: Jemez Pueblo, approximately 50 miles north of Albuquerque on State Highway 4.

Existing Conditions: The school building at Jemez burned December 30 1972, leaving only the two kindergarten classrooms and the kitchen-dining building. Classes are presently housed in mobile temporary units for grades K-6. No music room is available and the dining room is too small for the growing enrollment. Office space is inadequate as are all the support facilities.

Proposed Facilities: The new K-6 facility that is planned for 180 pupils includes general instructional space, learning resource center, art room, music room, gymnasium, cafeteria, administrative unit and plant management shop.

Project Cost Estimate

Buildings and Utilities	$2,250,000
Contingencies	100,000
On-Site Supervision	70,000
Equipment	(315,000)
	2,420,000

Mekoryuk Elementary Day School, Alaska $2,000,000

Location: Mekoryuk, Alaska is on Nunivak Island off the west coast of Alaska.

Existing Conditions: The 8 grade school facility for 100 children consisting of 4 classrooms, a multipurpose room, kitchen and clinic was destroyed by fire in the spring of 1975. This leaves only the teachers' quarters on the site.

Proposed Facility: The same plans prepared for the building that was destroyed will be used for the new facility. The facility will be located on the same site and will serve approximately 100 pupils in grades one through eight. Temporary facilities are being used until the new school can be built.

Project Cost Estimate

Buildings and Utilities	$1,740,000
Contingencies	100,000
On-Site Supervision	110,000
A/E fee to update drawings	50,000
Equipment	(155,000)
	2,000,000

Pine Ridge Rehabilitation Center, South Dakota (Phase I) $1,000,000

Location: On the Pine Ridge Indian Reservation in southwestern South Dakota.

Existing Facilities: The Pine Ridge Reservation has been the center of numerous confrontations over the past two years. In addition, alcoholism has increased substantially in the past decade. There is no rehabilitation or treatment center and the jail at the agency headquarters is undersized and poorly arranged.

Proposed Facilities: This facility will provide treatment for Alcoholism for both adults and juveniles. Rehabilitation of these individuals will be given top priority. The proposed facility will consist of: Police Department containing a reception room, captain's office, miscellaneous rooms for - visiting, conference, squad room, toilet, showers etc. Also a jail containing holding facilities, kitchen and dining, courtroom and related office space. Satellite holding stations at Kyle, Wanblee, Porcupine, South Dakota consisting of cells, kitchen, court and office are also included in the proposed plan.

The $1,000,000 requested for Phase I will provide the Police Department facility and courtroom. LEAA is providing funds for the construction of the jail unit. Future request for Phase II construction will be for the satellite holding stations.

Project Cost Estimate

Buildings and Utilities	$2,280,000
Contingencies	70,000
On-site supervision	60,000
	$2,410,000

Water Line, Navajo Indian Irrigation Project, New Mexico $500,000

Location: The Navajo Indian Irrigation administration and shop buildings will be located in San Juan County, New Mexico, about seven miles south of Farmington, New Mexico. This proposed water line will be constructed between the new NIIP buildings and the City of Farmington.

Existing Conditions: In connection with the construction of the NIIP buildings, a water exploration program was instituted and wells were drilled in the area. The exploration program disclosed that the upper geologic formations were dry while the lower ones contained saline water. An engineering study was undertaken which demonstrated that it would be less costly to obtain water through a pipeline from the City of Farmington than to construct and operate a water desalinization plant. Preliminary talks with city officials indicated that adequate water could be obtained from the Farmington water system.

Proposed Program: It is planned to install a water pipeline, adequately sized for the new NIIP facilities from the City of Farmington to the NIIP project. The line will lie parallel to an existing gravel road. Also included in the proposal is a pumping plant near Farmington and a receiving reservoir at the NIIP facility.

Project Cost Estimate

Water Pipeline	$340,000
Water Pumping Station	40,000
Water Reservoir	40,000
Design	20,000
Job Supervision	15,000
Contingencies	45,000
	$500,000

Mt. Edgecumbe Sewage Collection Lines, Alaska $1,200,000

Location: The Mt. Edgecumbe School complex is located on three small islands across the sound from Sitka, Alaska. The principal island of the Mt. Edgecumbe group is Japonski Island which is connected to the town of Sitka by a quarter mile long bridge. The island also contains the Sitka Municipal Airport, a Public Health Service Hospital and a U. S. Coast Guard Station.

Existing Conditions: At present, sewer lines for the various buildings and groups of buildings flow in a multitude of directions to carry the sewage from their various areas of collection to the closest shore line for discharge.

Proposed Program: During the period that the Mt. Edgecumbe-Sitka treatment plant and outfall line are being constructed, new sewage collection lines must be installed at Mr. Edgecumbe to redirect flow from the present fragmented sewer system into the new Mt. Edgecumbe-Sitka outfall line.

Projected Cost Estimate

Sewer Collection Lines and Appurtenances	$ 850,000
Sewage Pumping Stations	200,000
Job Supervision	50,000
Contingencies	100,000
	$1,200,000

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Deferred Equipment, Bureau-wide $1,950,000

In prior years, funds have been appropriated by Congress for the construction of certain schools; however, funds for the purchase of equipment were not appropriated at that time. In order for the new plants to be operational the equipment items must be provided. It is proposed to purchase such equipment as desks, chairs, tables, cabinets, maps, beds, lockers, mattresses, linens, buffers, waxers, pots, pans, and other classroom, dormitory, and kitchen equipment for the following schools:

Project Location	Estimated Cost
St. Michaels, Alaska	$ 96,000
Fort Yates High School, N. D.	615,000
Haskell Indian Junior College, Kansas, (Learning Resource Center and Kitchen and Dining Room)	278,000
Riverside Indian School, Ok. (Dormitories)	446,000
Kindergartens, Bureau-wide	150,000
Dormitory Replacements, Bureau-wide	365,000
	$1,950,000

Water Exploration & Development, Bureau-wide $100,000

Proposed Program: One of the most essential factors in planning schools and developing agency facilities are provisions for an adequate water supply. This is particularly important in the arid regions of the country, in Alaska where little is known concerning the adequacy and potability of the water, as well as in other parts of the country where Bureau installations are located.

It is proposed to drill exploratory wells, perform testing and develop the wells at the following locations in FY 1977:

	Project Location	Estimated Cost
1	Casa Blanca, Arizona A new well is needed at this site to augment the present supply for the new school. In an effort to locate a more productive source, exploration will take place on tribal land rather than agency reserve.	$25,000
2	Owyhee, Nevada A new PHS hospital is being built at the Owyhee Agency and will be connected to the Bureau water system. With this and other new facilities taxing the Bureau's system, the supply must be augmented with a new well.	15,000
3	Alakanuk, Alaska A new water supply must be found for the relocated school.	25,000
4	Napakiak, Alaska A more potable supply must be found to serve the new school at this site for the well-being of the children.	18,000
5	Napaskiak, Alaska A new kindergarten and quarters will overtax this school's present extremely limited supply.	17,000

Facility Improvements, Bureau-wide $1,000,000

Existing Conditions: Each year the average age of Bureau facilities increases with attendant demands for renovations as facilities become unsafe, unsanitary, and functionally obsolete. An additional burden to the program is the requirement for compliance with the Construction Safety Act of 1969, the Occupationaly Safety and Health Act of 1970, and various Environmental Protection Acts. Until new construction replaces the majority of existing facilities, the demands for facility improvement projects will increase. The current backlog of facility improvement projects is in excess of $70 million.

Proposed Program: The estimate of $1 million will provide a very minimum program for the continued elimination of unsafe and unsanitary conditions existing in Bureau plant facilities (including water, solid waste, and air pollution control projects); for correction of functional deficiencies; and for the modernization of existing facilities including the replacement of obsolete and deteriorated buildings and facilities which, because of their relatively small size, are not applicable for inclusion in the regular construction program. A high priority will be assigned to the correction of unsafe and unsanitary conditions with primary emphasis given to conditions existing in school and dormitory facilities.

Technical Assistance and Services $4,293,000

Proposed Program: This activity provides the architectural-engineering contract and administrative capabilities required to execute contracts for the planning, design, and construction of new facilities and the major rehabilitation or replacement of existing facilities identified above or previously authorized. Also underwrites the cost of providing contract-engineering services to the field offices of the Bureau in support of their facilities improvement program and to Indian Tribes and businesses when they lack capability or resources to do so. Provides on-site construction, management, and supervision of Indian construction projects funded under other Government agency programs.

2. IRRIGATION SYSTEMS $29,600,000

The budget estimate of $29,600,000 will provide a program of $22,000,000 for the Navajo Indian Irrigation Project being constructed by the Bureau of Reclamation and a program of $7,600,000 for the Bureau of Indian Affairs for the improvement, rehabilitation, betterment, and extension of Indian irrigation projects and related power systems.

On many Indian reservations, irrigated farming is the basic economic industry, and in some areas, the only industry available to the Indians. On these reservations where land and water are the primary and basic resources, early and full development for irrigated farming is necessary and urgent if the Indians are to realize any benefits from such resources. Moreover, because of the acute competition for water on and adjacent to Indian reservations, particularly in the arid and semi-arid west, there is greater danger of the loss of water by the Indians unless these water supplies are put to beneficial use. On many of the Indian reservations, the use of water for irrigation is presently the highest and best use. There is an immediate need for water, and plans and programs for the development of this water have already been made. However, if in the future it should be determined that there is a higher and better use for the irrigation water, such water may be diverted for these purposes. In the meantime, however, the water should be developed and used for Indians in order to preserve the water for the ultimate economic development of the reservation.

It is proposed to develop as quickly as possible water supplies and distribution systems needed to irrigate all acreages of Indian lands that are susceptible to being economically irrigated. This involves the construction of new and authorized irrigation systems and the extension and/or rehabilitation of existing irrigation systems in order that all irrigable Indian lands which are feasible for irrigated farming can be developed to their ultimate productive capacity. By so doing, this program will provide a means by which the Indians can put to beneficial use much of their valuable water which now is flowing off the reservation and is being presently used or planned for use by off-reservation development.

Irrigated farming is a means of providing a better standard of living for resident reservation Indians and is often times the only means available to the local Indians for improving their economic standard.

There are three irrigation projects that have related power systems which furnish power for the respective irrigation projects and Indian reservations. On these Indian reservations, where the generation and/or transmission and distribution of power are an integral part of the irrigation project, such power systems are not only serving the primary purpose of furnishing electrical energy for project purposes but are authorized to furnish power to residents of the reservation as well as to local industrial and commercial enterprises on or adjacent to the reservation. Because of the dependency the consumers have upon these power systems, and the contractual obligations, the Bureau has the responsibility to furnish a firm adequate, and dependable power supply. To meet these obligations, as well as new power demands of the constantly growing number of customers, requires that the system be continously improved, upgraded and extended as any other such utility.

The irrigation construction program for fiscal year 1977 provides for the continuation of the construction, extension, rehabilitation, and betterment of irrigation and power facilities on certain listed irrigation projects and power systems. The program also provides for the continuation of the preparation of engineering and economic feasibility reports for existing and proposed projects for which such reports have not been completed.

The largest single irrigation construction program is the development of the Navajo Indian Irrigation Project, as authorized by Congress in 1962 and embracing 110,630 acres.

SUMMARY OF PROJECTS

	Total Estim. Cost	1977 Estimate	Justification
(a) Annual Contract Payments			
Fort Belknap.....	$250,000	$7,404	For payment of the 34th fixed annual contract installment due the Bureau of Reclamation for storage in Fresno Dam (No. 1-1-Ind-18725 8-16-46.)
(b) Irrigation Construction and Rehabilitation			
Arizona			
Colorado River			
Irrigation.....	35,382,000	450,000	See detailed justification
Power		133,000	See detailed justification
Fort Apache		11,000	Rehabilitating diversion structure
Papago Agency			
Chuichu.....		30,000	Well rehabilitation
San Xavier		88,000	See detailed justification
Vaiva Vo	1,414,000	200,000	See detailed justification
Pima Agency			
Gila Crossing		50,000	Planning & Leveling
Maricopa Colony		50,000	Rehabilitation
San Carlos Project			
Indian works		500,000	See detailed justification
Irrigation joint works	31,000,000	350,000	See detailed justification
Power		500,000	See detailed justification

	Total Estimate Cost	Estimate	Justification
Salt River		230,500	See detailed justification
Truxton Canon-Camp Verde		21,500	Rehabilitation
California			
Pala.....	596,000	30,000	For constructing distribution facilities from a new well
Rincon.....	504,000	30,000	For equipment for new well
Morongo.....		112,000	See detailed justification
Idaho			
Michaud Project (Fort Hall).....	10,087,000	375,000	See detailed justification
Montana			
Blackfeet.....		86,000	See detailed justification
Crow.....	2,618,800	123,000	See detailed justification
Fort Peck.....		188,000	See detailed justification
Fort Belknap.....		42,596	For rehabilitation of deteriorated distribution system
Tongue River.....		17,000	For rehabilitating canals & laterals
Flathead Project Power.....		202,000	See detailed justification
Nevada			
Eastern Nevada Agency			
Duck Valley.....		300,000	See detailed justification
Goshute.....		89,000	See detailed justification
South Fork.....		303,000	See detailed justification
Western Nevada Agency			
Yerrington		200,000	See detailed justification
Yomba		200,000	See detailed justification
New Mexico			
Navajo-Hogback		309,000	See detailed justification
Navajo Project	324,713,000	22,000,000	See detailed justification
No. Pueblos	7,260,000	85,000	See detailed justification
So. Pueblos		105,000	See detailed justification
So. Ute		15,000	Development of miscellaneous irrigation units
Zuni Pueblo		95,000	See detailed justification
Utah			
Uintah & Ouray		330,000	See detailed justification
Wyoming			
Wind River	5,424,000	39,000	For rehabilitation of canals and laterals.

	Total Estimate Cost	Estimate	Justification
(c) Surveys, Investigations and Plans		515,000	See detailed justification
(d) Engineering and Supervision		1,188,000	See detailed justification
Total Estimate		29,600,000	

The irrigation and power projects for which funds in excess of $50,000 have been requested and for which detailed justification have been prepared are as follows:

Arizona

COLORADO RIVER PROJECT, $583,000. The funds requested provide $450,000 for irrigation construction and $133,000 for construction and rehabilitation of the related power systems.

Irrigation Construction, $450,000. The Colorado River irrigation project is one of the largest and potentially the most productive of the irrigation projects under the Bureau of Indian Affairs. Adequate water for the project's potentially irrigable area of 105,000 acres was assured in the decree issued by the Supreme Court in the case of Arizona vs. California. Extension of the project lateral system is essential if the Colorado River Indian people are to realize the income potential of the reservation area for which they have decreed water. The Colorado River Tribe desperately needs this program to continue its progress toward economic self-sufficiency. The entire economy of the reservation, except for relatively minor recreational development, is based on the agricultural-business complex growing from the direct use of the water-right resource. This growth, with accompanying cash income and job opportunities has been significant. Of the Indian people employed on the reservation, approximately 59 percent are working on jobs related to agriculture and its development.

The features of work and estimated costs under this item are as follows:

Main Canal - Rehabilitation	$450,000

Power System Construction and Rehabilitation, $133,000. The Power System of the Colorado River Indian irrigation project serves 2,189 customers which number includes commercial, agriculture, and government customers. The power demand brought on by irrigation development on the reservation and by recreation, homesite and industrial development has increased steadily at the rate of about 16 percent per year. During the last five years the active customer accounts have more than doubled. With this continuing load, growth sections of the system have reached or exceeded their capacity, causing voltage drops which adversely affect customer service. The deficiencies were brought out in the 1967 power system study and report by R. W. Beck and Associates. The Beck report is being used as a guide for reorganizing, rehabilitating, upgrading, and extending the power system to keep pace with the growing economy in the area.

The proposed program for fiscal year 1977 will permit the continuation of work relieving the existing overload, and will provide capacity needed to serve power customers adequately. The planned construction will promote the growth and success of enterprises which will benefit the Colorado River Indian Tribe. All funds advanced under this request will be repaid from power revenues collected from the sale of electrical energy. All funds appropriated prior to

the 1965 fiscal year were repaid to the United States Treasury as of June 30, 1965.

The features of work and estimated costs under this item are as follows:

Construct 69 KV transmission line extension	$133,000

SAN CARLOS IRRIGATION PROJECT, $1,350,000. The funds requested provide for $500,000 rehabilitation and extension of irrigation facilities on the Indian portion of the project and certain preconstruction activities, $350,000 for construction and rehabilitation of facilities of the joint works and $500,000 for power system construction.

The San Carlos irrigation project was authorized by the Act of June 7, 1924, and is designed to irrigate 100,546 acres of land of which 50,546 acres are on the Gila River Indian Reservation and 50,000 acres within the non-Indian San Carlos Irrigation and Drainage District. All of the non-Indian lands and 41,000 acres of the Indian land have been prepared for irrigated farming.

Irrigation Rehabilitation And Construction - Indian Works, $500,000. The funds requested for fiscal year 1977 will be used to rehabilitate and extend canals and laterals serving the Indian lands of the Gila River Indian Reservation.

Blackwater Area	$200,000
Canal #32 Area Subjugation	$300,000
Total	$500,000

Joint Works Irrigation Construction and Rehabilitation, $350,000. The flow of the Gila River is very erratic causing the project water supply to be unreliable. More than 120 wells have been drilled to supplement the river supply. In some years not more than 50 percent of the land can be farmed because of water shortages. Continuing severe drought conditions on the watershed of the Gila River have increased the need for pumping. The result has been a steadily declining groundwater table causing numerous wells to fail. New wells must be drilled to replace those that have failed and others must be deepened as the water table falls. Deepening requires additional well casing, column pipe assembly, larger electric moters, transformers, and protective equipment.

The irrigation construction work proposed for fiscal year 1977 is as follows:

Rehabilitation of 8 Irrigation wells	$350,000

Power System Construction And Rehabilitation $500,000. The power system was designed and constructed primarily for pumping purposes. It now serves more than 5,800 customers and distributes more than 150,000,000 kilowatt hours of electric energy per annum. The system consists of two generating plants, 180 miles of high voltage transmission lines, 800 miles of distribution lines, and 22 substations.

Construct new lines and facilities to serve new customers; purchase distribution transformers and metering equipment	$300,000
Construction-Hayden & Coolidge Sub-station	$200,000
Total	$500,000

SALT RIVER PROJECT, $230,500. This project is located on the Salt River near Phoenix, Arizona and has 9,300 acres of assessable irrigated land.

The features of work proposed for fiscal year 1977 are as follows:

Rehabilitation of Canals and structures	$105,500
Drill and equip one deep irrigation well	$125,000
Total	$230,500

SAN XAVIER IRRIGATION PROJECT, $88,000. This project is located on the San Xavier Indian Reservation just south of Tucson, Arizona. It serves 1,173 acres of land. The Papago Indians on this reservation began farming by irrigation about the year 1732 under the supervision of Spanish padres, using water diverted from the Santa Cruz River. The river channels began to degrade about 1876 and diversion from the river became impractical. In 1915, three wells were drilled for irrigation. Irrigation water is presently furnished by nine wells.

Pumping of the underground strata for commercial and municipal purposes has lowered the water table under the project. The wells need to be deepened and properly equipped for the increased lift to maintain the required water supply.

The San Xavier Irrigation Project has an adequate supply of underground water, but the wells and equipment under present conditions have the capacity to furnish an adequate water supply for only 600 acres. The San Xavier Indian Farm Corporation is farming 1,120 acres on rotation system to best use the available water.

Rehabilitation and Betterment - $88,000.

Work proposed for Fiscal Year 1977 is as follows:

Rehabilitation of irrigations wells	$88,000

VAIVA VO IRRIGATION PROJECT, $200,000. This project is a feature of the Santa Rosa Wash Multiple-Purpose Project, Papago Indian Reservation, Arizona, authorized by the Flood Control Act of October 27, 1965 (79 Stat. 1073).

The construction by the Corps of Engineers of the Tat-Momolikot Dam and St. Clair Reservoir on the Santa Rosa Wash will control, regulate, and store floodflows originating on 1,750 square miles of watershed of the Santa Rosa, Jackrabbit, and Kohatk Washes, which have their confluence immediately above the damsite.

The Bureau of Indian Affairs is responsible for the construction of the Vaiva Vo irrigation project which is estimated to cost $1,414,000 (based on 1962 prices). The project will provide facilities for use of the stored waters for the irrigation of 1,640 acres of land within the Papago Indian Reservation. The work of this Bureau is being coordinated with the work of the Corps of Engineers.

The Corps of Engineers completed construction of the Tat-Momolikot Dam and St. Clair Reservoir on the Santa Rosa Wash in June 1974. Construction of the irrigation facilities began in Fiscal Year 1974.

California

MORONGO PROJECT, $112,000. The Morongo Reservation is located about 15 miles northwest of Palm Springs, California. The work involved is the rehabilitation of irrigation facilities.

Idaho

MICHAUD UNIT, $375,000. This project was authorized under the Act of August 31, 1954 (68 Stat. 1026). The construction was started in the fiscal year 1957 with an appropriation of $500,000 and has continued each year since, as funds were made available. This unit of the Fort Hall project will irrigate 21,000 acres of excellent land (20,195 acres Indian-owned and 805 acres non-Indian owned) lying between the cities of Pocatello and American Falls. The water supply for the unit is derived from stored water in American Falls and Palisades Reservoirs constructed by the Bureau of Reclamation. However, the water actually used is pumped from the Portneuf River in exchange for the stored water. A series of wells will also provide underground water to supplement the water pumped from the river.

The proposed work for the fiscal year 1977 is to equip 10 deep wells.

Montana

BLACKFEET PROJECT, $86,000. The Two Medicine Canal serves approximately 28,000 acres in the Two Medicine unit of the project. In order to supply sufficient water, the capacity of the canal must be maintained at 500 cubic feet per second of water. At the present time, because of restrictions in the canal, the capacity is below the amount required. The funds will be used to continue the enlargement of the canal to the required capacity.

For canal and lateral structures of the Two Medicine Distribution System	$86,000

CROW, $123,000. The Crow Irrigation Project consists of seven irrigation units. Three of the units have working agreements with private ditch and drainage districts or associations. Construction work authorized under the Act of June 28, 1946 (60 Stat. 333) is included in the conditions set forth in current contracts with the three irrigation districts. The work proposed for the fiscal year 1977 is the continuation of rehabilitation work and extension of the distribution systems serving these units prior to the take-over of the operation and maintenance programs of these units by the districts involved. The work includes the rehabilitation of diversion dams, canals, laterals, and structures...$123,000.

FORT PECK PROJECT, $188,000. This project is located in northeastern Montana and was authorized by the Act of May 20, 1908 (35 Stat. 558). Construction was started in 1909 and continued as funds were made available and the need for additional farm land arose. The project originally consisted of five separate irrigation units. Three units are no longer in operation. The two operating units, which embrace an ultimate irrigable area of 24,623 acres, are the Wiota (Big Porcupine) Unit and the Frazer-Wolf Point Unit. Facilities have been constructed to serve 15,520 acres.

The basic industry on the reservation is livestock production. In order to meet the demand for winter feed there is an urgent need to extend irrigation facilities to certain of the lands not now irrigated and to rebuild and replace deteriorated irrigation facilities to serve other lands not now irrigated because of the need for rehabilitation.

The construction and rehabilitation work for this project is nearing completion. The program for the fiscal year 1977 is:

Canal Lining and related structures, Wiota Canal	$188,000

FLATHEAD PROJECT, $202,000. The power system on the Flathead Indian Reservation is now serving approximately 7,900 customers. The expansion of the Flathead Lake and Arlee areas are adding over 150 accounts per year. In order to meet this load growth, it will be necessary to increase sub-station capacity as well as increase the number and size of distribution transformers..... $202,000

Nevada

DUCK VALLEY PROJECT, $300,000. The Duck Valley irrigation project is within the Duck Valley Indian Reservation, which is located on the Nevada-Idaho State line with portions of the reservation lying in both states. This region is primarily stock-raising country where the irrigated base properties are used to produce forage crops for winter livestock feed. Since about 1874 these hay crops have been the most important crop produced and there is every indication that hay production will continue to play a very important role in the economy of the reservation.

The project embraces 12,000 acres of which 11,045 acres are irrigated, in production, and are totally used by tribal members. Of the irrigated land, 4,700 acres have been developed to modern high standards of land development. Much of the unimproved irrigated land is still irrigated by sloughs and meandering small ditches used back in the days when the irrigation water sources were from natural flooding of the Owhee River. The main and firm source of water is from the normal flow of the East Fork of the Owhee River and from storage at Wildhorse Dam. These two sources will provide an adequate supply of water for the 12,000 acres when fully developed.

The features of work proposed for fiscal year 1977 are as follows:

Construct 5 miles of canals and laterals with necessary structures.....	$ 75,000
Clearing and leveling, construction of farm ditches, and establishment of first crop.....	$225,000
Total	$300,000

GOSHUTE PROJECT, $89,000. The Goshute Indian Reservation is divided by the Nevada-Utah Border. The Nevada portion is located 90 miles northeast of Ely, Nevada, and the Utah portion is 70 miles south of Wendover, Utah. Irrigation by Indians dates back to at least 1900, but the existing irrigation facilities were constructed in the late 1930's and early 1940's. The rehabilitation and betterment program will provide the needed irrigation servicing approximately 820 acres and will extend the irrigation distribution system to include an additional 180 acres.

SOUTHFORK PROJECT, $303,000. The Southfork (Temoak) Indian Reservation is located on the South Fork of the Humboldt River approximately 28 miles southwest of Elko, Nevada. It is a composite of four ranches purchased for the Indians during the 1930's. The land has been irrigated to some extent for over 100 years with gradual improvement and extension of the system to irrigate 4,074 acres. The work involved will include rehabilitation of existing ditches and reconstruction of 6 diversion structures.

YERRINGTON PROJECT, $200,000. The Yerrington Indian Reservation is located about 35 miles southeast of Carson City, Nevada. The irrigation facilities were originally constructed as part of the facilities of an Indian school at that location. The work involved is the rehabilitation of the irrigation system.

YOMBA IRRIGATION PROJECT, $200,000. The Yomba Project lies within the Yomba Indian Reservation located some 45 miles south of Austin, Nevada. The project serves 2,044 acres which are farmed by members of the Tribe. The project receives its water from the Reese River and is produced mainly from mountain snowpacks. Forage crops are the only crops grown and are used to winter livestock. The farmlands are commensurate base holdings required to produce 2 months of feed as a part of the year-long livestock program on public lands. Project facilities were constructed by the former owners and are substandard and in need of major repairs.

Funds for Fiscal Year 1977 will be used to continue rehabilitation of canals and laterals.

New Mexico

HOGBACK PROJECT, $309,000. This project embraces 9,614 acres on the Navajo reservation. A dependable water supply is obtained from the San Juan River. When this project is fully developed, it will provide 250 farm units and support approximately 2,000 Navajo Indian people.

The Act of July 12, 1960 (74Stat. 470) authorized the Secretary of the Interior to transfer all irrigation units on the Navajo Reservation to the Navajo Tribe. Under an agreement made pursuant to this Act by and between the Secretary of the Interior and the Navajo Tribe, the tribe accepted the responsibility for operation and maintenance of all completed portions of the Hogback Unit. This unit should be completed at the earliest possible time in accordance with the agreement.

NAVAJO INDIAN IRRIGATION PROJECT, $22,038,000 1/

Work Proposed

Pumping Plants, $40,000. Provides for collection of field design data.

Canals, $10,300,000. Construction of the Main Canal Mi. 41.8 - 46.2 and on 14.5 of the Gravity Main Canal. A contract will be awarded for construction of the Amarillo Canal Mi. 0.0 - 11.2 which will provide water to Block 3 lands. Contract payments for maintenance of the natural gas engine-driven pumping units and power generators for Block 1 lands will be continued. Contract will be awarded for constructing pipelines to furnish gas for natural gas engine-driven pumping units for Block 3. Various contracts for relocation modification of oil and natural gas pipelines and utility lines crossing right-of-way will also be executed.

Laterals, $7,353,000. Construction of the closed pressure pipe distribution system to provide water for irrigating Block 2 lands will be completed. Contracts will be awarded for construction of the distribution system for water delivery to Block 3 and 4 lands. A contract will be awarded to furnish and install the electric motor-driven pumping units for Block 4. Various contracts for relocation and modification of oil and natural gas pipelines and appurtenant facilities crossing right-of-way will also be executed. Collection of field design data will continue.

Drains, $200,000. Relocation of various oil and natural gas pipelines and collection of field design data will continue.

Navajo Dam Powerplant, $3,400,000. The electric power requirements for operation of the Project pumping facilities will be fulfilled in part by a 23,000-kw hydroelectric powerplant at Navajo Dam. Construction of the powerplant will continue as well as progress payments on supply contracts for furnishing two turbines, the generators, governors, and the generator bus structure complete with station service transformers. The electrical completion contract will be awarded.

Power Transmission System, $700,000. The Project's power transmission system will transmit electric power from the power source to pumping facilities. Construction will continue on the Navajo Dam Powerplant Switchyard, which will be constructed under the same specifications as the powerplant. Progress payments will be made on the contract for furnishing two transformers to be installed in the switchyard. A contract will be awarded to construct the first section of power facilities which includes 29.0 miles of 230-kv, 40.9 miles of 115-kv, and 13.4 miles of 34.5-kv transmission line and substations to serve Blocks 4 and 5 and the Kutz Pumping Plant.

Other Project Costs, $45,000. Represents cost for custodial Operation and Maintenance of completed project facilities.

1/ Includes a non-Federal advance of $38,000 in fiscal year 1977 from El Paso Natural Gas Company to cover additional costs due to change in the Main Canal alinement to accommodate the company's pipeline facilities.

REGION Southwest

PROJECT DATA SHEET

PF-65 (6-75)
Bureau of Reclamation

Project and State	Completion Date	% Complete	Date
NAVAJO INDIAN IRRIGATION PROJECT, NEW MEXICO - BIA	1987 1/	27	1-1-76

AUTHORIZATION Public Law 87-483, June 13, 1962, Amended September 25, 1970
Public Law 91-416

B/C RATIO 1.78 2/ Date March 1975

LAND CERTIFICATION None required

DEFINITE PLAN REPORT None required

SUMMARIZED FINANCIAL DATA

Total Federal Obligations (Reclamation)	$ -----	Allotments to June 30, 1975	$ 86,398,385
Total Federal Obligations (Other)	322,147,000	Allotments for F.Y. 1976	22,800,000
Net Property and Other Transfers	2,346,000	Transition Quarter (July 1-September 30)	6,125,000
Cash Advances--Non-Federal	220,000	Allotments to Date	115,323,385
Adjustment (Reimbursement) 3/	-766,000	Allotments Required for F.Y. 1977	22,000,000
Total to be Allocated	$ 323,947,000	Balance to Complete after F.Y. 1977	$ 184,823,615

ALLOCATIONS 4/		REPAYMENT		AMOUNTS PER ACRE	
Irrigation	$ 323,947,000	Amount Repaid by Irrigators	$	Irrig. Invest. per Acre	$
Power		Amount Repaid by Power		Repayment of Investment per Acre:	
M & I Water		Amount Repaid by M & I Water		By Irrigators	$
Recreation				By Power Revenues	
F & WL				By M & I Water Users	
Flood Control					
Other		Nonreimbursable	323,947,000		
Total	$ 323,947,000	Total	$ 323,947,000		

Payment Capacity per Acre $
Annual Charges:
O & M $
Construction
Total $

STATUS OF REPAYMENT CONTRACT: A form of contract between the United States, represented by the Bureau of Indian Affairs and the Bureau of Reclamation, and the Navajo Tribe of Indians, which provides for deferring the collection of construction costs so long as the benefited lands are in Indian ownership, is under study.

STATUS OF ENVIRONMENTAL IMPACT STATEMENTS: Projectwide - scheduled to Council on Environmental Quality - draft September 15, 1975, final July 1976.

DESCRIPTION: This project is located in Río Arriba and San Juan Counties in northwestern New Mexico. The project plan of development provides for placing a total of 110,630 acres under irrigation. The project plan will provide a livelihood for an estimated 6,550 Navajo families as farm operators, custom laborers and employees in related service activities, thus providing a higher standard of living for more than 33,000 Navajo Indians. The project also will provide a power supply of 23,000 kilowatts, primarily for operation of the project's pumping facilities. Included in the total cost is $9,298 for 510 acres of lands for right-of-way at an average cost of $18 per acre. Approximately 52 percent has been acquired.

IA-87

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☆ GPO 1975-677-276/343 1/8

Included in the total cost is $404,000 for acquisition of 14,075 acres of privately-owned patented lands susceptible to irrigation lying adjacent to the Navajo Indian Reservation to increase the project area at an average cost of approximately $29 per acre, of which 89 percent has been acquired. Approximately 23 percent of the relocation work has been accomplished. The project lands are presently capable of providing only very poor grazing for livestock. When adapted to irrigation, they will be well suited for producing small grains, hay forage crops, vegetables, and fruits.

OTHER INFORMATION: Funds to initiate preconstruction planning for the Navajo Indian Irrigation Project were transferred to the Bureau of Reclamation in fiscal year 1963 out of Bureau of Indian Affairs' fiscal year 1963 appropriations. Funds to initiate construction on the Navajo Indian Irrigation Project were appropriated in fiscal year 1964. The plan of development anticipates an all sprinkler irrigation system.

Footnotes:

1/ Initial water service will start in March 1976 with water available to 9,300 acres.

2/ No change from FY 1976 Budget Justifications. Increased project costs have been offset by increased benefits.

3/ Represents construction of roads and bridges funded from the Road Construction appropriation. Amount shown is based on amounts bid for pay items for construction of roads and bridges under contract awarded January 28, 1974, plus estimated costs for construction supervision.

4/ Change in allocations and repayment from FY 1976 Budget Justifications:

	1976 Estimate	1977 Estimate
Irrigation	$303,580,000	$323,947,000

The increase of $20,367,000 reflects cost indexing.

NORTHERN PUEBLOS, $85,000. The work for the Northern Pueblos for the fiscal year 1977 will be for Teseque Pueblo to rehabilitate storage reservoir. Replace and expand infiltration system and rehabilitate main canal and structure....$85,000.

SOUTHERN PUEBLOS, $105,000. The work proposed for the Southern Pueblos for the fiscal year 1977 and the projects or Pueblos involved are as follows:

Acoma Pueblo	
Canal lining	$ 30,000
Jemez Pueblo	
Canal lining	30,000
Zia Pueblo	
Canal lining	45,000
TOTAL	$105,000

ZUNI, $95,000. The Zuni irrigation project consists of five separate units ranging in size from 100 acres at Tekapo to 1,600 acres at the Zuni unit. Ultimate development of these units is limited by the available water supply. There are 4,727 acres of irrigable land under the present irrigation system. Preliminary hydrology studies indicate there is enough water available to irrigate 3,000 acres, provided adequate storage facilities and distribution systems are constructed.

A recent study by the U. S. Bureau of Reclamation indicates that under maximum probable flood conditions, the storage dams upstream of the Zuni Village are not safe. If a maximum probable flood occurred, it would cause a disaster such as that which occurred in the early 1960's on the Blackfeet Reservation in Montana. This would result in loss of life, property damages in the Zuni Village and property damage to the Zuni Reservation lands. Future planning outlined in the Zuni Comprehensive Development Plan includes development of residential, industrial, and commercial investments in and around the Zuni Village, which would also be endangered.

The irrigation program for the fiscal year 1977 is:

Continuation of the program for the correction of structural deficiencies as disclosed by recent Bureau of Reclamation study.....	$95,000

UTAH

UINTAH AND OURAY PROJECT, $330,000. This project, located in northeastern Utah, was authorized by the Act of June 21, 1906 (34 Stat. 375). Construction of the project was initiated in 1906 and substantially completed by 1922. There are 78,950 acres of land with water rights included in the project. About 30 percent of the project area is affected by inadequate surface or sub-surface drainage. A drainage construction and rehabilitation program is needed to relieve this situation in order to maintain the productivity of the land and/or bring back into production lands that are now temporarily non-assessable because of drainage problems.

This feature of work and estimated cost will provide for:

Major structure repair, canal realignment, and structure replacement..... $330,000

SURVEYS, INVESTIGATIONS, AND PLANS, $515,000. This item represents the amount required for continuation of surveys, investigations, studies, and plans for the preparation of Feasibility, Completion (Definite Plan), and Rehabilitation and Betterment Reports to be made of all existing Indian irrigation projects under the jurisdiction of the Bureau of Indian Affairs. This work is necessary in order to establish a program for completing existing Indian irrigation projects presently authorized, developing additional Indian irrigation resources, and for the rehabilitation and betterment of existing irrigation works with a view to transferring the operation and maintenance of the completed projects from the Government to acceptable water user organizations. It also provides funds for studies covering the safety of dams, studies of Pueblo lands included in the tributary units of the authorized San Juan - Chama Trans Mountain Diversion Project, studies relating to Ute Indian lands included within the Central Utah Project, and studies for improvement of project power systems.

ENGINEERING SUPERVISION, $1,188,000. This item represents the amount required to pay salaries, office, rent, travel expenses, and miscellaneous expenses incidental to executing the irrigation program proposed for the fiscal year 1977. Staff employees engaged in irrigation activities are located in Phoenix, Arizona; Billings, Montana; Portland, Oregon; Sacramento, California; Albuquerque, New Mexico; Window Rock, Arizona and the Washington Central Office.

ITEMIZATION OF ESTIMATE

DEPARTMENT OF THE INTERIOR
APPROPRIATION TITLE: Construction — Bureau of Indian Affairs

	Actual 1975	Estimate 1976	Estimate T.Q.	Estimate 1977	Increase (+) Decrease (-)
Program and Financing					
Total obligations	$56,420,091	$74,750,222	$13,550,000	$78,742,000	+$ 3,991,778
Unobligated balance available, start of year	-35,804,313	-44,188,222	-43,360,000	-43,360,000	+ 828,222
Unobligated balance available, end of year	44,188,222	43,360,000	43,360,000	10,881,000	- 32,479,000
Appropriation	64,804,000	73,922,000	13,550,000	46,263,000	- 27,659,000
Obligations by Object					
BUREAU OF INDIAN AFFAIRS					
11.0 Personnel Compensation	5,435,000	5,221,000	1,305,000	5,500,000	+ 279,000
12.1 Personnel benefits	414,000	400,000	98,000	550,000	+ 150,000
21.0 Travel and transportation of things	550,000	550,000	150,000	550,000	---
22.0 Transportation of things	312,000	300,000	75,000	300,000	---
23.0 Rent, communication, and utilities	168,000	250,000	60,000	200,000	- 50,000
24.0 Printing and reproduction	41,000	50,000	12,000	40,000	- 10,000
25.0 Other services	10,146,000	8,000,000	800,000	12,000,000	+ 4,000,000
26.0 Supplies and materials	3,539,000	4,000,000	2,000,000	3,000,000	- 1,000,000
31.0 Equipment	2,487,000	5,000,000	1,200,000	3,500,000	- 1,500,000
32.0 Lands and structures	17,315,000	28,178,000	1,725,000	31,102,000	+ 2,924,000
41.0 Grants, subsidies, and contributions	100,000	---	---	---	---
42.0 Insurance claims & indemnities	1,000	---	---	---	---
Subtotal	40,508,000	51,949,000	7,425,000	56,742,000	+ 4,793,000

	Actual 1975	Estimate 1976	Estimate T.Q.	Estimate 1977	Increase (+) Decrease (-)
Quarters and subsistence charges	11,000				
Total, Bureau of Indian Affairs	40,497,000	51,949,000	7,425,000	56,742,000	+ 4,793,000
ALLOCATION ACCOUNTS					
11.0 Personnel compensation	2,212,000	2,339,000	824,000	2,538,000	+ 199,000
12.1 Personnel benefits	202,000	233,000	77,000	233,000	---
13.0 Benefits to former personnel	9,000	---	---	---	---
21.0 Travel and transportation of persons	27,000	33,000	9,000	33,000	---
22.0 Transportation of things	93,000	105,000	11,000	105,000	---
23.0 Rent, communication and utilities	79,000	79,000	20,000	79,000	---
24.0 Printing and reproduction	15,000	18,000	5,000	18,000	---
25.0 Other services	249,000	250,000	45,000	250,000	---
26.0 Supplies and materials	35,000	37,000	10,000	37,000	---
31.0 Equipment	32,000	21,000	6,000	21,000	---
32.0 Lands and structures	12,970,091	19,686,222	5,118,000	18,686,000	- 1,000,222
Allocation Accounts	15,923,091	22,801,222	6,125,000	22,000,000	- 801,222
99.0 Total obligations	56,420,091	74,750,222	13,550,000	78,742,000	+ 3,991,778

Personnel Summary

Construction

	1975 Actual	1976 Estimate	1977 Estimate
BUREAU OF INDIAN AFFAIRS			
Total number of permanent positions....	157	170	170
Full-time equivalent of other positions	142	140	140
Average paid employment.....	318	299	300
Average GS grade.....	7.76	7.80	7.84
Average GS salary.....	$13,404	$14,215	$14,357
Average salary of ungraded positions...	$12,070	$13,532	$15,307
ALLOCATION ACCOUNTS			
Total number of permanent positions....	157	157	176
Full-time equivalent of other positions	3	4	4
Average paid employment.....	145	157	166
Average GS Grade.....	8.50	8.50	8.50
Average GS salary.....	$15,379	$15,618	$15,930
Average salary of ungraded positions...	$13,849	$14,674	$14,832

DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS

CONTRACT AUTHORITY AND LIQUIDATION PROGRAM
ROAD CONSTRUCTION

	Contract authority available	Obligations	Unliquidated obligations prior year	Obligations	Expenditures	Unliquidated obligations carried forward
Fiscal Year 1975						
Federal-Aid Highway Roads.....	$50,500,000	$59,630,797	$35,064,833	$94,695,630	$66,081,576	$28,614,054 1/
Fiscal Year 1976						
Federal-Aid Highway Roads.....	$66,705,000	66,705,000	28,614,054	95,319,054	66,757,000	28,562,054 2/
Fiscal Year 1TQ						
Federal-Aid Highway Roads.....	$28,000,000	28,000,000	28,562,054	56,562,054	27,000,000	29,562,054 3/
Fiscal Year 1977						
Federal-Aid Highway Roads.....	$41,339,000	41,339,000	29,562,054	70,901,054	46,795,000	24,106,054 4/

1/ Available cash for liquidation is $246,090; balance of $28,367,964 is unfunded.

2/ Available cash for liquidation is $194,090; balance of $28,367,964 is unfunded.

3/ Available cash for liquidation is $1,194,090; balance of $28,367,964 is unfunded.

4/ Available cash for liquidation is $1,194,090; balance of $22,911,964 is unfunded.

Status of Cash Appropriations for
Liquidation of Contract Authority

	1975	1976	TQ	1977
Appropriations.....	$59,500,000	$66,705,000	$28,000,000	$46,795,000
Unexpended balance brought forward	6,827,666	246,090	194,090	1,194,090
Total available...	66,327,666	66,951,090	28,194,090	47,989,090
Less: Outlays.....	66,081,576	66,757,000	27,000,000	46,795,000
Unexpended balance	246,090	194,090	1,194,090	1,194,090

JUSTIFICATION

ROAD CONSTRUCTION (CASH PROGRAM) $74,000,000

1. Appropriation (To Liquidate Contract Authority) - 1975, $66,081,576; 1976, $66,757,000; 1977, $46,795,000.

   The estimate for cash needed for liquidation of contract authority is $46,795,000 pursuant to authority contained in Title 23, U.S.C., Section 203, as amended by Federal-Aid Highway amendments of 1974. This amount is required to liquidate $28,368,000 of unliquidated prior year obligations and the 1977 program obligations that come due for payment during the fiscal year. This liquidating cash program will result in unfinanced obligations of $22,912,000 at the end of the 1977 fiscal year.

2. Appropriation (Budget Authority) - 1977, $27,205,000.

   The estimate of funds needed for the roads program pursuant to Title 25, U.S.C., Section 318a, is $27,205,000.

ROAD CONSTRUCTION (OBLIGATION PROGRAM) $68,544,000

Indian Reservation Roads - 1975, $59,630,797; 1976, $66,705,000; 1977, $68,544,000.

Major Program Changes

1. Road Construction Program, +$1,839,000; Total, $68,544,000.

   Proposal. The increase will be used to plan, design and construct additional highest priority road projects and to strengthen the engineering services needed to provide a level of construction quality control commensurate with Federal Highway Administration standards.

   Justification. Current FHWA estimates for replacing all Indian reservation roads and bridges by 1990, when virtually all will require replacement, is $2,500,000,000. In order to maintain overall program balance, the objective of the Bureau's road construction program is to improve, with paving or gravel as minimally required, all arterial highways, all community streets, and 50 percent of the local roads on the Indian road systems. The estimate of all projects necessary to meet this program objective is approximately

$1,500,000,000. The increase is needed to construct highest priority projects in 1977 and to make additional progress in achieving the long-range program goal.

Cost Factors.

	Unit of Measure	Output	Cost
1. Investigation and planning, performing field surveys, investigation, public hearings, rights-of-way acquisition, environmental impact statements, location survey, plan preparation and documents needed for FHWA approval of roads construction projects.	Miles	523.6	$ 5,129,400
2. Grade and Drain, installation of drainage structures, and construction of cuts, fills, and base materials.	Miles	439.8	27,944,200
3. Gravel Surfacing, i.e., applying a gravel wearing course to base course aggregates.	Miles	187.6	3,701,700
4. Paved surfacing, i.e., applying mat-type bituminus materials or equivalent.	Miles	549.3	28,033,800
5. Bridge Construction, including replacement of existing unsafe structures.	Linear feet	2,776.0	3,734,900
Total			68,544,000

Program Description

The Bureau is responsible for providing a transportation network which will be the skeletal support of reservation development, and upon which social, economic and educational achievement may advance. There is a total of 49,872 miles of roads on Indian reservations, and the Bureau is responsible for the improvement of 28,154 miles consisting of 21,414 miles of unimproved roads, 2,892 miles of gravel roads, and 3,848 miles of paved roads.

The present condition of roads on Indian reservations can be compared with the early 1930's in rural America, when the Federal Government's commitment was to get the farmers "out of the mud." A reflection of these conditions is the fact that 76% of all Bureau roads on reservations are unimproved. The construction of a usable and adequate road system is a prerequisite to the success of programs such as education, law enforcement, housing, commerical development, and others. To this end the Bureau's goal is to build a network of roads on Indian reservations at least equal to the surrounding communities so that the development of Native Americans can proceed at a rate and manner comparable with the rest of the people in the United States.

A secondary benefit of the program is the employment of Indian people on road construction projects. With unemployment rates on many reservations in the 30-40% range, this productive employment is a significant source of Indian income and adds materially to the local economies.

In keeping with the policy of Indian self-determination, the road construction project priorities for each reservation are determined by the respective tribal council. Funding levels for major geographic areas are established by formula. Formula factors are designed to provide a program balanced geographically in accordance with need.

The following table provides selected accomplishment data for the road construction program:

	Unit of Measure	FY 1975 Actual	FY 1976 Est.	FY 1977 Est.*
Investigation & Planning	Miles	772.9	553.4	523.6
Grading & Draining	Miles	384.3	409.8	439.8
Surfacing - Gravel	Miles	242.2	143.6	187.6
Paved	Miles	361.4	496.6	549.3
Bridge Construction	Linear Feet	1,784.8	2,426.0	2,776.0

* FY 1976 and FY 1977 program accomplishment differences can be accounted for by differences in project terrain, climate, availability of skilled labor, equipment, and materials to the site, and other factors.

Personnel Summary

Road Construction (Liquidation of Contract Authority)

	1975 Actual	1976 Estimate	1977 Estimate
BUREAU OF INDIAN AFFAIRS			
Total number of permanent positions.....	410	410	410
Full-time equivalent of other positions.	600	600	600
Average paid employment.....	985	1,025	990
Average GS grade.....	7.76	7.80	7.84
Average GS salary.....	$13,404	$14,215	$14,367
Average salary of ungraded positions...	$12,070	$13,532	$15,307

ALLOCATION TO FEDERAL HIGHWAY ADMINISTRATION DEPARTMENT OF TRANSPORTATION	1975 Actual	1976 Estimate	1977 Estimate
Total number of permanent positions....	17	17	17
Full-time equivalent of other positions	5	5	5
Average paid employment.....	22	22	22
Average GS grade.....	8.40	8.41	8.41
Average GS salary.....	$14,352	$15,240	$15,404

ITEMIZATION OF ESTIMATE

DEPARTMENT OF THE INTERIOR
APPROPRIATION TITLE: Road Construction (Liquidation of Contract Authority) Bureau of Indian Affairs

	Actual 1975	Estimate 1976	Estimate 1976	Estimate 1977	Increase (+) Decrease (-)
Program and Financing					
Total oblig.....	$59,630,797	$66,705,000	$28,000,000	$68,544,000	+ $1,839,000
Unoblig. balance available, start of period.....	-95,674,958	-136,044,161	-69,339,161	-41,339,161	+ 94,705,000
Unoblig. balance available, of period.....	136,044,161	69,339,161	41,339,161	161	- 69,339,000
Contract authority (New)(Perm)....	100,000,000	...	....	...	...
Appropriation (adjusted).....	...	...	...	27,205,000	+ 27,205,000
Obligation by object					
BUREAU OF INDIAN AFFIARS					
11.0 Personnel compensation....	12,986,000	13,728,000	3,365,000	13,850,000	+ 122,000
12.1 Personnel benefits.....	1,062,000	1,112,000	278,000	1,125,000	+ 13,000
13.0 Benefits for former personnel	1,000	...	...	...	...
21.0 Travel and tran-. sportation of persons.....	639,000	700,000	200,000	700,000	...
22.0 Transportation of things.....	657,000	700,000	200,000	700,000	...
23.0 Rent communi-cations and utilities.....	2,015,000	2,000,000	500,000	2,000,000	...
24.0 Printing and re-production.....	51,000	100,000	25,000	100,000	...
25.0 Other services...	19,234,000	20,000,000	4,000,000	22,000,000	+ 2,000,000

	Actual 1975	Estimate 1976	Estimate T.Q.	Estimate 1977	Increase (+) Decrease (-)
26.0 Supplies and materials.....	6,740,000	7,000,000	1,750,000	8,000,000 +	1,000,000
31.0 Equipment.....	1,100,000	2,000,000	500,000	2,000,000	...
32.0 Lands and structures....	14,812,000	18,218,000	16,382,000	15,569,000 -	2,649,000
42.0 Insurance claims and indemnities..	22,000	...	...	...	...
Subtotal.....	59,319,000	65,558,000	27,200,000	66,044,000 +	486,000
Quarters and subsistence charges.....	- 89,000	...	...	...	...
Total, Bureau of Indian Affairs....	59,230,000	65,558,000	27,200,000	66,044,000 +	486,000
ALLOCATION TO FEDERAL HIGHWAY ADMINISTRATION DEPARTMENT OF TRANSPORTATION					
11.0 Personnel compensation	274,797	280,000	69,000	291,000 +	11,000
12.1 Personnel benefits	22,000	26,000	6,000	27,000 +	1,000
13.0 Benefits to former personnel	2,000	...	...	...	...
21.0 Travel and transportation of persons.....	107,000	124,000	31,000	124,000	...
22.0 Transportation of things....	39,000	44,000	11,000	44,000	...
23.0 Rents, communication, and utilities....	12,000	16,000	4,000	16,000	...
24.0 Printing and reporduction.	7,000	8,000	2,000	9,000 +	1,000
25.0 Other Services	162,000	186,000	46,000	186,000	...
26.0 Supplies and materials....	8,000	9,000	2,000	9,000	...
32.0 Land and structures...	...	454,000	629,000	1,794,000 +	1,340,000
96.0 Portions of forgoing obligations originally charged to object class 32.0	- 233,000	...	...	...	...
Total obligations, Federal Highway Administration	400,797	1,147,000	800,000	2,500,000 +	1,353,000
Total obligations...	59,630,797	66,705,000	28,000,000	68,544,000 +	1,839,000

ADMINISTRATIVE PROVISIONS

Explanation of Language Change

The language provides for the purchase of 138 passenger carrying motor vehicles of which 107 shall be for replacement only. The vehicles maybe used for the transportation of Indians.

DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS

Miscellaneous Appropriations
(Alaska Native Claims)

Appropriation, 1975	$70,000,000
Appropriation, 1976	70,000,000
Appropriation, 19TQ	40,000,000
Decreases:	
Alaska Native Claims	70,000,000
Increases:	
Alaska Native Claims	30,000,000
Budget estimate 1977	$30,000,000

Miscellaneous Appropriations
(Alaska Native Claims)

	Amount Available 1976	Amount Available 19TQ	F.Y. 1977 Budget Estimate	Total Available 1977 compared to total available 1976
Alaska Native Claims	$70,000,000	$40,000,000	$30,000,000	$-40,000,000

The Alaska Native Claims will be used for the settlement of land claims of Alaska Natives. This settlement will be accomplished in conformity with the real economic and social needs of Natives, with maximum participation by Natives in decisions affecting their rights and property, without litigation, without establishing any permanent racially defined institutions, rights, privileges, or oglibations, without creating a reservation system or lengthy wardship or trusteeship, and without adding to the categories of property and institutions enjoying special tax privileges, or to the legislation establishing special relationships between the United States Government and the State of Alaska, as provided by Public Law 92-203 (85 Stat. 688), approved December 18, 1971.

DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS

Analysis by Activities

Miscellaneous Appropriations

	FY 1975 Actual	FY 1976 Estimate	FY 197Q Estimate	FY 1977 Estimate
Alaska Native Fund	$70,000,000	$70,000,000	$40,000,000	$30,000,000

DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS
Miscellaneous Appropriations

Alaska Native Fund

For transfer to Alaska Native Fund to provide for the settlement of certain land claims by Natives and Native groups of Alaska and for other purposes based on aboriginal land claims, as authorized by the Act of December 18, 1971 (Public Law 92-203), $30,000,000.

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BUREAU OF INDIAN AFFAIRS

Revolving Fund for Loan

Appropriation, 1976	$3,000,000
Decrease	3,000,000
Subtotal	...
Increase	...
Budget Estimate, 1977	...

BUREAU OF INDIAN AFFAIRS

REVOLVING FUND FOR LOANS

Activity	Budget Authority				
	FY 1975 Available	FY 1976 Estimate	TQ Estimate	FY 1977 Estimate	Change--1977 compared with 1976
Revolving Fund for Loans	$38,000,000	$3,000,000	--	-0-	-$3,000,000

Revolving Fund for Loans: Fiscal Year 1976, $3,000,000; Fiscal Year 1977, none; decrease of $3,000,000.

Major Program Change

Revolving Fund for Loans: -$3,000,000; Total -0-

No funds are requested in FY 1977. Of the $50,000,000 authorized by the Indian Financing Act of 1974 (P.L. 93-262) for this fund, $9,000,000 remains unfunded.

It is anticipated that cash balances of $6.1 million will be available for loans at the start of FY 1977. Anticipated collections during the year amount to $8.2 million. The $14.3 million available will fund the projected FY 1977 direct loan program.

Program Description

The Indian Revolving Loan Fund was established by the Indian Financing Act of 1974 (P.L. 93-262). Authorizations for three separate loan funds were combined into the one fund. Additional appropriations of $50 million to the fund were authorized, bringing to $77 million the total authorization of the fund.

The fund is used to provide a source of credit for Indians who cannot borrow from other Government sources or from ordinary commercial lenders because of their low economic status, isolated geographic location, lack of bankable security, and other reasons.

A summary of program and funding data through FY 1977 is shown in the following table.

SUMMARY OF PROGRAM AND FUNDING DATA

Revolving Fund for Loans

Item	($ in millions) General Fund	Expert Assistance	Total
FY 1976 - Est.			
Funds Available for Lending:			
Cash balances, start of year	33.8	1.2	35.0
Anticipated appropriations	3.0	--	3.0
Anticipated collections	3.2	0.5	3.7
Total Available	40.0	1.7	41.7
Loan Program:			
Unallotted commitments, start of year.	13.3	1.2	14.5
Applications authorized, start of year	18.5	--	18.5
Other loans anticipated	--	0.5	0.5
Total Loans	31.8	1.7	33.5
TRANSITION QUARTER - Est.			
Funds Available for Lending:			
Cash balances, start of quarter	8.2	--	8.2
Anticipated appropriations	--	--	--
Anticipated collections	0.9	--	0.9
Total Available	9.1	--	9.1
Loan Program - Total anticipated	3.0	--	3.0
FY 1977 - Est.			
Funds Available for Lending:			
Cash balances, start of year	6.1	--	6.1
Appropriations requested	--	--	--
Anticipated collections	8.2	0.7	8.9
Total Available	14.3	0.7	15.0
Loan Program - Total Anticipated	14.3	0.7	15.0
Cash balances, end of year	--	--	--

BUREAU OF INDIAN AFFAIRS

Indian Loan Guaranty and Insurance Fund

Appropriation, 1976	$ 10,000,000
Decrease	10,000,000
Subtotal	-0-
Increase	20,000,000
Budget estimate, 1977	20,000,000

BUREAU OF INDIAN AFFAIRS

INDIAN LOAN GUARANTEE AND INSURANCE FUND

Activity	Budget Authority				
	FY 1975 Available	FY 1976 Estimate	TQ Estimate	FY 1977 Estimate	Change--1977 compared with 1976
Loan Guarantee and Insurance Program	$20,000,000	$10,000,000	--	$20,000,000	$10,000,000
Positions	9	60		60	--

Loan Guarantee and Insurance Program: Fiscal Year 1976, $10,000,000; Fiscal Year 1977, $20,000,000; increase of $10,000,000.

Major Program Changes

Loan Guarantee and Insurance Program: $+10,000,000; Total $20,000,000.

The requested amount represents the final $20,000,000 authorized by the Indian Financing Act of 1974 (P.L. 93-262) for this program.

Proposal: The increase will be used as follows:

1. $3,700,000 for reserves for losses on guaranteed and insured loans.

2. $5,800,000 for interest subsidies.

3. $500,000 for management and technical assistance to borrowers or grantees through contracts with private sources or on a reimbursable basis with other Federal agencies.

Justification: Participation in the program is increasing rapidly. It is anticipated that current fund resources will be totally committed through the Transition Quarter. The increase is needed to meet reserve and cost requirements on an estimated additional $24.7 million of new loans in 1977. The total loan program for 1977 is estimated at $52.0 million. The loans are needed for business development by Indians.

Cost Factors:

15% reserves on 90% of $27.4 million of loans	$ 3,700,000
3% interest subsidies on $27.4 million of loans with average life of 10 years	5,800,000
Management and technical assistance contracts for loans and grants	500,000
Total increase	$10,000,000

Program Description

The Loan Guarantee and Insurance Fund was established by the Indian Financing Act of 1974 (P.L. 93-262). The Act authorized the appropriation of $20 million for each of the three Fiscal Years 1975, 1976, and 1977 for operation of the fund, to pay interest subsidies and for administrative expenses under the Act. The purpose of this program is to provide commercial sources of credit to Indians, not otherwise available, for economic development purposes.

Program of Work

Because Indian organizations, groups and individuals generally do not have the necessary collateral to secure loans, they are unable to obtain financing through outside private lending institutions. The Loan Guaranty and Insurance Fund will provide additional incentives to private lenders to loan more money for Indian economic projects. It is estimated that approximately $52.0 million in loans will be generated through the Loan Guaranty and Insurance Fund for Fiscal Year 1977.

The requested appropriation will provide:

(1) $7,230,000 for reserve for losses on $50.6 million of guaranteed and insured loans. In addition, it is expected that collections will provide $0.2 million reserves for $1.4 million of new loans.

(2) $200,000 for cost of taxes, insurance, prior liens, etc., incidental to projected defaulted loans.

(3) $9,970,000 to cover cost of interest subsidies on the $50.6 million in loans estimated in item (1) above. It is expected that collections will provide $0.2 million for interest subsidies on $1.4 million of loans.

(4) $1,000,000 operating cost to provide competent management and technical assistance to borrowers or grantees through contracts with private sources or on a reimbursable basis with other Federal agencies.

(5) $1,600,000 operating cost to administer the Loan Guaranty and Insurance Fund including the development and review of loan packages, processing and paying interest subsidies and other costs, receiving and depositing collections, etc., and to administer the Indian Business Development Program which provides for non-reimbursable grants to Indians and Indian tribes to establish or expand profit-making Indian owned business enterprises on or near reservations.

Selected Accomplishment Data are provided as follows:

	Unit Measure	FY 1975 Actual	FY 1976 Estimate	FY 1977 Estimate
Guaranteed and Insured Loans	No.	--	160	104
Guaranteed and Insured Loans	Mil. $	--	79.6	52.0
IBDP Grants	No.	591	530	530
IBDP Grants	Mil. $	10.0	8.5	8.5

As of December 31, 1975, Loan Guaranty Agreements have been entered into with 32 banks, and 16 loans totaling $6,560,000 have been approved for guarantee.

The following table provides a summary of program and funding data for FY 1976, the Transition Quarter, and FY 1977.

Summary of Program and Funding Data

Item	FY 1976 Estimated	($ in millions) T.Q. Estimated	FY 1977 Estimated
Funds Available for Reserves and Costs:			
Balance, start of year	$ 19.9	$ 0.6	$ 0.2
Appropriation	10.0	--	20.0
Collections	0.2	--	0.5
Total Available	30.1	0.6	20.7
Less needs for reserves and costs	29.5	-0.4	20.4
Balance, end of year	0.6	0.2	0.3
Guaranteed and Insured Loans:			
Outstanding, start of year	$ --	$74.4	$ 71.9
New loans during year	79.6	--	52.0
Defaults during year	1.2	0.6	3.5
Repayments during year	4.0	1.9	11.6
Outstanding, end of year	74.4	71.9	108.8
Reserves and Costs:			
Reserves for losses	$ 11.4	$ --	$ 7.4
Reserves for interest subsidies	15.7	--	10.2
Mgt. and Tech. Assist. costs	1.0	--	1.0
Defaulted loan costs	0.2	--	0.2
Administrative costs	1.2	0.4	1.6
Total for reserves & costs	29.5	0.4	20.4
Status of Reserves:			
For Interest Subsidies:			
Balance, start of year	$ --	$14.5	$ 13.9
Reserved during year	15.7	--	10.2
Payments from reserve	1.2	0.6	2.9
Balance, end of year	14.5	13.9	21.2
For Defaults:			
Balance, start of year	$ --	$10.3	$ 9.8
Reserved during year	11.4	--	7.4
Payments from reserve	1.1	0.5	3.4
Balance, end of year	10.3	9.8	13.8

ITEMIZATION OF ESTIMATE (Cont.)

DEPARTMENT OF THE INTERIOR
APPROPRIATION TITLE: Loan Guaranty and Insurance Fund

Bureau of Indian Affairs

	1975 Actual	1976 Estimate	Estimate Trans. Qtr.	1977 Estimate	Increase and Decrease 1977 over 1976
Obligation by object					
11.0 Personnel compensation	81,000	950,000	250,000	1,135,000	+ 185,000
12.0 Personnel benefits: Civilian	9,000	95,000	25,000	114,000	+ 19,000
21.0 Travel and Transportation of Persons	28,000	55,000	15,000	80,000	+ 25,000
22.0 Transportation of Things	2,936	8,064	2,000	15,000	+ 6,936
23.0 Rent, communication and utilities	1,000	2,000	1,000	5,000	+ 3,000
24.0 Printing and reproduction	--	--	--	--	--
25.0 Other services	11,000	1,060,000	107,000	1,201,000	+ 141,000
26.0 Supplies and material	5,000	20,000	--	30,000	+ 10,000
31.0 Equipment	12,000	10,000	--	20,000	+ 10,000
33.0 Investments and loan	--	1,274,000	510,000	3,370,000	+ 2,096,000
41.0 Grants, subsidies and contributions	--	1,193,000	563,000	2,892,000	+ 1,699,000
99.0 Total obligation	149,936	4,667,064	1,473,000	8,862,000	+ 4,194,936

PERSONNEL SUMMARY

Loan Guaranty and Insurance Fund

	1975 Actual	1976 Estimate	1977 Estimate
Total number of permanent positions	9	60	60
Full-time equivalent of other positions	1	6	10
Average paid employment	9	62	66
Average GS grade	7.76	7.80	7.84
Average GS salary	$13,404	$14,215	$14,357
Average salary of ungraded positions	$12,070	$13,532	$15,307

ITEMIZATION OF ESTIMATE

DEPARTMENT OF THE INTERIOR
APPROPRIATION TITLE: Loan Guaranty and Insurance Fund

Bureau of Indian Affairs

	1975 Actual	1976 Estimate	Estimate Trans. Qtr.	1977 Estimate	Increase and Decrease 1977 over 1976
Program and Financing					
Total obligation	149,936	4,667,064	1,473,000	8,862,000	+ 4,194,936
Receipts and reimbursement from non-Federal Sources	---	- 199,000	---	- 462,000	- 263,000
Unobligated balance available, start of year.	---	-19,850,064	-25,382,000	-23,909,000	- 4,058,936
Unobligated balance available, end of year...	19,850,064	25,382,000	23,909,000	35,509,000	+ 10,127,000
Appropriation	20,000,000	10,000,000	---	20,000,000	+ 10,000,000

TRUST FUNDS

Highlight Statement

A. Tribal Funds:

Tribal funds are deposited into the U.S. Treasury pursuant to various acts of Congress to be made available for expenditure for the use and benefit of the respective tribal groups. About 300 Indian tribes, bands or identifiable groups have some 700 accounts which are maintained separately by the Bureau of Indian Affairs, and in a consolidated account in the U.S. Treasury, which are used for the conduct of tribal financial programs, enterprises, businesses, per capita payments and other tribal affairs. Approximately fifty percent of tribal income is derived from judgments or awards made pursuant to either general or specific acts of Congress. The balance of such income is derived from Federal management of tribal real properties, the title to which is held in trust by the United States for the tribes.

Tribal funds are available for various purposes, under various acts of Congress and are also subject to the provisions of tribal constitutions, bylaws, charters, and resolutions of the various tribes, bands or groups. For the past several years, the Congress has required that special legislation be enacted to permit the expenditure of judgment funds. The Act of October 19, 1973 (87 Stat. 466) provides general authority for the distribution of funds appropriated in satisfaction of judgments of the Indian Claims Commission and the Court of Claims, subject to certain conditions, including the development of a plan for the use of the funds. Funds derived from the management of tribal trust properties are available for tribal use in accordance with approved budgets under permanent, annual or indefinite authorizations.

Funds programmed under permanent authorization are made available under legislation which gives the Secretary of the Interior continuing authority to carry out the provisions of specific acts, and can be disbursed either through the Indian Service Special Disbursing Agents' accounts or advanced to tribes for disbursement by their bonded tribal treasurers under approved plans of operation. These funds do not require annual approval by Congress but are reported annually in the budget schedules to give the Congress an opportunity to review the activity conducted under the authorities extended to the Secretary of the Interior.

In the absence of permanent legislation, annual authorization by the Congress is required to permit the use of tribal funds. Such authority is provided annually in the Department of the Interior Appropriations Act and includes two categories: (1) annual definite; and (2) annual indefinite.

Funds programmed under annual definite are not otherwise available for expenditure without Congressional action and the $3 million requested for fiscal year 1977 is to provide the Secretary of the Interior with expenditure authority for the implementation of programs, for those tribes which are not sufficiently organized to be represented by a recognized governing body, and to permit disbursements through a Regional Disbursing Office when no other legislative authority exists. Expenditures made under this authority are individually made through the Teasury Regional Disbursing Offices, subject to the same regulations and procedures as appropriations from the general fund of the Treasury.

The annual indefinite authorization in the Appropriation Act, under the heading Tribal Funds, provides the necessary authority, on an annual basis, for the Secretary of the Interior to withdraw from tribal accounts in the Treasury, funds needed to carry out programs designated by a particular tribe and approved by the Secretary for the conduct of tribal operations, including, but not limited to: management of tribal resources and other programs designed to improve the situation of the general membership. These funds are advanced to tribes for disbursement by Indian Service Special Disbursing Agents or by bonded tribal treasurers under plans of operation.

B. Miscellaneous Trust Funds:

Included in this category are miscellaneous revenues derived from Indian reservations, agencies, and schools, which are not required to be used for other purposes, but are used to support schools and agency functions. It also includes contributions, donations, gifts, etc., to be used and/or invested with the income to be used for the relief and benefit of American Indians.

C. Alaska Native Fund:

This fund was reestablished to account for certain funds required to be held in trust by Order of the United States District Court for the District of Columbia in C.A. 2141.73. To comply with the subject order, until enrollment of eligible non-resident Natives in a thirteenth region, the quarterly payments which would have been disbursed under provisions of the "Alaska Native Claims Settlement Act" (Act of December 18, 1971, 85 Stat. 688), are being transferred to and held in trust status.

DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS
TRUST FUNDS
10-76-9998-0-7-999

Analysis of Changes in Requirements
(in thousands of dollars)

	Budget Authority	Outlay
1975 Total	184,890	148,911
Decreases		
Program decreases:		
Miscellaneous Trust	- 1,294	
Increases		
Program increases:		
Direct program	831	831
Advances to Indian Tribes	114	723
Miscellaneous Permanent (Tribal)	76,817	110,228
Alaska Native Fund	10,000	11,316
1976 Total	271,358	272,009
Transition Quarter	(86,905)	(77,954)
Decreases		
Program decreases:		
Miscellaneous Permanent (Tribal)		- 1,181
Alaska Native	- 10,000	- 12,161
Increases		
Program increases:		
Advances to Indian Tribes	4,187	
Miscellaneous Permanent	1,544	
1977 Total	267,089	258,667

DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS

Trust Funds

	1975	1976	19TQ	1977
1. Annual Definite Authorization.....	$ 2,168,801	$ 3,000,000	$ 750,000	$ 3,000,000
2. Annual Indefinite Authorization.....	32,379,897	31,200,000	10,000,000	38,387,000
3. Permanent Authorization.....	150,341,273	227,158,000	76,155,000	228,702,000
4. Alaska Native Fund.....	-0-	10,000,000	-0-	-0-
Total.....	$184,889,971	$271,358,000	$86,905,000	$270,089,000

DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS
ANNUAL DEFINITE AUTHORIZATION--TRIBAL FUNDS

Statement Relating to 1975, 1976, and 1977 Programs

1975 Appropriation	$3,000,000
1976 Budget Estimate	$3,000,000
Total Appropriation for 1976	$3,000,000
Deductions: (None)	...
Additions: (None)	...
Total Estimate for 1977	$3,000,000

Analysis of Annual Definite Authorization, Tribal Trust Funds, by Activity:

Activities	F.Y. 1975 Amount Available	F.Y. 1976 Amount Available	F.Y. 1977 Estimate	Increase (+) or Decrease (-) 1976 Compared w/1977
1. Education and Welfare Services	$ 101,295	$ 102,838	$ 102,838	...
2. Resources Management	785,054	491,115	491,115	...
3. Construction and Land Acquisition	87,500	70,000	70,000	...
4. General Tribal Affairs	1,194,952	2,336,047	2,336,047	...
Total	$2,168,801	$3,000,000	$3,000,000	...

Tribal Funds--Annual Definite: Fiscal year 1975, $3,000,000; fiscal year 1976, $3,000,000; no change.

Status of Programs

Funds programmed under the annual definite authorization as shown on the following tabulation are to be used for various education and welfare programs, resources management, construction and land acquisition and general tribal affairs, including taxes and attorneys' fees. All amounts in the estimate have been requested properly by the Indians except the sum of $946,508 for miscellaneous tribes. The amount under miscellaneous tribes is required to provide for additional tribal requests that can be anticipated during the fiscal year.

COMPARATIVE STATEMENT OF ANNUAL DEFINITE AUTHORIZATION BY TRIBE

STATE-AGENCY-TRIBE	1975	1976	1977
Arizona	$ 462,778	$ 671,000	$ 671,000
Navajo	432,778	641,000	641,000
Salt River--Salt River-Pima	20,000	20,000	20,000
San Carlos	10,000	10,000	10,000
California	243,267	359,205	359,205
Agua Caliente	97,429	129,905	129,905
Colusa	2,000	2,000	2,000
Hoopa Valley	123,500	219,975	219,975
Owens Valley	4,000	4,000	4,000
San Pasquel	13,013	-0-	-0-
Santa Rosa	325	325	325
Tule River	3,000	3,000	3,000
Minnesota	93,810	87,056	87,056
Red Lake	93,810	87,056	87,056
Montana	84,200	73,000	73,000
Arapaho	36,750	35,000	35,000
Blackfeet	10,700	3,000	3,000
Shoshone	36,750	35,000	35,000
New Mexico	92,510	26,800	26,800
Jicarilla	92,510	26,800	26,800
Oklahoma	206,100	127,850	127,850
Cherokee	14,000	-0-	-0-
Choctaw	192,100	120,500	120,500
Creek	-0-	7,350	7,350
Oregon	986,136	708,581	708,581
Coeur d'Alene	29,858	30,000	30,000
Colville	138,000	143,000	143,000
Nez Perce	8,740	31,000	31,000
Spokane	30,000	10,000	10,000
Yakima	779,538	494,581	494,581
Miscellaneous Tribes	-0-	946,508	946,508
GRAND TOTAL	$2,168,801	$3,000,000	$3,000,000

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DEPARTMENT OF THE INTERIOR

BUREAU OF INDIAN AFFAIRS

TRUST FUNDS

In addition to the tribal funds authorized to be expended by existing law, there is hereby appropriated not to exceed $3,000,000 from tribal funds not otherwise available for expenditure for the benefit of Indians and Indian tribes, including pay and travel expenses of employees; care, tuition, and other assistance to Indian children attending public and private schools (which may be paid in advance or from date of admission); purchase of land and improvements on land, title to which shall be taken in the name of the United States in trust for the tribe for which purchased; lease of lands and water rights; compensation and expenses of attorneys and other persons employed by Indian tribes under approved contracts; pay, travel, and other expenses of tribal officers, councils, and committees thereof, or other tribal organizations, including mileage for use of privately owned automobiles and per diem in lieu of subsistence at rates established administratively but not to exceed those applicable to civilian employees of the Government; relief of Indians, without regard to section 7 of the Act of May 27, 1930 (46 Stat. 391) including cash grants: Provided, That in addition to the amount appropriated herein, tribal funds may be advanced to Indian tribes during the current fiscal year for such purposes as may be designated by the governing body of the particular tribe involved and approved by the Secretary.

(25 U.S.C. 123; Department of the Interior and Related Agencies Appropriation Act, 1976.)

UNITED STATES
DEPARTMENT OF AGRICULTURE
BUDGET JUSTIFICATIONS, F.Y. 1977

FOREST SERVICE

THE ROLE OF THE FOREST SERVICE

The Forest Service holds the Federal responsibility for national leadership in "forestry." 1/ That role includes participation in setting national priorities, formulating programs, and establishing Federal policies that relate to man and his natural environment, especially the forest-related environment.

Forests and forest-related environment include forests, rangeland, grassland, brushland, alpine areas, lakes, ponds, and streams and wildlife habitats. Forestry is the protection and management of this land and water and their natural resources for the many purposes of mankind.

Forests provide raw materials for basic necessities of life, as well as natural environments for many leisure and educational activities. The Forest Service seeks to attain a harmonious relationship between man and his natural environment.

In 1974 Congress provided the vehicle to appraise and respond to the national situation more effectively when it approved the Forest and Rangeland Renewable Resources Planning Act. This is the first budget proposal tailored to meet the requirements of that new Act.

WHAT THE FOREST SERVICE DOES

In carrying out its national forestry leadership role, the Forest Service undertakes a great variety of activities. The major tasks include administration of the National Forest System, cooperative State and private forestry programs, forestry research programs and human and community development programs (Figure 1). Following is a brief description of each of these major responsibilities:

National Forest System

The Forest Service administers 187 million acres of Federal land in 44 States, Puerto Rico and the Virgin Islands. The National Forest System (hereafter called National Forests) is composed of 155 National Forests, 19 National Grasslands, and 16 Land Utilization Projects (Figure 2).

They are operated under a multiple use land management concept designed to obtain sustained, long-term flows of goods and services. The various resource uses are harmonized and the relative public values of various possible resource uses are considered and management plans selected which best meet present and future needs of the American people. Activities are grouped in five areas of resource management:

Watersheds are managed to regulate streamflow, to control floods and erosion and to store water. Much of the Nation's water supply flows from the National Forests. Protection and improvement of the natural watersheds help to assure an adequate supply of pure water for the growing demands of agriculture, industry, and the American public.

Forage is managed to conserve the soil and vegetation while providing food and habitat for livestock and wildlife. Rangeland is also managed for its recreation, timber, and water resources.

Fish and wildlife habitat is managed to provide a healthy and productive place for native wildlife and fish species. A primary objective is to provide opportunities for sportsmen, bird and animal watchers, photographers and others to enjoy the fish and wildlife resources. Hunting and fishing in the National Forests are regulated by State laws, and projects for improving habitat are carried out cooperatively with State fish and game agencies.

1/ This responsibility is delegated to the Chief of the Forest Service under Administrative Regulations of the U.S. Department of Agriculture (7 CFR 2.60).

Recreation management is designed to best serve the steadily increasing numbers of Americans seeking relaxation in the outdoors. Although much of the enjoyment offered the public is afforded by the natural environment of the forest itself, facilities are provided for a broad range of recreational activities, such as camping, picnicking, boating, swimming, and winter sports. In addition, 93 percent of the National Wilderness Preservation System is in National Forests.

Timber is managed to produce a continuous flow of wood products in perpetuity. This sustained-yield principle, implemented by modern forestry techniques, helps to assure adequate present and future crops of high-quality timber. As timber stands are improved and growth increases, the annual harvests from the National Forests can be increased.

These five resource management activities and many other purposes must be served by appropriate facilities and services. Roads and trails must be built and maintained; pipeline and utility rights-of-way must be granted; permits for special uses must be issued; mining claims must be approved; and boundaries must be surveyed and administered. All must be harmonized with other uses to maintain the quality of the environment. Finally, the National Forests must be protected--from wildfire, harmful insects and diseases, law violators, and careless, wasteful users.

State and Private Forestry

Through cooperative programs with State and local governments, forest industries and private landowners, the Forest Service helps to protect and manage 631 million acres of forest and associated watershed land. Technical and financial assistance is offered to improve fire, insect and disease control; to develop multiple use management for optimum potential of forest resources; to improve harvesting, processing and marketing of forest products; and to stimulate reforestation and timber stand improvement. Major program areas are:

Cooperative Forest Fire Control. All 50 States participating in this program are responsible for the manpower, equipment and organization required. The Forest Service provides coordination, and financial and technical assistance, including training of fire control personnel, development of equipment and rapid availability of research information.

Cooperative Forest Pest Action. Forty States now participate in this program to prevent, detect and evaluate insect and disease damage. Federal cost-sharing and technical assistance are made available to these States to suppress forest insect and disease outbreaks where warranted. The program also includes pest control activities on Federal lands.

Cooperative Forest Management and General Forestry Assistance. Technical assistance to private forest landowners, forest operators and processors, and public agencies, are provided to develop forest resources to their maximum potential consistent with wise conservation practices.

Cooperative Tree Seedling. The Forest Service cooperates with all States and the Virgin Islands in establishing seed orchards and forest shelterbelt plantings on State and privately-owned land.

Cooperative Watershed Planning and Development Programs. Under these programs, the Forest Service carries out the forestry aspects of the Department of Agriculture's watershed protection, flood prevention, and resource conservation and development actions. Watershed restoration and resource development work on State and private forest lands is handled by the State forestry agencies through cooperative agreements. The forestry aspects of comprehensive resource and river basin planning are provided by Forest Service people or by State forestry agencies through cooperative agreements.

Forestry Research

The Forest Service carries on forestry research operation through eight regional experiment stations, the Forest Products Laboratory and the Institute of Tropical Forestry. Field and laboratory research is conducted at 84 locations throughout the United States. Outdoor laboratories in the form of 94 experimental forests and experimental ranges provide representative communities of plants and animals for manipulation and observation. The experimental stations solve regional natural resource problems, but much of their work has interregional, national and, often, international significance. Strong coordination and cooperation is emphasized among stations, with universities and other research organizations, and with land managers to solve urgent range and forest problems. The major areas of research are:

Forest and range management research which provides information on the establishment, improvement, and growth of trees, grasses, and other forest-related vegetation. This research also integrates recreation and esthetic objectives with multiple uses to improve livestock grazing management and wildlife and fish habitat.

Forest and range protection research studies ways of protecting forest resources from fire, insects, diseases, air pollution, and animal pests in ways that are not detrimental to forest ecosystems.

Forest products and engineering research provides new and more efficient processes for manufacturing wood products and systems for using wood products and for extending resource supplies. This research also develops new harvesting and transportation technology to support forest management and protection activities.

Forest resource economics research evaluates alternatives for utilizing and extending forest resources and improving marketing systems to lower costs. A continuing resource evaluation provides comprehensive information on the extent and condition of forest and rangeland and the outlook for future supplies and demands.

International forestry provides leadership, through cooperation and exchange, with forestry organizations and individuals of other countries.

Human and Community Development Programs

The Forest Service participates in general cooperative manpower programs authorized by the Comprehensive Employment and Training Act of 1973 (87 Stat. 839) and the Youth Conservation Corps Act of 1971, as well as a number of programs for direct improvement of living conditions in communities and rural areas through technical forestry assistance.

Under the Comprehensive Employment and Training Act agreement, the Forest Service operates 17 Job Corps Civilian Conservation Centers to provide basic education and job training to disadvantaged youth. Other cooperative work training programs in which the Forest Service participates are Senior Community Services Employment Program (Older Americans), Neighborhood Youth Corps, College Work Study, and employment programs financed under CETA for which the Forest Service acts as host. The programs provide work and training to several thousand enrollees each year. In addition, the Forest Service is operating employment projects under Title X of the Public Works and Economic Development Act of 1965, in counties with a high unemployment rate. The Volunteers in the National Forests Act of 1972 provides for assistance in the protection and development of natural resources at nominal cost.

The Forest Service, in cooperation with the Department of the Interior, administers the Youth Conservation Corps program. YCC accomplishes needed conservation work on Federal land administered by the Secretaries of Agriculture and the Interior, and on other public lands through grants to States. It provides young men and women, 15-18 years of age, gainful summer employment and an opportunity to learn about their natural environment through actual field experience. During the summer of 1975, the Forest Service, the Department of the Interior, and States under the grant program operated over 400 camps in every State and territory.

All Forest Service activities seek to increase job opportunities and to raise standards of living under the Department of Agriculture rural development program. Related to this, in 1975, about 2,000 communities received assistance under the first year program of the Federal-State Rural Community Fire Protection program.

THE FOREST AND RANGELAND RENEWABLE RESOURCES PLANNING ACT

In 1974, Congress concluded that the Forest Service should be looking more actively toward the future--next year and even the next century. What will be the Nation's demands upon its renewable natural resources base and what can the Forest Service do to provide its share of those goods and services? The Forest and Rangeland Renewable Resources Planning Act (PL 93-378) provides the direction for the Forest Service to do so.

The Act contains two major requirements:

(1) The Forest Service must periodically submit to Congress a Renewable Resources Assessment for all of America's forest and rangeland--public and private.

(2) It must also, through the Secretary of Agriculture, recommend a long-range Renewable Resources Program limited specifically to Forest Service activities--research, State and private cooperation and the National Forest System.

The first assessment and program were developed on the basis of currently available information, programs, and data sources. Existing data and studies from many Federal and State agencies, as well as from the Forest Service, were used as the basis for the assessment. The Forest Service's Environmental Program for the Future, prepared in 1974, was the starting point for developing the program proposed.

The program as developed included the elements of an environmental impact statement patterned on the principles outlined in the National Environmental Policy Act. Six resource systems, covering the full range of Forest Service responsibilities, were used. The six systems are:

-- Outdoor recreation and wilderness
-- Wildlife and fish
-- Range
-- Timber
-- Land and water
-- Human and community development

The public was involved extensively in developing the assessment and the program. Broad public review occurred at four different stages. Several thousand documents and letters containing information and suggestions were received in the process. This informed-citizen response from every State in the Union was supplemented by testimony at 14 hearings, hundreds of briefings, workshops, and public meetings around the country. These responses were all given consideration and helped shape the final decisions of the Chief of the Forest Service and the Secretary of Agriculture.

Other tests--social, environmental and economic--were also applied to the eight possible alternative programs examined and the recommended program was created out of them. The environmental impact statement process was used to determine positive and negative environmental, social and economic effects.

Economic effectiveness was determined by measuring and comparing accumulated costs with estimated value of results, to determine that benefit values exceeded costs. Judgment was applied to the possible alternative directions and to the final product to assure logic and balance.

The Resources Planning Act process has now reached the stage where it can be related to the budget process. The fiscal year 1977 budget proposes the first year of the program called for by the Act.

It is consistent with the purpose of the Act of establishing a basic framework for development and consideration of annual appropriation requests related to the long-term goals and objectives which characterize effective forest and rangeland resources planning.

Demands for Forest Resources

As Congress recognized in writing the Resources Planning Act, the basic step in creating a recommended program of Forest Service activities is the description of the present resource situation with projections of future demands for supplies of renewable resource products. This assessment, as intended by Congress, provides the factual basis for the program. It will be updated again in 1979 and then every decade thereafter. Some brief highlights of the assessment are described below:

Past Trends in Use

In response to past increases in population, economic activity and income, the demand for nearly all products of forest and rangelands, and the associated inland waters, has risen rapidly. The growth has been especially fast for some forms of outdoor recreation. For example, the number of households camping more than tripled between 1960 and 1973, rising from 4.3 million to 14.3 million. Increases for most other products were more modest but substantial. Between 1960 and 1970, for example, the days spent hunting and fishing rose from 563 million to 771 million, indicating an increase in demand of 37 percent. Timber consumption rose from a level of around 11.5 billion cubic feet in the early 1960's to nearly 14 billion cubic feet--up 22 percent.

Projected Demands

Projections of demand for forest, range and inland water products, based on assumed increases in population, economic activity, income, prices and the other determinants used in the assessment, show continued growth through the projection period. However, as indicated by the illustrative projections in the tabulation below, there are differences in the amount of increase.

Product	Base Year	Projected increase in demand (medium level--base year equals 100)		
		1980	2000	2020
Remote camping	1975	106	133	180
Birdwatching	1975	107	138	168
Small game hunting	1975	106	121	136
Fresh water fishing	1975	111	156	205
Forest-range grazing	1970	135	150	164
Timber	1970	131	173	219
Water (consumptive use)	1975	103	123	139

Although there are differences in projected growth in demand, the increases are substantially above the levels that can be supplied with present management programs and existing facilities. This means that the Nation is faced with the prospect of rising costs for products such as timber, forage, and water and intensifying competition for the available supplies of wildlife, fish and outdoor recreation.

The Land and Water Base

For example, there is a huge land and water base which can be used to meet demands. In 1970, 1.6 billion acres, some 69 percent of the Nation's area, were classified as forest and rangeland and inland water. About two-thirds of this area was in rangeland and noncommercial forest. These lands, chiefly used for grazing, include natural grasslands, savannas, shrublands, most deserts, tundra, coastal marshes, wet meadows and forested land, such as the pinyon-juniper forests of the southwest

that are incapable of producing crops of industrial wood. Another 500 million acres were commercial timberland, i.e., land that is capable of producing in excess of 20 cubic feet of industrial wood per acre a year in natural stands and not withdrawn for other uses. The remaining area--some 48 million acres--was classified as inland water and consisted of lakes, reservoirs and ponds over 40 acres in size (exclusive of the Great Lakes) and streams more than one-eighth mile in width.

About a third of the rangeland and noncommercial forest, 345 million acres, is in Alaska. Most of the remainder is in the States stretching westward from the Great Plains to the Pacific Coast.

Commercial timberlands are more widely distributed and, with the exception of the Great Plains and some of the Southwest, compose a significant part of the area of each State. However, nearly three-quarters of the area is in the humid eastern half of the country where it is about equally divided between the North and South. The one-quarter of the commercial timberland in the West is concentrated in the Pacific Pacific Coast States of Oregon, Washington, and California and the Rocky Mountain States of Montana, Idaho and Colorado.

The great bulk of the Nation's forest and rangeland in the contiguous States is in private ownerships. In 1970, the area in these ownerships, plus relatively small areas in State, county and municipal ownerships amounted to 825 million acres--about 70 percent of the forest and rangeland area.

Rangeland on which the grass form predominates is even more heavily concentrated in these ownerships. For example, in 1970, 99 percent of the prairie grasslands, 94 percent of the plains grasslands and 84 percent of the mountain grasslands were in non-Federal ownership, nearly all private.

In contrast, Federal ownership predominated on most of the rangeland shrub ecosystems; 82 percent of the sagebrush system and 70 percent of desert shrub were in Federal holdings. Federal ownership was also the dominant form on the noncommercial forest ecosystems--chaparral-mountain shrub and pinyon-juniper--in the contiguous States. It was also the dominant form in Alaska where in 1970 nearly all of the rangeland and noncommercial forest was Federally owned.

About 364 million acres, 73 percent of the Nation's commercial timberland, are in private ownerships. Much of this area is in highly productive sites and close to markets for timber products. These ownerships consequently have long been of major importance as a source of timber supplies for the wood-using industries. Nearly half of these timberlands are in the South and most of the remainder in the North.

The 136 million acres of commercial timberland in public ownership, largely Federal, are concentrated in the Rocky Mountains and Pacific Coast sections. Most are of relatively low site quality and located at higher elevations, but these forests nevertheless contain a substantial part of the Nation's timber inventory.

The productivity of the Nation's forest and rangelands varies widely as a result of differences in climate, soils, and elevation. In general, however, productivity is relatively low. For example, it is estimated that about a quarter of the rangeland areas in the contiguous States is in the lowest productivity class with another three-fifths in the moderately low class. A large proportion of the lands in these lower classes is in National Forest and other Federal ownership. Only 4 percent of the area was estimated to be in the high productivity class.

Nearly three-quarters of the rangeland was producing less than 60 percent of its potential in 1970. The largest proportion of lands in good condition was in the plains and prairie grasslands ecosystems.

More than a quarter of the commercial timberland is in the lowest site productivity class, i.e., land capable of producing 20 to 50 cubic feet of timber per acre per year in fully stocked natural stands. This class of land provides limited response to timber management activities but often yields important values for grazing, recreation, or other non-timber uses. These lower-site lands are mostly in eastern areas such as the Appalachians, and in the Rocky Mountains where this site class makes up about half of the commercial area.

Nearly two-thirds of the total area of commercial timberland is in the 50 to 120 cubic foot productivity range. About half of this acreage is in the South.

The remaining 10 percent of the commercial area is in the highest productivity class--lands capable of producing 120 cubic feet or more of timber per acre per year. Nearly half of this highly productive land is in the Pacific Coast section, largely supporting Douglas-fir, hemlock-sitka spruce, and western hardwoods.

The potential yields indicated by site productivity classifications are generally not realized, even though practically all commercial timberland in 1970 was occupied to some extent by some type of tree cover and many forests were fully stocked or even overstocked in terms of all live trees.

Opportunities for Increasing Supplies

In time, and with additional investments in research, management programs and physical facilities, the output of nearly all forest, range and inland water products can be greatly increased and the higher levels of output sustained in the future.

For example, the 1.6 billion acres of forest and rangeland, and the associated inland water, have the physical capacity to supply sites for picnicking, camping, hiking, skiing, birdwatching, swimming, and most other types of outdoor recreation that is far in excess of projected increases in demand. These lands, under proper management, also have the capacity to support much larger numbers of most species of wildlife, including those species in demand by hunters and fishermen, and non-consumptive users such as birdwatchers and photographers. Forage production from range can be nearly tripled and timber growth on commercial timberland more than doubled. Water supplies in deficient areas can also be substantially increased.

In addition to increasing supplies, it is possible to greatly extend the usable supplies of most forest and range products by improvements in the efficiency of utilization.

The most promising opportunities to increase and extend supplies include:

Outdoor recreation.--Projected increases in demands for nearly all types of outdoor recreation can be met by:

-- Constructing additional facilities such as roads, trails, campgrounds, picnic areas, and boat ramps.

-- Improving public access to forest and rangeland suitable for outdoor recreation, especially near urban areas where nearly all land is privately owned.

-- Integrating all outdoor recreation uses, including scenic values, into land use planning and management.

-- Improving maintenance of existing facilities and providing for adequate pollution abatement.

Wilderness.--The supply of wilderness can be increased by:

-- Setting aside additional forest and rangeland areas as wilderness.

Part of the prospective growth in demand for the use of wilderness for outdoor recreation can be met by:

-- Developing means to spread geographically and through time recreation use on established wildernesses.

Implementing management programs on nonwilderness lands to meet the needs of people who do not require wilderness to satisfy recreation demands.

Wildlife.--The present wildlife and fish situation can be improved:

— Populations of most wildlife species can be increased by expanding food supplies, improving cover and minimizing the adverse impacts from the use of the land and water base for other purposes. At this time, much can be accomplished by effectively integrating wildlife needs into the management of the resource base for other products such as forage and timber.

-- Waterfowl populations can be increased by expanding wetlands nesting habitats through fee purchase of key tracts and wetlands easements in the United States and Canada, and preserving and enhancing migration and wintering habitats.

-- Fish populations can be increased by additional stocking of desirable species; improving habitat, and especially water quality, through control of various types of pollution and removing obstacles to migration by eliminating barriers and providing ladders or other passageways in water resource projects.

-- Part of the prospective increases in demand for wildlife, for both consumptive and nonconsumptive uses, can be met by providing access through the construction of trails, boat landings and other facilities to places where the existing resource is under-utilized, and spreading use through time and in developed areas where the wildlife resource can support additional use.

-- Endangered and threatened species require special measures. For some species, notably those most restricted and isolated, habitat must be preserved and protected from further encroachment. It may be possible to increase the populations of some species by transplanting them to unoccupied or newly developed habitat.

Forest-range forage.--The supply of forest-range forage can be increased and extended by:

-- Obtaining better and more uniform utilization of existing forage by implementation of improved grazing systems, including better livestock distribution, building needed fences, developing needed sources of water, and using the proper kind and class of livestock for the range.

-- Improving the growth and quality of forage by seeding of improved native and introduced forage species, control of undesirable plants, converting marginal forest or undesirable shrub stands to grasslands, use of managed fire, fertilization, and waterspreading and pitting.

-- Coordinating forest-range management activities with other resource uses.

-- Reducing loss of livestock and forest-range forage by improved control of wildfire, damaging range insects and diseases, predators, and livestock diseases and parasites.

Timber.--Timber supplies can be increased and extended by:

-- More intensive management of all classes of commercial timberland by such measures as timber stand improvement; commercial thinning and salvage; reforestation; better protection against fire, insects, diseases and other destructive agents; road construction, fertilization; and the use of genetically improved planting stock. More complete utilization of logging residues, plant residues and trees lost by mortality; and greater use of recycled fibers.

— Greater use of modern equipment and new technology to increase output of lumber and other products from available log supplies and raise the efficiency with which products are used in construction and manufacturing.

Water.--Water supplies can be increased in a given area by interregional or interbasin transfer, desalting and precipitation modification.

Water supplies can be extended by:

-- More intensive watershed protection and management of forest and rangelands to enhance the natural recharge of groundwater and improve timing of flows by storage and/or vegetation modification.

-- Improving the efficiency of irrigation systems by reducing transmission losses, phreatophyte management, and more efficient application methods.

-- Improving the efficiency of central supply systems by elimination of leaks in transmission systems, use of water meters with charges according to use and implementation of water saving technology such as more efficient plumbing fixtures and appliances.

— Pricing to encourage more efficient use of water.

General opportunities to increase and extend supplies.--Most of the Nation's forest and rangeland, and inland water, is in private ownership. A variety of studies has shown that these owners have diverse objectives, widely different characteristics and attitudes, a limited knowledge of existing management opportunities and varying willingness and capacity to make investments which will increase and extend supplies of forest and range products.

Substantial increases in the supplies of most forest and range products from these ownerships can be achieved by such measures as cost sharing programs to help finance management practices and technical assistances and educational programs to show landowners how to develop and manage forest and range resources.

Much can be done to increase and extend supplies of forest and range products by better use of existing technology. However, investments in management practices and facilities could be made more efficient by expanding research. More information is needed, for example, about physical responses in terms of changes in wildlife populations and in forage and timber growth to various kinds of management practices. More data are also needed on the cost of management practices, the prices and uses of forest and range products, and the physical aspects of the forest and range resource. Research on ways of using forest and rangeland, and inland water, which will minimize impacts on the environment is becoming increasingly urgent.

(Clerk's Note: The Department failed to complete the date for this page regarding the Forest and Rangeland Renewable Resources Planning Act in time to be printed in this hearing record.)

ECONOMIC IMPORTANCE OF NATIONAL FORESTS AND NATIONAL GRASSLANDS

(1) The forests and grasslands provide opportunities for healthful outdoor recreation, with a minimum of restrictions. In 1974, the number of recreation visitor-days (each equivalent to one person spending 12 hours) was almost 193 million, more than one-half of all the Federal outdoor recreation and more than twice that provided by any other agency. Outdoor recreation is an important source of supplementary income in most areas, as well as providing recreational opportunities for local residents. In some relatively depressed communities, it has become vitally important.

(2) More than 93 percent of the total National Wilderness Preservation System is National Forest System land. The 87 wildernesses contain 11.9 million acres.

(3) National Forests provide habitat for much of the Nation's fish and wildlife, including about 50 percent of the Nation's big game. Habitat for 36 species of endangered fish and wildlife is on these lands. Hunters, fishermen and appreciative wildlife users (photographers and birdwatchers) constitute an important supplementary source of income for numerous communities near these lands.

(4) Some 3.2 million head of domestic livestock (mature animals) are grazed on National Forests and Grasslands, assisting about 20,000 rural families by providing supplementary feed for the animals.

(5) The National Forests supplied 9.2 billion board feet of timber in fiscal year 1975 to the Nation's forest products requirements. Dependence of the forest products industries on National Forest timber continues to increase as a result of depletion of good quality timber on private lands. Without this supply, the national demand for wood and fiber products could not be met at reasonable prices.

(6) About 390 million acre feet of high quality water are provided annually from National Forest System lands. Most Western cities and many in the East benefit from National Forest protection of municipal supplies. About 20 million acres of Western lands are irrigated by water from National Forests.

(7) About $300 million worth of minerals, oil, and gas are extracted annually from National Forest lands.

(8) These lands produced a cash income in fiscal year 1975 of $373.1 million. Approximately 65 percent of this amount was credited to the general fund in the Federal treasury (miscellaneous receipts). The remainder was distributed in accordance with special acts of Congress, including 25 percent of receipts to States or counties in which lands are located.

(9) The area within National Forest and National Grassland boundaries is equivalent to about 10 percent of the area of the United States. About 24 percent of this land is within areas now experiencing economic distress. Proper management, development and utilization of these lands are important factors in permanent improvement of these local economies. Millions of people who live in and near the National Forests are supported in whole or in part through the economic development based on the forests and their resources.

(10) The increased demands for recreation and commodity products greatly accelerate demand for special uses of forest land. The Forest Service administers 74,000 special permits for such things as powerlines, pipelines, microwave towers, ski areas, waterpower facilities, and many others.

ORGANIZATIONAL STRUCTURE

The Forest Service maintains its central office in Washington with program activities decentralized to 9 regional offices, 123 forest supervisors' offices, 674 district rangers' offices, 2 State and private forestry area offices, 8 forest and range experiment stations, the Institute of Tropical Forestry, and the Forest Products Laboratory. Location of headquarters offices:

Regional offices:
Missoula, Montana
Denver, Colorado
Albuquerque, New Mexico
Ogden, Utah
San Francisco, California
Portland, Oregon
Atlanta, Georgia
Milwaukee, Wisconsin
Juneau, Alaska

State and private forestry area offices:
Upper Darby, Pennsylvania
Atlanta, Georgia

Experiment stations:
Ogden, Utah
St. Paul, Minnesota
Upper Darby, Pennsylvania
Portland, Oregon
Berkeley, California
Fort Collins, Colorado
Asheville, North Carolina
New Orleans, Louisiana

Forest Products Laboratory: Madison, Wisconsin

Institute of Tropical Forestry: Rio Piedras, Puerto Rico

National Forest, National Grasslands, and Utilization lands administered by the Forest Service are located in all States except the following six:

Delaware
Hawaii
Maryland
Massachusetts
New Jersey
Rhode Island

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

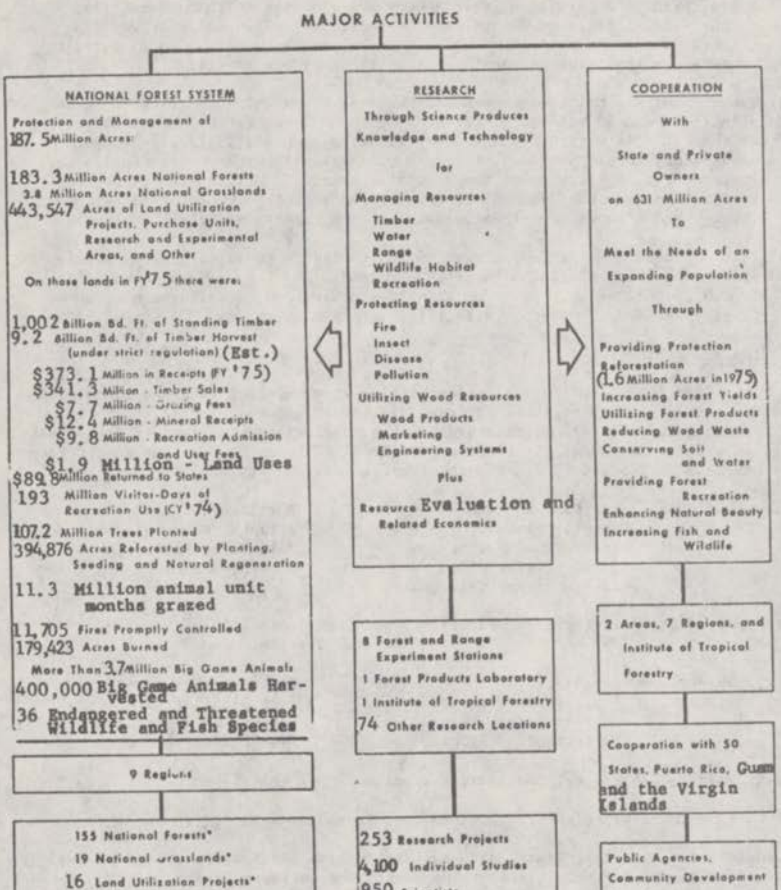

Figure 1

Figure 2

65-300 O - 76 - 10

(Clerk's Note: The Department failed to supply the data for this page regarding the Forest and Rangeland Renewable Resources Planning Act in time to be printed in this hearing record.)

(Clerk's Note: The Department failed to supply the data for this page regarding the Forest and Range-land Renewable Resources Planning Act in time to be printed in this hearing record.)

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Summary of Estimated Appropriations and Receipts

Item	1/ Available 1975	2/ Estimated available 1976	Estimated available transition quarter 2/	Budget estimate 1977	Change 1977 over 1976
Appropriated Funds:					
Forest protection and utilization:					
Forest land management 3/	$429,362,000	$365,821,000	$117,000,000	$388,621,000	+$22,800,000
Forest research	77,612,000	80,355,000	21,737,000	84,691,000	+4,336,000
State and private forestry cooperation	34,784,000	32,994,000	9,802,000	24,800,000	-8,194,000
Total, Forest protection and utilization	541,758,000	479,170,000	148,539,000	498,112,000	+18,942,000
Construction and land acquisition 3/	31,337,000	18,134,000	11,074,000	14,414,000	-3,720,000
Forest roads and trails: 3/					
Federal-Aid Highway Act	124,578,000	112,859,000	--	170,104,000	+57,245,000
Timber purchaser road construction authority	--	--	--	200,000,000	+200,000,000
Acquisition of lands for National Forests, Special Acts	161,000	161,000	--	160,000	-1,000
Acquisition of lands to complete land exchanges	39,310	35,000	--	54,000	+19,000
Acquisition of lands, Klamath Indians	49,000,000	--	--	--	--
Cooperative range improvements	700,000	700,000	--	700,000	--
Assistance to States for tree planting 3/	1,355,000	1,359,000	829,000	1,373,000	+14,000
Construction and operation of recreation facilities 3/	1,260,000	3,674,000	2,212,000	2,475,000	-1,199,000
Youth conservation corps 3/	10,392,000	35,000,000	--	--	-35,000,000
Permanent Appropriations					
Expenses, brush disposal 3/	24,183,923	33,000,000	9,000,000	33,000,000	--
Roads and trails for States, National Forests Fund	47,003,064	35,908,943	46,900,000	14,250,000	-21,658,943
Licensee Programs 3/	223,351	250,000	63,000	280,000	+30,000
Restoration of forest lands and improvements 3/	36,609	50,000	15,000	50,000	--

Summary of Estimated Appropriations and Receipts--continued

Item	1/ Available 1975	2/ Estimated available 1976	Estimated available transition quarter 2/	Budget estimate 1977	Change 1977 over 1976
Permanent Appropriations--cont'd.					
Payment to Minnesota (Cook, Lake, and St. Louis Counties) from the National Forests Fund	$259,038	$259,038	$259,038	$65,000	-$194,038
Payments to Counties, National Grasslands	831,226	875,000	- -	950,000	+75,000
Payments to school funds, Arizona and New Mexico	190,862	76,827	100,000	25,000	-51,827
Payments to States, National Forests Fund	119,482,282	89,770,055	117,250,000	35,600,000	-54,170,055
Total	952,790,665	811,281,863	336,241,038	971,612,000	+160,330,137
Permanent appropriations shown above	-192,210,355	-160,189,863	-173,587,038	-84,220,000	+75,969,863
Total (excluding permanent appropriations)	760,580,310	651,092,000	162,654,000	887,392,000	+236,300,000
Receipts					
Timber sales	332,074,324	440,000,000	135,000,000	440,000,000	- -
Grazing	6,564,957	9,465,000	500,000	10,100,000	+635,000
Power	513,306	515,000	10,000	525,000	+10,000
Recreation	5,503,762	5,600,000	605,000	5,700,000	+100,000
Land uses	1,306,272	1,400,000	100,000	1,400,000	- -
Mineral leases and permits	10,136,453	9,800,000	2,600,000	10,800,000	+1,000,000
Admission and user fees	4,283,917	4,500,000	3,800,000	5,000,000	+500,000
National grasslands and land utilization	3,417,733	4,135,000	1,425,000	5,250,000	+1,115,000
Oregon and California grant lands: 4/					
Timber sales	9,226,450	10,000,000	3,000,000	10,000,000	- -
Other	34,267	- -	- -	- -	- -
Total receipts	373,061,441	485,415,000	147,040,000	488,775,000	+3,360,000

1/ Includes $10 million of trust funds used for fighting forest fires repaid in fiscal year 1976.

2/ Excludes proposed supplemental for fighting forest fires, $115 million in 1976 and $40 million in transition quarter.

3/ In addition, prior year balances are available.

4/ Account established for Oregon and California railroad grant lands, for which receipts are transferred to Department of the Interior for distribution under the Acts of August 28, 1937, June 24, 1954, and August 3, 1961 (43 USC 1181f-g).

5/ Excludes following collections made by others for use of the public domain National Forests land:

Federal Power Commission--power licenses (41 Stat. 1063)	$205,000 (estimate)
Department of the Interior, Bureau of Land Management--mineral leases, licenses and permits (PL 93-153; 87 Stat. 576; 30 USC 185)	75,031,382

JOB CORPS CIVILIAN CONSERVATION CENTERS

(Funds transferred to Forest Service by Department of Labor)

	Available 1975		Estimate 1976		Transition Quarter Estimate		Estimate 1977	
	No. of Perm. Pos.	Amount (in thous.)	No. of Perm. Pos.	Amount (in thous.)	No. of Perm. Pos.	Amount (in thous.)	No. of Perm. Pos.	Amount (in thous.)
Center capital	2	$1,125	1	$1,299	--	--	1	$255
Center operations	650	23,670	639	25,035	--	$6,350	639	24,708
Program direction	82	1,730	59	1,884	--	482	59	1,854
Total	734	26,525	699	28,218	--	6,832	699	26,817

NOTE: Fiscal years 1976, transition quarter, and 1977 estimates are based on best information available to the Forest Service as of January 6, 1976.

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STANDARD FORM 306
July 1968, Bureau of the Budget
Circular No. A-11, Revised.
306-103

FOREST SERVICE
CONSOLIDATED SCHEDULE OF PERMANENT POSITIONS PAID
FROM FUNDS AVAILABLE TO THE FOREST SERVICE

DETAIL OF PERMANENT POSITIONS

	1975 actual	1976 estimate	1977 estimate
Executive level V	1	1	1
GS-18	4	4	4
GS-17	8	8	8
GS-16	38	38	38
GS-15	199	210	210
GS-14	500	541	541
GS-13	1,413	1,472	1,472
GS-12	2,359	2,412	2,412
GS-11	3,727	3,757	3,757
GS-10	65	65	65
GS-9	4,029	4,072	4,072
GS-8	146	152	152
GS-7	3,425	3,526	3,526
GS-6	974	1,020	1,020
GS-5	2,496	2,520	2,520
GS-4	1,720	1,729	1,729
GS-3	550	566	566
GS-2	61	57	57
GS-1	15	16	16
Subtotal	21,730	22,166	22,166
Grades established by Act of June 20, 1953 (72 Stat. 213) and Act of September 23, 1959 (73 Stat. 651):			
Chemist, $37,800	1	1	1
Research forester, $37,800	2	2	2
Forest products technologist, $37,800	1	1	1
Subtotal	4	4	4
Grades established by the Administrator, Agency for International Development:			
FC-12, $31,441 to $37,800	3	- -	3
FC-11, $26,726 to $35,253	- -	1	- -
FC-10, $22,906 to $29,782	7	6	7
Subtotal	10	7	10
Ungraded	997	999	1,000
Total permanent positions	22,741	23,176	23,180
Unfilled positions, end of year	-3,151	-3,326	-3,330
Total permanent employment, end of year	19,590	19,850	19,850
	(Mono cost: 16.3)	(Mono cost: 4.9)	(Mono cost: 4.9)	(Mono cost: 4)

(OFC) 1968 O - 325-042

The Forest Service is responsible for promoting the conservation and wise use of the country's forest, range, and related watershed lands which comprise about one-third of the total land area of the United States. There are fourteen separate appropriation accounts and four payment accounts in the Forest Service budget, and at least ten appropriation activities representing allocations from other agencies which are required to carry out Forest Service responsibilities. The Forest Service is organized to meet the overall responsibilities, not to meet the responsibility of each activity. An employee or group of employees may work on several activities during the course of a year. It is not possible to determine the positions involved in a single activity. Therefore, a consolidated schedule of permanent positions is presented.

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
FOREST PROTECTION AND UTILIZATION
Program and Financing (in thousands of dollars)

A-11-32a

STANDARD FORM 300-T
Issue 1978, Office of Management and Budget
Circular No. A-11, Revised.

Identification code 05-96-1100-0-1-302	19 75 actual	19 76 estimate	19 TQ estimate	19 77 estimate
Program by activities:				
Direct program				
1. Forest land management:				
(a) National Forest protection and management	300,635	353,859	129,796	344,739
(b) Fighting forest fires	112,686	4,275	4,275	4,275
(c) Forest insect and disease control	14,108	25,090	7,500	10,150
(d) Cooperative law enforcement	3,492	4,657	1,500	4,460
Total forest land management	430,921	387,881	142,571	363,624
2. Forest research:				
(a) Forest and range management	29,609	30,971	10,072	30,384
(b) Forest protection	22,414	22,350	5,965	25,516
(c) Forest products and engineering	11,203	12,400	4,000	11,949
(d) Forest resource economics	9,083	8,700	2,650	10,286
(e) Forest research construction ...	-5	.....	.....	.....
Total forest research	72,304	74,421	22,687	78,135
3. State and private forestry cooperation:				
(a) Forest fire control	22,681	24,500	7,900	15,412
(b) Forest tree planting	344	337	50	335
(c) Forest management and processing .	5,428	5,700	600	5,925
(d) General forestry assistance	3,299	4,450	1,500	4,606
Total State and private forestry cooperation ..	31,752	34,987	10,050	26,278
Total direct program	534,977	497,289	175,308	468,037
Reimbursable program				
1. Forest land management .	8,959	9,050	4,325	9,050
2. Forest research	1,492	2,000	500	2,000
3. State and private forestry cooperation ..	772	750	175	750
Total reimbursable program	11,223	11,800	5,000	11,800
(Memo cost: 23.14)	(Memo cost: 2.9)	(Memo cost: 2.8)	(Memo cost: 2.2)	(Memo cost: 2)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
FOREST PROTECTION AND UTILIZATION

A-11-32a

STANDARD FORM 300-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.

Program and Financing (in thousands of dollars)--continued

Identification code 05-96-1100-0-1-302		1975 actual	1976 estimate	TQ estimate	1977 estimate
	Program by activities--continued				
	Total program costs, funded 1/	546,201	509,089	180,308	479,837
	Change in selected resources (undelivered orders)	8,058	-13,438	-26,769	30,775
10	Total obligations	554,259	495,651	153,539	510,612
	Financing:				
	Receipts and reimbursements from:				
11	Federal funds	-8,549	-9,221	-3,000	-9,200
13	Trust funds	-10,000	.....	.....	.....
14	Non-Federal sources	-3,055	-3,300	-2,000	-3,300
21	Unobligated balance available, start of period	-5,400	-3,960	.....	.....
24	Unobligated balance available, end of period	3,960	.....	.....	.....
25	Unobligated balance lapsing	543	.....	.....	.....
40	Budget authority (appropriation)	531,758	479,170	148,539	498,112
	Relation of obligations to outlays:				
71	Obligations incurred, net	532,655	483,130	148,539	498,112
72	Obligated balance, start of period	81,507	87,343	70,346	35,929
74	Obligated balance, end of period	-87,343	-70,346	-35,929	-67,176
77	Adjustments in expired accounts	14	.....	.....	.....
90	Outlays	526,832	500,127	182,956	466,865

1/ Includes capital outlay as follows: 1975, $14,417 thousand; 1976, $22,500 thousand, Transition Quarter, $6,500 thousand; 1977, $22,000 thousand.

FOREST PROTECTION AND UTILIZATION

a/ FOREST LAND MANAGEMENT

		Permanent full-time positions
Appropriation, 1975	$419,362,000	10,452
Appropriation, 1976	365,821,000	10,543
Appropriation, transition quarter	(117,000,000)	
Estimate, 1977	388,621,000	10,689
Change from 1976	+22,800,000	+146

a/ In addition, $700,000 is available by transfer from Cooperative Range Improvements.

SUMMARY OF INCREASES AND DECREASES
(On basis of adjusted appropriation--dollars in thousands)

	Increase or Decrease (-)				Total
	Pay Costs	Program	Permanent Full-time Positions	Total 1977 Estimate	Permanent Full-time Positions
Recreation use--Increase will be used to selectively reopen closed campgrounds and restore operating seasons; strengthen visual resource management of forest and range resource programs; improve administration at concessionaire recreation sites and facilitate planning and development of additional facilities; provide for management planning and administration of two newly designated wildernesses; and for increased study schedule for Wilderness Study Areas in the eastern National Forests.	$1,980	$4,433	64	$57,860	1,483
Wildlife and fish habitat management--Increase will be used to continue the cooperative program with States and other Federal agencies and to provide coordination of fisheries and wildlife management with other related resource activities	468	2,120	25	13,500	419
Rangeland management--Increase consists of $956,000 for initiation of range improvements designed to increase production of forage; $532,000 for accelerating treatment of rangeland in low ecological condition; and $2,260,000 for increases in resource planning, management, and maintenance.	696	3,748	45	22,751	624

SUMMARY OF INCREASES AND DECREASES--continued
(On basis of adjusted appropriation--dollars in thousands)

	Increase or Decrease (-)				
	Pay Costs	Program	Permanent Full-time Positions	Total 1977 Estimate	Total Permanent Full-time Positions
Soil and water management--Net increase consists of increase of $3,156,000 for providing scientific soil and water knowledge in support of other related resource activities; decrease of $899,000 for watershed restoration and improvement; decrease of $109,000 for wild and scenic river studies; decrease of $540,000 for environmental analysis and construction liaison; and decrease of $536,000 for soil stabilization and reservoir protection related to projects of water resource development agencies.	$696	$1,072	12	$19,542	577
Minerals area management--Increase consists of minimizing impacts of mineral activities on surface resources ($228,000), coordination of mineral activities with other related resource activities ($435,000), administration of mineral rights ($175,000), planning and supervising reclamation ($68,000), land use planning ($165,000) and project geologic work ($123,000). ...	312	1,194	17	8,095	299
Forest fire protection--Increase consists of $455,000 for fuel modification and fire management in support of other related resource activities, $430,000 for air quality and smoke management planning, and $1,310,000 for partial implementation of the National Fire Plan.	1,320	2,195	21	42,224	1,090

SUMMARY OF INCREASES AND DECREASES--continued
(On basis of adjusted appropriation--dollars in thousands)

	Increase or Decrease (-)				
	Pay Costs	Program	Permanent Full-time Positions	Total 1977 Estimate	Total Permanent Full-time Positions
General land management activities--Net increase consists of $772,000 to improve the standards of administration of special uses and maintain minimum standards of air and water quality required by law on 80 percent of the permits outstanding; $1,300,000 for maintenance of fire and general purposes facilities required to maintain health and safety; $306,000 for marking land lines and monuments; $1,190,000 for implementation of an Interagency Geometronics Center; and $915,000 to reimburse the Employees' Compensation Fund. This increase is offset by a decrease of $633,000 in the land exchange program.	$1,074	$3,850	31	$35,647	924
Cooperative law enforcement--Increase is for assistance to State and local law enforcement agencies in the enforcement of State and local laws on National Forest System lands.	61	1,314	5	5,306	56
Sales administration and management--Net decrease consists of increase of $2,538,000 to advance level of silvicultural examination on an additional 2,787,000 acres; increase of $104,000 for harvest administration to assure environmentally sound harvest procedures; decrease of $6,937,000 in sale preparation program; and decrease of $265,000 for enforcement of log export and substitution controls. ..	4,223	-4,560	-45	101,277	3,634
Forest insect and disease management--Decrease of $4,975,000 is proposed in the contingency fund, which leaves $5,025,000 available until expended, for high priority suppression projects.	343	-4,975	-29	15,012	213

SUMMARY OF INCREASES AND DECREASES--continued
(On basis of adjusted appropriation--dollars in thousands)

	Increase or Decrease (-)				
	Pay Costs	Program	Permanent Full-time Positions	Total 1977 Estimate	Permanent Full-time Positions
Reforestation and stand improvement--The 1977 request is for an increase of $2,000,000 for 32,014 acres of timber stand improvement work, and a decrease of $2,000,000 for reforestation to meet optimum program possible with available planting stock and accessible prepared sites.	$1,236	- -	- -	$63,132	817
Fighting forest fires. ...	- -	- -	- -	4,275	553
Total, Forest land management.	12,409	10,391	146	388,621	10,689

FOREST PROTECTION AND UTILIZATION -- FOREST LAND MANAGEMENT

PROJECT STATEMENT
(On obligation basis)

Project	1975	1976 estimate	Transition quarter estimate	1977 estimate	Change from 1976
FOREST LAND MANAGEMENT:					
National Forest protection and management:					
(1) Timber resource management:					
(a) Sales administration and management	$88,560,454	$101,614,000	$35,553,000	$101,277,000	-$337,000
(b) Reforestation and stand improvement	46,552,805	61,896,000	14,322,000	63,132,000	+1,236,000
(2) Recreation use	49,615,683	51,447,000	24,634,000	57,860,000	+6,413,000
(3) Wildlife and fish habitat management	9,484,083	10,912,000	3,081,000	13,500,000	+2,588,000
(4) Rangeland management	17,964,525	1/ 19,027,828	5,313,000	23,451,000	+4,423,172
(5) Soil and water management	15,737,518	17,774,000	5,278,000	19,542,000	+1,768,000
(6) Minerals area management	4,131,395	6,589,000	2,041,000	8,095,000	+1,506,000
(7) Forest fire protection	36,905,104	2/ 38,710,720	12,489,000	42,224,000	+3,513,280
(8) General land management activities	28,685,284	30,723,000	5,876,000	35,647,000	+4,924,000
Subtotal	297,636,851	338,693,548	108,587,000	364,728,000	+26,034,452
Amount advanced from Cooperative Range Improvements	-679,172	-720,828	- -	-700,000	+20,828
Subtotal, National Forest protection and management	296,957,679	337,972,720	108,587,000	364,028,000	+26,055,280
(9) Fighting forest fires	114,275,000	3/ 4,275,000	4,275,000	4,275,000	- -
(10) Forest insect and disease management	15,921,533	2/ 22,783,445	3,078,000	15,012,000	-7,771,445
(11) Cooperative law enforcement	3,607,542	2/ 4,750,141	1,060,000	5,306,000	+555,859
Total obligations or estimate	430,761,754	369,781,306	117,000,000	388,621,000	+18,839,694
Unobligated balance brought forward	-5,399,978	-3,960,306	- -	- -	+3,960,306
Unobligated balance carried forward	3,960,306	- -	- -	- -	- -
Unobligated balance lapsing	39,918	- -	- -	- -	- -
Total available or estimate	429,362,000	365,821,000	117,000,000	388,621,000	+22,800,000
Transfer from other accounts	-10,000,000				
Appropriation or estimate	419,362,000				

1/ Includes $20,828 1975 unobligated balance in Cooperative Range Improvements.

2/ Includes 1975 unobligated balances carried forward--Forest fire protection $1,720
Cooperative law enforcement 819,141
Forest insect and disease management 3,139,445
3,960,306

3/ Excludes proposed supplemental for fighting forest fires, $115 million in 1976 and $40 million in transition quarter.

Projects (1) - (8)

GEOGRAPHIC BREAKDOWN OF APPROPRIATION

National Forest Protection and Management

	1976 estimate	Transition quarter estimate	1977 estimate	Increase over 1976
		(in thousands)		
Alabama	$2,960	$984	$3,188	$228
Alaska	11,300	3,198	12,169	869
Arizona	14,265	4,010	15,361	1,096
Arkansas	8,030	2,640	8,647	617
California	59,200	19,750	63,778	4,578
Colorado	12,965	3,917	13,961	996
District of Columbia	17,670	4,385	19,028	1,358
Florida	2,730	898	2,940	210
Georgia	2,420	804	2,606	186
Idaho	29,860	10,569	32,155	2,295
Illinois	1,095	348	1,179	84
Indiana	970	337	1,045	75
Kansas	60	20	65	5
Kentucky	2,375	789	2,558	183
Louisiana	2,730	905	2,940	210
Maine	160	59	172	12
Maryland	130	30	140	10
Michigan	6,015	2,010	6,477	462
Minnesota	6,060	1,955	6,526	466
Mississippi	4,085	1,358	4,399	314
Missouri	3,745	1,050	4,033	288
Montana	22,530	10,055	24,262	1,732
Nebraska	335	103	361	26
Nevada	2,970	853	3,198	228
New Hampshire	1,615	594	1,739	124
New Mexico	11,370	3,201	12,244	874
New York	26	9	28	2
North Carolina	3,480	1,158	3,747	267
North Dakota	215	97	232	17
Ohio	645	224	695	50
Oklahoma	620	203	668	48
Oregon	43,750	12,675	47,112	3,362
Pennsylvania	1,795	621	1,933	138
Puerto Rico	275	92	296	21
South Carolina	2,570	854	2,768	198
South Dakota	3,145	982	3,386	241
Tennessee	2,190	729	2,358	168
Texas	2,985	990	3,214	229
Utah	10,565	3,355	11,377	812
Vermont	830	304	894	64
Virginia	3,735	1,226	4,022	287
Washington	20,485	6,058	22,059	1,574
West Virginia	2,145	700	2,309	164
Wisconsin	3,490	1,065	3,758	268
Wyoming	8,080	2,423	8,701	621
Total	338,671	108,587	364,728	26,057

Project (1a)

TIMBER RESOURCE MANAGEMENT--Sales administration and management
(All operation and maintenance)

		Permanent full-time positions
1975	$86,575,000	3,562
1976	101,614,000	3,679
Transition quarter	(35,553,000)	
1977	101,277,000	3,634
Change from 1976	-337,000	-45

A net decrease of $337,000, with a decrease of 45 permanent full-time positions, is proposed as follows:

(1) Increase of $4,223,000 to provide for the costs of the pay increase effective in October 1975 (Executive Order 11883).

(2) Increase of $2,538,000 to advance the level of silvicultural examination on an additional 2,787,000 acres to determine the needs of individual timber stands as required to promote optimum growth, health, and production.

(3) Increase of $104,000 for harvest administration to assure environmentally sound harvest procedures.

(4) Decrease of $6,937,000 with a reduction in the sale preparation program of 0.8 billion board feet.

(5) Decrease of $265,000 to reflect experienced costs of log export and substitution control monitoring.

The total program follows:

	FY 1975	FY 1976	Transition quarter	FY 1977	Change from 1976
	(in thousands of dollars)				
Sale preparation	$43,808	$54,320	$15,420	$49,445	-$4,875
Harvest administration	32,522	31,636	15,235	33,150	+1,514
Enforcement of log export and substitution controls	710	710	185	445	-265
Subtotal, preparation and harvest	77,040	86,666	30,840	83,040	-3,626
Timber inventory and stand management control	5,701	6,090	1,786	6,346	+256
Silvicultural examination	3,834	8,858	2,927	11,891	+3,033
Subtotal, inventory and examination	9,535	14,948	4,713	18,237	+3,289
Total	86,575	101,614	35,553	101,277	-337

Preparation and Administration

GOAL: (1) To prepare all sales in accordance with the unit's timber management plan. Where lack of road access on a forest precludes the orderly sale of high priority timber, adjustments in this year's sales level within these forests may be required.

(2) To administer the operation of all timber sales in accordance with the terms of the timber sale contract.

Workload and cost information is shown in the following tabulation:

	FY 1975	FY 1976	Transition quarter	FY 1977
Sale preparation	1/	2/ 3/	3/	3/
Million board feet (local scale) ...	11,867	11,234	3,100	10,400
Cost per thousand board feet	$3.69	$4.84	$4.97	$4.75
Total cost (in thousands)	$43,808	$54,320	$15,420	$49,445
Harvest administration				
Expected harvest level in million board feet (local scale)	9,174	10,000	3,500	10,000
Total cost (in thousands)	$32,522	$31,636	$15,235	$33,150

1/ Includes 406 million board feet of timber prepared and released for harvest on existing long-term sales in Alaska, 8 million board feet of fire-killed timber prepared and added to existing sales, and 629 million board feet of timber offered for sale but no bids were received.

2/ Includes a reduction of 308 million board feet because of the decision of the Fourth Circuit Court of Appeals regarding the interpretation of timber management practices under the Organic Act of 1897.

3/ Includes separate targets for volumes which are chargeable against the allowable harvest and nonchargeable volumes. Harvest of mortality also included in this volume.

In fiscal year 1977 the demand for National Forest timber should be met with the 10.4 billion board feet sale preparation program plus the volume of uncut timber already under contract and the volume of timber currently prepared but not sold. At the end of fiscal year 1976 it is estimated that there will be about 30 billion board feet of uncut timber under contract in the lower 48 States (plus about 20 billion in Alaska), and about 1 billion board feet of timber prepared but not sold. The demand for National Forest timber will be affected by the depressed market for timber products and, to some extent, by the decision of the Fourth Circuit Court of Appeals concerning the timber sale procedures on the Monongahela National Forest in West Virginia.

Examples of Recent Accomplishments

Recent and estimated returns to the Treasury from the harvest of National Forest timber are summarized in the following tabulation:

Fiscal Year	Receipts (in millions)
1973	$446.7 1/
1974	459.9 1/
1975	341.3 1/
1976	450.0 (estimated)
Transition quarter ...	138.0 (estimated)
1977	450.0 (estimated)

1/ Excludes $7.9 million of timber receipts in fiscal years 1973 and 1974 which were not credited to the National Forests Fund until fiscal year 1975 due to action pending on land exchange offer executed by the Fibreboard Corporation.

The record of timber harvested and sold during the past 3 years is compared with the allowable harvest in the following table:

Project (1a)

Fiscal Year	Annual Allowable Harvest 1/	Actual Volume Harvested	Percent of Allowable Actually Harvested	Actual Volume Sold 2/	Percent of Allowable Actually Sold
		(Volumes in billion board feet, local scale)			
1973	13.6	12.4	91	10.2	75
1974	13.3	11.0	83	10.2	77
1975	15.8 3/	9.2	58	10.8	68

1/ As of the January 1 midpoint of the fiscal year. Includes sawtimber and small (convertible) products.

2/ There are additional volumes prepared and released for harvest on long-term sales in Alaska. Also, there were additional volumes offered for sale for which there were no bids.

3/ Potential yield--annual basis as of July 1, 1974.

National Forest Timber Inventory and Plans

GOAL: To provide timber resource information for overall land-use planning and to plan the orderly development of timber production on the National Forests. A specific objective is to develop the capability for periodic updating of timber management plans to recognize the changes increased growth rates and other activities generate.

A comparison of proposed outputs follows:

	FY 1975	FY 1976	Transition quarter	FY 1977
Timber management plans				
Management plan inventory (in thousand acres)	19,296	12,999	4,300	11,643
Management plan revision (number)	8	15	- -	30
Silvicultural examination (in thousand acres)	4,802	4,285	2,225	7,072

Within current levels of forest management on the National Forests, available supplies of timber are considerably below yields attained in fully stocked natural stands, and much less than yields attainable with intensive practices. Both technical opportunities for increasing yields and economic returns from investments in intensified management vary widely from stand to stand and place to place depending on a variety of factors. Differences in treatment opportunities stem in part from site and stand conditions. Stocking, species composition, tree diameter distribution, and regeneration requirements also vary widely in different stands and directly affect management opportunities. In many cases the necessity of modifying timber management to enhance environmental protection and to maintain recreation, wildlife, and esthetic values increases management costs or reduces amounts of timber growth available for harvest.

Application of intensified management is needed now to meet future supply needs. The foundation of all such management intensification efforts starts with adequate, timely inventories of the timber resource and expands to intensive, individual stand examination by qualified silviculturists and professionals in supporting fields of wildlife biology, soils, geology, landscape management, economics, logging, and engineering.

Forestwide timber management plans are prepared from the forest inventories, and stand prescriptions are made following the detailed examination of each stand. A complex, detailed record of appropriate statistics is maintained for each stand, compartment, and forest. Stand needs identified by the stand silvicultural

examination are met by timber harvesting, reforestation, or timber stand improvement measures. The growth potential of each stand and the forest are identified and subsequent actions are prescribed. Results are measured and recorded throughout the life of the stand through recurring inventories and stand examination. Currently, inventories are done on a 10-year recurring cycle.

Changes take place rapidly in growing stands of timber through application of harvesting and timber stand improvement measures, and the effects of insects, disease, and natural calamities. As a minimum, each stand should be reexamined every ten years to measure the change and to prescribe for future needs, such as timber harvest, reforestation, or stand improvement.

Current program levels are adequate for a 10-year inventory cycle and stand silvicultural examination on 7,072,000 acres annually, which is 65 percent more than the 4,285,000 acres planned to be covered in 1976.

Project (1b)

TIMBER RESOURCE MANAGEMENT--Reforestation and Stand Improvement
(All capital investment)

		Permanent full-time positions
1975	$51,262,000	912
1976	61,896,000	817
Transition quarter	(14,322,000)	
1977	63,132,000	817
Change from 1976	+1,236,000	- -

A net increase of $1,236,000 is proposed as follows:

(1) Increase of $2,000,000 to increase the timber stand improvement program by 32,014 acres.

(2) Increase of $1,236,000 to provide for the costs of the pay increase effective in October 1975 (Executive Order 11883).

(3) Decrease of $2,000,000 for reforestation to meet the optimum program possible with available planting stock and accessible prepared sites.

No change in permanent full-time positions is proposed.

The program follows:

	FY 1975	FY 1976	Transition quarter	FY 1977	Change from 1976
			(in thousands)		
Reforestation	$24,745	$34,150	$5,492	$32,150	-$2,000
Timber stand improvement	21,270	21,500	6,730	24,736	+3,236
Genetic tree improvement	2,348	2,536	1,040	2,536	- -
Nursery expansion and development	2,899	3,710	1,060	3,710	- -
Total	51,262	61,896	14,322	63,132	+1,236

GOAL: To increase the growth rate and product quality of timber growing on the National Forests to the levels consistent with maintenance of environmental quality, multiple resource use objectives, and total social and economic benefits and costs.

The output of all products and services of the National Forests, including timber products, can be increased materially in the next decade at costs commensurate with benefits. Greater investments of capital, labor, and materials will be needed along with improved, intensified quality management. The remainder of the 1970's is a crucial time for action to insure future timber supply. The harvesting of presently standing timber, both old growth and young growth, will continue to be important for a few decades; but, increasingly, harvest will consist of wood grown after 1975. For the long run, 2020 and beyond, it is timber growth which is all important; and available timber volume in those decades depends upon measures to increase growth taken in the 1970's and 1980's.

Increased timber production on areas suitable for treatment can be achieved by a variety of measures, including accelerated regeneration, stand improvement, commercial thinning, fertilization, genetic tree improvement, improved harvesting practices and utilization, and intensified protection.

After harvest, fire, windthrow, disease or insect kill, the salvable timber is removed and the area regenerated by natural or artificial means. Where available and appropriate, genetically improved seedlings are planted. When such seedlings are used, both economics and silviculture normally dictate thinnings and intermediate selective cutting and final harvest by clearcutting. Precommercial and commercial thinnings, application of fertilizers, and control of insect pest and diseases are measures for increasing the growth and development of trees. Following forestwide organization of stands by age classes, prompt harvesting at maturity, together with immediate regeneration with a new stand before weeds and shrubs take over the site, is always desirable and often essential for success.

A comparison of proposed outputs follows:

	FY 1975	FY 1976 (estimate)	Transition quarter (estimate)	FY 1977 (estimate)
Reforestation (acres)	173,713	187,788	9,900 1/	199,624
Timber stand improvement (acres) ...	274,587	267,786	30,600 1/	299,800
Genetic tree improvement (acres of seed orchards)	1,654	1,654	1,654	1,654
Nursery expansion and development (no. of nurseries)	11	11	11	12

1/ Due to the season of the year for this transition quarter, completed acreage will be low. Most of the expenditures will be for preliminary and preparatory work.

The Forest Service is improving information concerning those sites in need of reforesting and stand improvement measures. Silvicultural examination of stands and sites is used to identify the needs and determine site productiveness. Then investment analysis is made to select those sites that have the highest potential for growth and other returns and show the most cost effectiveness.

The only source of lumber and plywood during the 1970's and 1980's will be from trees of merchantable size now standing. Growth of additional wood on these trees, growth of wood on smaller trees now standing, and growth of trees to be seeded or planted during the decade, may all add to the annual timber growth rate. This could increase the current programed allowable harvest rate on forests with a surplus of old-growth timber, even though none of the above young and new trees would be cut during that period.

The proposed reforestation and stand improvement program will contribute to the long-range goal of improving the total net growth and sustainable harvest volume on the National Forests. Growth resulting from this program will not only help to off-set the decrease in available yield brought about by changes in land use but will also help to raise both the short-term and long-term sustainable harvests from National Forests. The long-range increase in yield (by the year 2020) from the fiscal year 1977 program will exceed 133 million board feet annually.

The Supplemental National Forest Reforestation Fund Act of September 18, 1972 (86 Stat. 678), established the interest of Congress in reforestation of National Forest lands and requires an annual report of need; 3.1 million acres were so reported in 1975. Planting and seeding the existing 3.1 million acres needing reforestation, plus a substantial increase in intensive silvicultural treatments such as thinning, fertilization, and genetics, will enable the National Forests to sustain timber production on a high level. There are 8.7 million acres of land in a backlog needing stand improvement. In addition, the timber harvesting program produces a recurring stand improvement need with a magnitude of 200 to 250 thousand acres yearly.

The restrictions on the use of pesticides such as 2, 4, 5-T and rodenticides continues to be a constraint on the reforestation program. This restriction complicates site preparation, protection, and release of growing stock.

Examples of Recent Accomplishments

Reforestation. With appropriated funds, an area of 124,706 acres of National Forest land was reforested in 1975--113,703 by planting and 11,003 by seeding. In addition, on 49,007 acres the ground was prepared to promote regeneration from natural seedfall. Other reforestation accomplishments in 1975 include:

(1) Forest Service seed extractories processed 28,265 pounds of seed.

(2) Production of 113.6 million trees in 11 Forest Service nurseries.

(3) Establishment of 15 acres of new seed production areas and 35 acres of new seed orchards. About 17.7 thousand acres were planted with seedlings grown from the better quality seed produced in seed orchards or seed production areas.

Reforestation with funds collected under the Knutson-Vandenberg Act. The following reforestation was in addition to reforestation done with appropriated funds:

	Acres
Tree planting	150,836
Seeding	14,137
Site preparation for natural seed-fall	56,190
	221,163

An additional 21,268 acres was reported accomplished on National Forest land by other Federal and cooperative programs. These unscheduled programs limit the ability to increase reforestation in fiscal year 1977 due to available planting stock and prepared sites.

The total area of accomplishment, where some treatment such as planting, seeding, or site preparation was applied in 1975, was 416,144 acres.

Timber stand improvement. An area of 276,072 acres was treated by the following cultural measures with appropriated funds in 1975:

	Acres
Thinning	186,602
Release	75,017
Pruning	1,485
Fertilizing	12,968
	276,072

Timber stand improvement was also done for the same purpose with Knutson-Vandenberg funds on the following acreage in 1975:

	Acres
Thinning	133,859
Release	37,818
Pruning	801
Fertilizing	46
	172,524

In addition, 5,900 acres of timber stand improvement was accomplished with other Federal or cooperative funds.

Project (2)

RECREATION USE
(All operation and maintenance)

		Permanent full-time positions
1975	$48,122,000	1,459
1976	51,447,000	1,419
Transition quarter	(24,634,000)	
1977	57,860,000	1,483
Change from 1976	+6,413,000	+64

An increase of $6,413,000, with an increase of 64 permanent full-time positions, is proposed as follows:

(1) To selectively reopen closed campgrounds and restore operating seasons; strengthen visual resource management of forest and range resource programs; improve administration of public health, safety and welfare at concessionaire recreation sites and facilitate planning and development of additional needed facilities; provide for the costs of management planning and administration of two newly designated wildernesses; and for increased study schedule for Wilderness Study Areas in National Forests in the East (PL 93-622), $4,433,000.

(2) Provide for the costs of the pay increase effective in October 1975 (Executive Order 11883), $1,980,000.

The following tabulation shows the total planned financing with funds available (in thousands):

	FY 1975	FY 1976	Transition quarter	FY 1977	Change from 1976
Administration of concessions and recreation use permits ..	$1,730	$1,735	$835	$3,072	+$1,337
Operation and maintenance	37,892	40,637	18,484	46,045	+5,408
Planning and inventories	1,400	1,955	785	1,671	-284
Wilderness administration	3,200	3,210	1,630	3,251	+41
Visitor Information Service ..	3,900	3,910	2,900	3,821	-89
Total	48,122	51,447	24,634	57,860	+6,413

GOAL: Based on the needs and desires of the Nation's people, provide for an estimated 216.4 million visitor-days of quality outdoor recreation on the National Forest System lands. Emphasis will be on providing new opportunities in dispersed recreation and improved opportunities in developed recreation near the using public.

Through programs of planning, operation, maintenance, enhancement, managed use, and visitor contact, coordinate recreation use with the multi-demands on the National Forest System, keeping it consistent with the land's capacity, user-safety, and basic resource protection.

Through properly planned and executed landscape management programs, insure that National Forest System uses are designed to recognize and retain or enhance the visual resource.

The Forest Service mission is to manage the recreation resources on National Forest lands to best serve the steadily increasing numbers of Americans seeking inspiration, enjoyment, and relaxation in the outdoors. Outdoor recreation opportunities and attractions include improvements ranging from family picnic areas to internationally known ski areas and natural features from trout streams to vast wilderness tracts.

	Project (2)
The Forest Service maintains:	
Developed camp and picnic family units	106,000
Swimming areas	322
Boating sites	857
Interpretive sites	458
The Service also administers permits to private individuals and groups covering:	
Recreation residences	18,000
Winter sports areas	216
Organization camps	558
Lodges and resorts	370
Other recreation attractions of the National Forest System include:	
National Recreation Areas	7
National Scenic Trails	2
Wild and Scenic Rivers	10
Wilderness and Primitive Areas (million acres)	15
Roads and trails (miles)	302,000
Fishing streams (miles)	83,000
Lakes and reservoirs (million acres)	2.7

Program Description

Eighteen percent, or more than 40 million visitor-days, of National Forest recreation use will take place at the more than 6,400 Forest Service developed campgrounds. An additional 10 percent, or 21 million visitor-days of use, will take place at other Forest Service developed sites. The private sector through concession operations will provide more than 24 million additional public recreation visitor-days of use, or about 12 percent of all recreation use on the National Forests.

Administration of camp and picnic areas will emphasize operation and cleanup to higher standards than currently provided, thereby improving service and reducing resource damage and facility deterioration. Some closed camp and picnic areas will be reopened to use. Those having high operating costs and low use will continue to be identified and closed when reasonable alternative sites are available.

Additionally, normal season of use will be restored at many sites that have previously been adjusted to assure availability during higher demand periods.

Maintenance will be provided to assure that all essential safety, sanitation and minimum user control is accomplished at open sites. There will be an increase in the amount of facility maintenance, which has been curtailed in the past. Priority will be given those developments available to the more populous areas.

The increase in the administration of concessions and recreation use permits will allow closer attention to public health, safety and welfare at concessioner developed public recreation sites. Emphasis will be placed on securing compliance with clean water and other applicable environmental standards. Continued effort will be made to attract private developers to provide needed developed and dispersed recreation facilities and opportunities on the National Forests. The private sector, through special use permits, provides almost one-half of the total capacity of developed recreation sites on National Forest System lands. Receipts to the Treasury from these permits were $5,505,089 in fiscal year 1975, an increase of $421,286 over the previous year.

Eight of the ten wild and scenic rivers administered in whole or in part by the Forest Service have complete management plans, but increasing demands for use by individuals, parties, and commercial outfitters requires frequent updating. Plans for the two newly-designated wild and scenic rivers will be initiated.

Project (2)

Environmental statements assist in decisionmaking on major Federal actions on National Forests. This proposed budget would provide recreation resource input into these studies.

High priority resource development activities will be given landscape management and design services. Landscape management efforts include training of National Forest land managers. This will help to ensure that commodity uses are planned and administered in a way consistent with the environmental and ecological integrity of the landscape involved. The program will allow application of visual management to the most critical and controversial scenic impacts such as timber harvest, range revegetation, utility construction, and fire management activities. Procedural instructions and a series of technical handbooks are being developed to provide guidance. To date, three handbooks have been compiled, published, incorporated in the Forest Service Directive System, and made available to other agencies, groups, and industry.

The first volume describes basic landscape management concepts and principles; the second provides a procedure for inventory of scenic quality and determination of the degrees of public concern for given areas. The recently published third volume, entitled "Utilities," describes methods of minimizing the visual effects of power-lines, pipelines, water and micro-wave transmission facilities. This volume has been highly acclaimed by other Government agencies, public utility companies and conservation organizations.

During fiscal year 1976, chapters dealing with roads and range will be published. In fiscal year 1977, chapters on fire and mining are scheduled for completion. This program is supported by a cadre of specially trained landscape architects who participate in interdisciplinary multiple use planning and project design.

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) and Executive Order 11752 reflect increased public concern for high water quality standards. Solid waste and sewage treatment facilities costing in excess of $60 million have been installed. Positive response to these new national priorities has required reassessment of investment and manpower allocations. Violating facilities or sites which cannot be economically corrected will be closed.

Over 7 million visitor-days are expected in the 87 wildernesses and 19 primitive areas (over 15 million acres) where people are seeking spiritual and physical refreshment. This budget will provide for 15 wilderness management plans to be finished, bringing to 73 the number of valid plans of the 106 needed. These funds will permit completion of intensive wilderness study for 16 additional New Wilderness Study Areas (NSAs), so that 68 of the 302 NSAs will be done. Another 20 NSAs will have studies initiated, bringing to 137 the number which have been started, or 45.5 percent of the total need.

The Forest Service administers 7 national recreation areas (NRAs), with the recent addition of Hells Canyon NRA (Idaho-Oregon). Management plans for 6 will be finished or revised, and the seventh will be initiated.

The plans will not only reflect changing use conditions, but will facilitate outdoor recreation activities which meet human needs while complementing national priorities by not requiring large expenditures of money or fossil fuel by users.

Greater emphasis will be placed on providing dispersed recreation opportunities on National Forests especially those near the user.

Visitor Information Service will stress efforts to:

(1) Help the National Forest visitor understand and appreciate the forest environment so that he may better enjoy it and participate in natural resource management decisions which assure a quality of life experience for present and future Americans.

(2) Enrich the experience of visitors to the National Forests and Forest Service facilities by providing forest orientation services and by interpreting the local human history, natural history, and natural resources.

(3) Assist teachers and environmental education leaders by making appropriate off-season visitor information service facilities available for the teaching of ecology and forest and range conservation in an on-the-ground situation.

(4) Assist scientists in the use of interpretive communication techniques in the dissemination and application of research results.

Fiscal year 1977 funds will continue visitor information services at a minimum service level. Special efforts will be made to extend public service by utilizing unstaffed services, such as selfguiding interpretive trails and auto tours, interpretive signs, wayside exhibits, and automatic message repeaters, at the 458 interpretive sites in the National Forest System and at other Forest Service facilities.

Total recreation use of the National Forests is increasing at a rate of 5 to 9 million visitor-days per year. Maintaining quality resource opportunities requires innovative approaches and public cooperation.

The "pack-your-trash" campaign has enabled the Forest Service to keep developed recreation sites open to the public when cleanup funds were insufficient to do every job. It is also effective in undeveloped areas. The benefits have been many times the cost and there are opportunities to expand this program.

A national annual increase in skiing of about 15 percent requires analysis and review of new National Forest areas to provide, with the assistance of the private sector, additional skiing opportunities.

Major recreation concessionaire developments, such as ski areas, require comprehensive resource planning integrated with social and economic needs of people, and coordinated with State and local governments. In many cases, entire new communities are developed as a result of ski area development. Because of the effects on communities and people, these studies must be thorough and are time consuming and expensive. It is a necessary process which eventually leads to developments which have long-lasting social effects and provide a large amount of public recreation financed by private funds.

Other developments such as summer resorts, marinas, and organization sites also provide significant amounts of public recreation. The increased funding will enable the Forest Service to continue with the planning and development of these needed privately financed recreation facilities.

The initial planning for management of recreational use by off-road vehicles (required by Executive Order 11644) will be completed. Implementation of these plans to protect resources, diminish conflicts, and provide use opportunities, is scheduled on all National Forests by December 31, 1976.

The Forest Service now employs 19 professional archeologists to provide technical leadership in inventory and management of cultural resources (Historic Preservation Act of 1966 and Executive Order 11593 of 1971). This program will aid in meeting obligations to survey for presence of cultural resource values in advance of earth-disturbing undertakings. In addition to inventorying cultural resources, those sites qualifying will be nominated to the National Register of Historic Places and will be accorded protective processes in cooperation with the President's Advisory Council on Historic Preservation.

Examples of Recent Accomplishments

(1) Completed management plans for 22 wildernesses and 3 National Recreation Areas.

(2) Initiated wilderness reviews on 20 new wilderness study areas, with 14 essentially completed.

(3) About 3 percent of the National Forest System received cultural resource reconnaissance or survey coverage. Eighteen sites were placed on the National Register of Historic Places.

(4) Completed about two-thirds of the current landscape management training program.

(5) Implemented the visual management system for identification and classification of scenic quality in all regions.

(6) Completed 4 parts of the landscape management guidelines. The remaining 7 chapters range from 10 to 75 percent complete.

(7) Provided over 200 million visitor days of recreation use in 1975 on National Forest System lands (about 70 million visitor-days at developed sites and 130 million in dispersed areas).

Project (3)

WILDLIFE AND FISH HABITAT MANAGEMENT

		Permanent full-time positions
1975	$9,459,000	352
1976	10,912,000	394
Transition quarter	(3,081,000)	
1977	13,500,000	419
Change from 1976	+2,588,000	+25

An increase of $2,588,000, with an increase of 25 permanent full-time positions, is proposed as follows:

(1) For cooperative habitat restoration and development on 8.8 million acres and for additional work to comply with the Endangered Species Act, $1,366,000.

(2) To provide for coordination of fisheries and wildlife management, within the the Forest Service, with timber management, road construction, and related resource activities, $754,000.

(3) To provide for the costs of the pay increase effective October 1975 (Executive Order 11883), $468,000.

The planned levels of financing follow (in thousands of dollars):

	FY 1975	FY 1976	Transition quarter	FY 1977	Change from 1976
Coordination and cooperation (internal and external)	$5,269	$5,752	$1,681	$6,752	+$1,000
Habitat restoration and development	3,257	3,280	900	4,201	+921
Endangered and other threatened species	933	1,880	500	2,547	+667
Total	9,459	10,912	3,081	13,500	+2,588
Operation and maintenance	6,002	7,256	2,081	8,790	+1,534
Capital investment	3,457	3,656	1,000	4,710	+1,054
Total	9,459	10,912	3,081	13,500	+2,588

GOAL: To improve and expand management programs to enhance fish and wildlife populations on public lands administered by the Forest Service, as demanded by consumptive and nonconsumptive users.

Program Description

The Forest Service administers the land and water upon which about one-seventh of the fish and wildlife-oriented recreation of the United States is generated. There are over 45 million acres of big game range, 43 million acres of small game range, plus 83,000 miles of fresh water streams, 1.8 million acres of natural lakes and 880,000 acres of reservoirs. All of these acres provide habitat in some form and condition for many species of fish and wildlife. Habitat improvement projects are an important part of multiple use management of these lands.

Land and water resources administered by the Forest Service in 1975 provided 14.4 million hunter, 16.4 million fishing, and 19.6 million visitor-days of nonconsumptive use. 1/

1/ The visitor-day is a unit of measure amounting to 12 hours.

Project (3)

In compliance with the Endangered Species Act of 1973 (87 Stat. 884) 36 endangered species have been identified on these public lands. Planning and subsequent work programs under this Act have just begun. Although several small programs are in effect, comprehensive management programs are evolving in cooperation with the Fish and Wildlife Service of the Department of the Interior and the States.

As directed by Public Law 93-452 (Sikes Act), plans for intensified cooperative management of habitat on lands administered by the Forest Service have been completed with 10 States with an estimated 20 more to be completed during calendar year 1976.

Fiscal year 1977 program provides for wildlife and fish habitat improvement as follows:

	Thousand Acres
Land treated in which wildlife habitat coordination was planned and used	8,624
Direct habitat development	218

Examples of Accomplishments

Management of the endangered Kirtland's warbler in Michigan, by manipulation of its habitat, dominated the wildlife activities on the Huron National Forest this past year. Prescribed burning, planting, and timber sale preparation in jack pine stands were accomplished on over 1,000 acres during the year. The Forest Service, in cooperation with the U.S. Fish and Wildlife Service and the Michigan Department of Natural Resources, published a booklet on the Kirtland's warbler.

The development of a "snag" (dead and dying mature trees important for nesting and feeding of certain birds) policy in the Pacific Northwest region has given new and positive direction to nongame wildlife habitat management. The policy sets minimum criteria for the preservation and management of snags for wildlife. Implementation of the policy will provide for maintaining populations of all snag dependent wildlife.

The National Marine Fisheries Service is cooperating with the Forest Service on a survey and inventory of deactivated log transfer facility sites in southeast Alaska. The study aims to provide information on the impact of debris on marine organisms and habitat by studying species succession and recolonization.

Work accomplishments during fiscal year 1974 (latest figures available)

A summary of total wildlife and fish habitat acres improved follows:

Food and cover development	478,629
Fish stream improvement	2,939
Fish lake improvement	11,262
Wetland improvement	4,527

Also, 3,369,000 acres of wildlife habitat were improved through coordination with other land resource uses and development.

Project (4)

RANGELAND MANAGEMENT

		Permanent full-time positions
1975	$17,870,000	604
1976	19,007,000	579
Transition quarter	(5,313,000)	
1977	23,451,000	624
Change from 1976	+4,444,000	+45

An increase of $4,444,000, with an increase of 45 permanent full-time positions, is proposed as follows:

(1) For initiation of range improvements designed to increase production of forage, $956,000.

(2) For accelerating treatment of rangeland in low ecological condition, $532,000.

(3) For increases in resource planning, management, and maintenance, $2,260,000.

(4) To provide for the costs of the pay increase effective in October 1975 (Executive Order 11883), $696,000.

	FY 1975	FY 1976	Transition quarter	FY 1977	Change from 1976
			(in thousands)		
Operation and maintenance ..	$15,558	$14,980	$3,885	$18,468	+$3,488
Capital investment	2,312	4,027	1,428	4,983	+956
Total	17,870	19,007	5,313	23,451	+4,444

GOAL: To produce forage for livestock consistent with capability of the range and its environmental needs, and at a cost which is competitive with that on non-Federal rangelands.

Increased availability of range grazing on the National Forest System could contribute substantially toward meeting world food needs while contributing significantly to conservation of fossil fuel energy.

Rangelands in low ecological condition will be brought to satisfactory condition and managed for livestock grazing, watershed, wildlife, and other purposes.

Management of rangeland, including revegetation and restoration projects, will be consistent with protection of endangered and threatened plants and animals and the preservation of sites of historical value. Changes in the composition of vegetation will be planned in a manner which will maintain the natural scenic values of the range.

Specific long-term objectives of rangeland management are:

(1) Production. Sustained annual production between 17.7 and 20.4 million animal unit months of livestock grazing by the year 2000.

(2) Environment. Correcting unsatisfactory ecological conditions on 15.3 million acres of rangeland. Investments in range development and improved livestock management or reduction or elimination of livestock grazing where the cost of correction is excessive will be the techniques used.

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(3) Social well-being. Benefiting local and regional ranch communities through the permitted use of National Forest System land. This will include promotion and demonstration of improved management and conservation on intermingled or associated rangelands.

On-going Programs

The National Forest System Rangeland Management Program encompasses approximately 12,000 range allotments scattered throughout 38 States. Some 16,000 ranchers graze more than 1.4 million cattle and 1.6 million sheep on these lands under paid permit for an annual total of approximately 11.3 million animal unit months of grazing.

The 12,000 allotments covering 100 million acres of forest-range provide grazing essential to the operation of ranches owned by Forest Service permittees. Without the National Forest System grazing, many of these ranches would not be viable economic ranching units.

Expanding Program Dimensions

Meeting the expanding needs for grazing must be efficiently achieved. This will be accomplished by finding and developing the best places for range investments. Some lands with low relative potential will have reduced grazing, while grazing will be added to other lands not currently grazed. The intensity of management will change on many allotments. In some instances, intensity of management will increase in order to expand production, while on other allotments management, particularly in the area of physical improvements, will be decreased in order to achieve program effectiveness.

The net change in animal unit months of grazing production in the long run will increase to achieve the goal of up to 20.4 million animal unit months by year 2000. The rate of increase in grazing available in response to increased investment and management is limited by the natural growth rate of the vegetation; therefore, increased animal unit months of grazing are not shown for 1977. The results of this year's investments will become available over the next three to ten years.

A plan for testing recommended management levels on various sites to be initiated during fiscal year 1976 is included in the program. Through accelerated development, management and monitoring of results in several validation areas, the appropriateness of management levels and the actual costs and returns will be assessed. Results of this validation program will be used to modify management in other areas and improve the overall efficiency of the range program.

Recent and planned accomplishments are:

	1975	1976	Transition quarter	1977
Improved management maintained to date (No. of allotments)	6,403	6,982	6,982	7,401
Improved management started (No. of allotments)	579	419	- -	483
Rangeland in low ecological condition, feasible for restoration and livestock grazing brought under improved management to date (thousand acres)	2,594	2,956	3,054	3,629
Range revegetated (thousand acres)	112	75	20	90
Animal unit months of grazing produced (millions)	11.3	11.3	5.3	11.3

Project (5)

SOIL AND WATER MANAGEMENT

		Permanent Full-Time Positions
1975	$16,506,000	549
1976	17,774,000	565
Transition quarter	(5,278,000)	
1977	19,542,000	577
Change from 1976	+1,768,000	+12

A net increase of $1,768,000, with an increase of 12 permanent full-time positions, is proposed as follows:

(1) Increase of $3,156,000 for costs associated with providing scientific soil and water knowledge in support of timber, range, recreation, and wildlife and fish activities.

(2) Increase of $696,000 to provide for costs of the pay increase effective in October 1975 (Executive Order 11883).

(3) Decrease of $899,000 for watershed restoration and improvement.

(4) Decrease of $109,000 for wild and scenic river studies.

(5) Decrease of $540,000 for environmental analysis and construction liaison.

(6) Decrease of $536,000 for soil stabilization and reservoir protection related to projects of water resource development agencies.

GOAL: To maintain and enhance the environmental quality of National Forests for optimum public use and services through the application of scientific geology, hydrology, and soils knowledge to resource protection and development programs.

Program for fiscal year 1977, and previous periods follows:

	1975	1976	Transition quarter	1977	Change from 1976
			(in thousands)		
Soil and water science for management support	$12,445	$13,358	$4,062	$16,670	+$3,312
Watershed restoration and improvement	2,479	2,750	716	1,851	-899
Wild and scenic rivers studies	758	500	150	391	-109
Soil stabilization and reservoir protection related to projects of water resource development agencies	824	1,166	350	630	-536
Total	16,506	17,774	5,278	19,542	+1,768
Operation and maintenance	10,558	11,908	3,622	15,651	+3,743
Capital investment	5,948	5,866	1,656	3,891	-1,975
Total	16,506	17,774	5,278	19,542	+1,768

Project (5)

Program Description

The objectives of soil and water management are accomplished primarily by providing Forest Service land managers engaged in the various land management activities the scientific advice and technical direction to help avoid land management problems. These services include:

(1) Surveillance and monitoring activities to fulfill mandatory requirements for maintaining the quality of natural waters.

(2) Providing knowledge of soil and water conditions and trends on which to base management decisions.

(3) Conducting inventories and surveys to acquire basic data on soil and water resources and interpreting data for short- and long-term planning.

(4) Identifying water needs for National Forest purposes in areas where State water adjudication proceedings are on-going.

More directly, the program restores degraded watershed lands caused by man's activities or natural disasters, to alleviate flooding and improve the quality and quantity of water. The program also directly affects water quantity and quality through scientific water management techniques such as prescriptions for timber cutting patterns, cover manipulation for increased water yield, and snowpack management.

The need for these services parallels the intensity of the various land management activities that are served by the program. The fiscal year 1977 funding level will provide services to most of the current land management activities.

The backlog of degraded watershed lands needing cultural treatment amounts to over eight million acres. The direct restoration work being done in fiscal year 1977 includes maintenance and reinforcement of past work to assure project success. Planned activities during fiscal year 1977 will restore approximately 50,000 acres. Included is capital investment work on 30,000 acres of initial treatment, and maintenance and reinforcement of existing measures on 20,000 acres.

The benefits from the soil and water program accrue both onsite and offsite. The onsite benefits are primarily related to maintenance and/or enhancement of the soil and water resources. A sustained yield of quality products from the National Forests is dependent on the maintenance of soil productivity. Currently, soil and water resource management prescriptions are prepared for about 3 million acres of National Forest System lands annually. In addition, benefits accrue from providing a quality environment for recreation use and other outdoor activities.

Offsite benefits from the program accrue to the downstream user of water flowing from National Forest lands. The 390.4 million acre-feet of high quality water produced from the National Forest is an example of the importance of water in the National Forest programs. Costs for water treatment and maintenance of irrigation equipment are reduced, and the useful life of reservoirs is extended. In addition, fishery and wildlife values are enhanced and dangers from floods are minimized.

Extreme demands are being put upon available water supplies, particularly in the West. The Congress and the courts have determined that the United States has a right to reasonable use of water on National Forests reserved from the public domain except those waters appropriated before the National Forests were created. Efforts are underway to obtain sufficient quantities of water in accordance with legal authority for the administration and development of the National Forest System. This project on a watershed basis includes:

(1) An inventory of present and foreseeable needs.
(2) A determination of water availability.
(3) An assessment of the potential for increasing yields in water-short areas.
(4) Action to secure the water needed for National Forest purposes.

The western States want the Forest Service to complete the inventory program as rapidly as possible. A major part of the total project effort is expected to be completed by fiscal year 1979.

Additional work is developing due to adjudication proceedings in some western States. Increasing judicial and administrative action in water rights is anticipated, both on lands reserved from the public domain and on acquired lands, over the next several years.

Another portion of the soil and water program is concerned with the environmental analysis of proposed water developments and the liaison with the construction agency.

Essential land treatment and related measures are planned at small watershed projects authorized by PL-566 and PL-534, and at other major reservoir projects. Treatment measures will include soil stabilization and vegetation management to improve water quality and quantity. Also, in order to provide for public safety and user enjoyment of reservoir areas, debris and stump removal will be accomplished on about 10,000 acres.

Wild and Scenic Rivers Act (PL 90-542, as amended). The purpose of this activity is to carry out comprehensive studies of rivers designated as potential additions to the National Wild and Scenic Rivers System. This 1968 Act designated 27 rivers for detailed study as potential additions to the National System. The Act was amended by PL 93-621, January 3, 1975, to add 29 rivers for study. The Forest Service is the lead agency for the Department of Agriculture's river study work on nine of the original 27 study rivers and is lead agency for 13 of the additional 29 and will provide joint leadership on three.

All studies are cooperative efforts with States, Federal agencies, and interested groups and individuals. The study work provides for the employment of local people to collect resource data and data on the resource use and capability. The program effort during fiscal year 1977 will essentially complete work on the original nine studies and on two of the additional rivers under Forest Service leadership. In addition, some work will be done on the remaining river studies with target dates for completion during fiscal years 1978 and 1979.

Examples of Recent Accomplishments

Soil resource inventories were conducted on 21.0 million acres; detailed soil surveys were conducted on about 0.4 million acres in cooperation with the Soil Conservation Service and the State Agricultural Experiment Station; and water resource inventories were conducted on 18.0 million acres.

Resource protection requirements and design services were provided by geologists, hydrologists, and soil scientists on more than 9,000 projects.

Soil and water condition and trend observations along with monitoring effects of timber management, mineral developments, Boundary Waters Canoe Areas, and suspected pollution problem sites where people physically use the water resource are underway at 3,200 locations.

Cooperative studies are continuing with State Fish and Game Departments to determine minimum flows necessary for fish culture in connection with Federal Power Commission relicensing of "run of the river" power facilities.

Rehabilitation work is coordinated with other resource and service divisions to accomplish an integrated program of management under multiple use.

Project (5)

In fiscal year 1975, Forest Service crews treated and stabilized:

Acres of sheet eroded and deteriorated areas	31,000
Miles of streambanks and shorelines	106

Treatments to aid in restoring favorable watershed conditions on lands damaged by wildfire continued. Emergency measures (initial treatment on new burns and maintenance on older burns) were applied on 26,000 acres that required onsite protection to restore the hydrologic function and alleviate the potential for offsite damages.

Project (6)

MINERALS AREA MANAGEMENT
(All operation and maintenance)

		Permanent full-time positions
1975	$3,713,000	160
1976	6,589,000	282
Transition quarter	(2,041,000)	
1977	8,095,000	299
Change from 1976	+1,506,000	+17

An increase of $1,506,000 with an increase of 17 permanent full-time positions, is proposed as follows:

(1) For minimizing impacts of mineral activities on surface resources, $228,000.

(2) For administration of reserved and outstanding mineral rights, $175,000.

(3) For planning and supervising reclamation, $68,000.

(4) For geologic and mineral inputs to land use planning, $165,000.

(5) For project geologic work, $123,000.

(6) For coordination of mineral activities with timber, recreation, wildlife and range management programs, $435,000.

(7) For costs of the pay increase effective in October 1975 (Executive Order 11883), $312,000.

GOAL: Administer pertinent laws and regulations to permit the uninterrupted flow of National Forest System mineral resources to the Nation's economy while insuring adequate protection of the surface resources and the environment; eliminate unauthorized uses of Federal land which may be occupied under the guise of the mining laws for purposes unrelated to mineral development

Program Description

Due to the variety of its geologic environments, the National Forest System is one of the Nation's most important reservoirs of mineral resources. Nearly the full gamut of metallic and related nonmetallic deposits are represented, as are fossil fuels, geothermal resources, and the country's principal phosphate fertilizer reserves.

Minerals area management during fiscal year 1977 will include:

(1) Administration of the 1872 mining law.
(2) Compliance and validity investigations on 5,800 mining claims.
(3) Processing of 2,500 operating plans and notices of intention to operate on 50,000 mining claims.
(4) Application processing and supervision of 13,800 oil, gas, phosphate, coal and geothermal leases.
(5) Administration of reserved mineral rights including 3,170 coal, oil, gas, sand, gravel, and stone cases.
(6) Administration of outstanding mineral rights including 1,950 cases.

(7) 1,900 application and supervision cases for disposal of common variety mineral materials.
(8) Prescription development and supervision on 5,580 acres involving surface mining and reclamation.

A tabular summary of the program follows:

Activities	FY 1975	Current Program FY 1976	Proposed Program Transition quarter	Proposed Program FY 1977	Change from 1976
General (1872) mining laws administration	$1,366,385	$3,413,210	$1,076,000	$3,721,500	+$308,290
Mineral leasing and geothermal acts administration	1,009,090	1,645,090	500,000	1,865,400	+220,310
Reserved mineral rights administration	138,250	181,600	52,800	347,100	+165,500
Outstanding mineral rights administration	92,825	95,060	27,200	178,300	+83,240
Minerals materials disposal (common varieties)	273,895	291,500	90,000	437,300	+145,800
Surface mining and reclamation	37,130	36,645	10,000	139,600	+102,955
Planning inputs, geologic aid, interpretations, and geologic support for other activities	795,425	925,895	285,000	1,405,800	+479,905
Total	3,713,000	6,589,000	2,041,000	8,095,000	+1,506,000

Mining Use Regulations and Supervision

For the first time, beginning on September 1, 1974, regulations were instituted for National Forest System lands to minimize adverse environmental impacts from activities conducted under the authority of the 1872 mining law. The regulations require those who want to conduct 1872 mining law activities to notify and obtain approval from the Forest Service before conducting surface disturbing operations.

In the last 10 months of fiscal year 1975, the Forest Service received more than 2,000 proposed operating plans or notices of intention to operate. Each of the filings necessitated a site-specific analysis in order to determine whether or not significant surface resource impacts were prospective. Based on a finding of significant impacts, more than 500 operating plans were required to be filed with the Forest Service. As of the end of fiscal year 1975, about 330 operating plans had been approved by Forest Service administrators.

Recent Accomplishments and Activities

Participated, with Department of the Interior agencies, in the completion of a draft environmental impact statement considering the development of phosphate resources in southeastern Idaho, including significant parts of the Caribou National Forest.

Project (6)

Made major contributions to a joint Federal-State study on the effects of coal development in the Northern Great Plains.

Under the Forest Service's Surface Environment and Mining (SEAM) program, completed a widely acclaimed publication called "Anatomy of a Mine--from Prospect to Production." The objective of the publication is to promote, through exposition in laymen's terms, a better understanding of applicable laws and regulations and the process of finding and developing a mineral deposit.

In furtherance of land use planning, entered into an agreement with the Geological Survey, permitting Forest Service field offices to store in and retrieve from the Survey's Computerized Resource Information Bank a wide variety of mineral resource information.

Coordinated a major exploration and development drilling program for coal on the Manti-LaSal National Forest, Utah, in furtherance of future nominations for coal leasing, under the Bureau of Land Management's Energy Minerals Activity Recommendation System (EMARS).

Worked with a mining company in an environmentally sound conversion of an underground copper mine to an open pit operation at Cuprum, Idaho.

Continued work with Interior, EPA and other Federal departments and the State of Wyoming in planning environmentally acceptable development and production of coal and associated facilities in the Thunder Basin National Grasslands, Wyoming.

Project (7)

FOREST FIRE PROTECTION

		Permanent full-time positions
1975	$37,202,000	1,126
1976	38,709,000	1,069
Transition quarter	(12,489,000)	
1977	42,224,000	1,090
Change from 1976	+3,515,000	+21

An increase of $3,515,000, with an increase of 21 permanent full-time positions, is proposed as follows:

(1) To provide for air quality and smoke management planning as required by the National Environmental Policy Act of 1969, $430,000.

(2) Partial implementation of the National Fire Plan, $1,310,000.

(3) For fuel modification and fire management in support of the timber sale program, other resource systems, and land use planning, $455,000.

(4) To provide for costs of the pay increase effective in October 1975 (Executive Order 11883), $1,320,000.

The proposed budget will be used to finance protection activities approximately as follows:

	1975	1976	Transition quarter	1977	Change from 1976
			(in thousands)		
Air quality and smoke management	- -	- -	- -	$430	+$430
Fire prevention	$8,075	$8,179	$2,572	8,802	+623
Fire detection	3,303	3,350	1,053	3,550	+200
Fire attack forces	17,617	17,490	5,489	19,273	+1,783
Aviation operations	5,138	4,804	1,945	4,804	- -
Fuel modification	2,569	4,350	1,300	4,805	+455
Equipment development and testing	500	536	130	560	+24
Total	37,202	38,709	12,489	42,224	+3,515
Operation and maintenance	34,133	33,823	11,059	36,859	+3,036
Capital investment	3,069	4,886	1,430	5,365	+479
Total	37,202	38,709	12,489	42,224	+3,515

GOAL: Through land use plans and fire management plans, protect people, property and resources from fire. Using fire by prescription, increase resource productivity.

This program, through implementation of the National Fire Plan and National Aviation Plan, provides management of fire for beneficial effects and for resource protection on 180 million acres of National Forest lands and provides assistance in the protection for an additional 22 million acres. The program is designed to lower the flammability of forest and rangelands through accelerated fuel modification and expanded fire prevention.

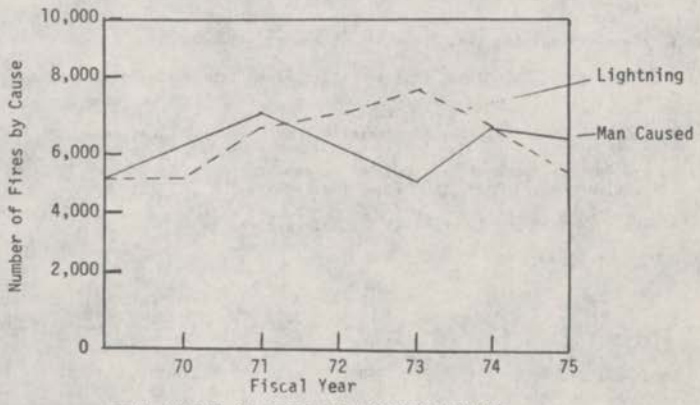
Annual losses from forest fire vary according to weather, forest vegetation conditions, fire occurrence and firefighting preparedness. Total losses have exceeded protection cost by $480 million in the period 1970-1974.

Project (7)

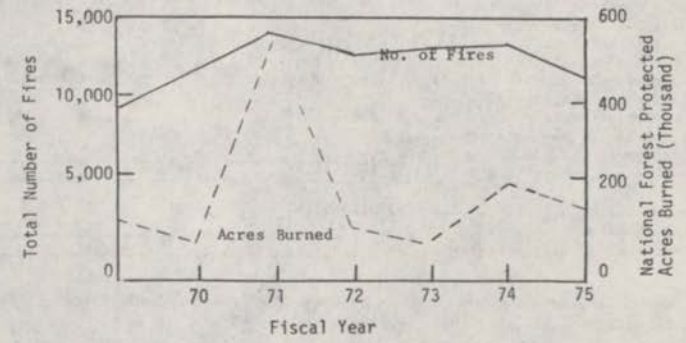
The quality of the environment is improved through scientific smoke management and application of sound fire management practices, including the prescribed use of fire. Uncontrolled fires become less tolerable each year as the interface between rural and urban areas increases. The increasing value of public land, increased value of improvements, and increasing year around use by the public, is increasing the importance of protecting public lands from wildfire.

The threat of fire to the timber resource becomes more critical as more areas are harvested, public access is expanded when roads are built into remote areas, and intensive management is applied to more forested areas. Protection benefits the timber resource and thusly the lumber and home building industries. Management of the timber resources requires the support of an effective program for lowering the flammability of forest lands through accelerated fuel modification and expanded protection.

NUMBER OF LIGHTNING AND
MAN CAUSED FIRES BY FISCAL YEARS



TOTAL NUMBER OF FIRES AND NATIONAL FOREST
PROTECTED ACRES BURNED BY FISCAL YEARS



GENERAL LAND MANAGEMENT ACTIVITIES

Project (8)

		Permanent full-time positions 1/
1975	$26,984,000	843
1976	30,723,000	893
Transition quarter	(5,876,000)	
1977	35,647,000	924
Change from 1976	+4,924,000	+31

A net increase of $4,924,000, with an increase of 31 permanent full-time positions, is proposed as follows:

(1) Increase to improve the standards of administration of special uses and maintain minimum standards of air and water quality required by law on 80 percent of the permits outstanding, $772,000.

(2) Increase for maintenance of fire and general purpose facilities, including communications, required to maintain health and safety, and protect capital investment, $1,300,000.

(3) Increase for marking land lines and monuments, $306,000.

(4) Increase of $1,190,000 for implementation of an Interagency Geometronics Center in Utah.

(5) To reimburse the Employees' Compensation Fund, $915,000 increase.

(6) To provide for the costs of the pay increase effective in October 1975 (Executive Order 11883), $1,074,000 increase.

(7) Decrease of $633,000 in the land exchange program.

The program follows:

	1975	1976	Transition quarter	1977	Change from 1976
			(in thousands)		
(1) Land classification	$844	$884	$220	$900	+$16
(2) Land exchange	3,937	4,130	665	3,667	-463
(3) Land status records and cadastral engineering (land line location)	4,473	5,393	793	5,942	+549
(4) Geometronics	1,388	1,455	220	2,705	+1,250
(5) Maintenance of improvements for fire and general purposes (including communications)	9,593	10,746	3,058	12,376	+1,630
(6) Special uses--non-recreation	3,869	4,784	920	5,811	+1,027
(7) Payments to Employees' Compensation Fund	2,860	3,331	- -	4,246	+915
(8) Bicentennial and Forestry Centennial	20	- -	- -	- -	- -
Total	26,984	30,723	5,876	35,647	+4,924
Operation and maintenance	22,511	25,330	5,083	29,705	+4,375
Capital investment	4,473	5,393	793	5,942	+549
Total	26,984	30,723	5,876	35,647	+4,924

1/ Excludes following positions in other agencies that receive funds from the Forest Service: 1975, 14; 1976, 14; 1977, 14.

Project (8)

GOALS: Provide for orderly real estate management of the National Forest System while protecting the resources and securing compliance with applicable air and water quality standards, to provide for land classification, land exchange, boundary adjustments, landline location, a land record system, maps and surveys for managing and administering primary activities on National Forest System lands.

To support the Forest Service land management programs by providing adequate maintenance of fire, administrative, and other purpose improvements.

Issue and administer land use permits when consistent with the public interest and good land management practices, for such purposes as assistance to the economic development of rural areas, energy development, antiquities study, and communications and utilities transmission.

(1) Land classification ($900,000, an increase of $16,000 for increased pay costs.)

The function of land classification is to structure and recommend programs concerning the extent, location, and composition of the National Forest System that will most effectively further national objectives. Purposes and activities are directed toward improving the landownership pattern to facilitate protection, management, development and use of recreation, timber, range forage, water, and wildlife resources, all of which can contribute significantly to growth of rural economies. Another activity will be to survey the degree of utilization of public lands pursuant to E.O. 11724 of June 25, 1973.

Financing at the level indicated will enable Forest Service to meet most critical needs for:

(a) Continuing involvement in Alaska and cooperation with the Department of the Interior and Congress in considering proposals and alternatives for additions of 80 million acres of Federal lands to the four national conservation systems, including new National Forests, as provided in the Alaska Native Claims Settlement Act. A completion of Congressional action on these proposals by December 18, 1978, is contemplated in the Act.

(b) Consideration of application for land by the State of Alaska, which is authorized to select up to 400 thousand acres of National Forest land under the Alaska Statehood Act.

(c) Identification and detailed analysis of areas within and adjacent to National Forests and National Grasslands to determine the changes which should be made in landownership patterns to increase efficiency of administration and to facilitate accomplishment of national objectives. Of particular urgency are intensive unit planning projects and participation in joint agency planning efforts.

(d) Evaluation of possible transfer of Federal lands to or from the National Forest System, including consideration of lands claimed by Indians, and jurisdictional transfers at numerous Federal water control projects particularly important for outdoor recreation.

(e) Analysis and classification of lands with potential for national recreation areas, monuments, wildlife preserves, or other special status.

Continual review of the location and extent of the National Forest System components is desirable to determine the best land use and ownership patterns considering new developments and needs. The 155 National Forests and 19 National Grasslands located in 44 States and Puerto Rico include nearly 40 million acres on non-Federal land. Programs for consolidations of landownership within existing boundaries of these units need to be based upon consideration of careful analyses of their short- and long-range effects.

Examples of Recent Accomplishments

Review, study and/or analysis of:

(1) Disposition and stewardship of Bankhead-Jones Farm Tenant Act, Title III, lands, including lands at Camp Gruber, Oklahoma, and Moody Air Force Base, Georgia.

(2) Six legislative proposals for National Recreation Areas.

(3) Possible transfers of 400,000 acres of land between Bureau of Land Management and Forest Service in Utah, Nevada, and Idaho.

(4) Boundary adjustments on eight National Forests.

(5) Three interchanges with Corps of Engineers.

(6) Impact of amendments to the Alaska Native Claims Settlement Act concerning native selection of National Forest lands in Alaska.

(7) Validity of Indian claims by the Havasupai and San Carlos Indians.

(2) Land exchange ($3,667,000, a decrease of $633,000 in the program and increase of $170,000 for pay costs, with a decrease of 8 permanent full-time positions.)

The continuing goal of the exchange program is to effect a system of landownership which will result in more effective management and utilization of both National Forest and private lands. For every dollar expended there is a savings in cost avoidance of $10 involving such items as roads, landline location, special use permits, claims and trespass.

Carefully designed exchanges can enhance the development and expansion of communities adjacent to and within the National Forests.

In fiscal year 1977 this program will involve the examination and appraisal of 230,000 acres and the processing of 200 exchanges.

(3) Land status records and cadastral engineering (land line location) ($5,942,000, an increase of $306,000 for marking and posting property lines and $243,000 for increased pay costs, with an increase of 3 permanent full-time positions.)

(a) Land status records. This is the record of the interests in land that the Forest Service must administer. These records provide the basis of all National Forest System land use and resource management. It is also the basis for distribution of the 25 percent resource receipts to the States. About 800 township plats will be completed in fiscal year 1977.

(b) Cadastral engineering (landline location). There are 272,500 miles of property boundary between National Forest System lands and adjoining lands owned by others. Ten percent of these property lines are presently located and marked properly. The continuing good of this program is to properly mark and post all property lines preceding timber sale and other resource activities, including minerals and energy-producing areas. In addition, property lines must be established to process an estimated 45,000 occupancy trespasses and resolve 2,000 title claims to National Forest lands.

Project (8)

Since 1966, an annual transfer of the appropriation for this program has been made to the Bureau of Land Management, Department of the Interior. The money was used for urgent cadastral surveys to reestablish property corners that were determined to be lost through the Forest Service corner search activity. In fiscal year 1977, $515,000 is planned for transfer to BLM.

The work to be done under the cadastral program is shown in the following table. This work is carried on in every State in which the Forest Service administers land.

Work Proposed

	FY 1975 (Accomplished)	Planned FY 1976	Planned Transition quarter	Planned FY 1977
Corners (Nos.)				
Search	23,000	25,000	3,500	18,800
Remonument	13,735	15,000	1,100	10,000
Establish or reestablish	4,238	7,000	800	6,000
Boundaries (miles)				
Locate and mark:				
To full standard	2,494	2,400	300	5,700
To partial standard	580	500	100	650
Maintenance	957	1,000	430	1,980

Examples of Recent Accomplishments

The accomplishment since 1958 in comparison to the total inventory of property corners and lines is as follows:

Corners searched	29 percent of total
Property lines marked	13 percent of total

The backlog has been programed in areas of most urgent need, thus obtaining maximum immediate benefits. Capital investment work is programed to coordinate other resource activities.

One-third of the corners revealed as missing by the corner search phase to date have been reestablished by cadastral surveys.

(4) Geometronics ($2,705,000, an increase of $1,190,000 for implementation of an Interagency Geometronics Center in Utah and an increase of $60,000 for increased pay costs, with an increase of 16 permanent full-time positions.)

Multiple use planning requires a knowledge of the terrain, the extent and location of the natural resource and how they are tied in with, and related to, existing and planned management programs within a planning unit. Environmental information is essential in the planning of timber sales and related facilities.

In response to this need, a layered mapping system consisting of basic data plates (culture, land grid, and drainage) is being developed. The functional data plates (recreation information, fire closures, range types, and soils) are combined with the appropriate basic data plates to produce the required management tool. The objective is to incorporate all the functional map efforts into a coordinated system tied to a common map base from a central production unit.

Project (8)

In line with the "Report of the Federal Mapping Task Force on Mapping, Charting, Geodesy and Survey", July 1973, Office of Management and Budget, the Department of Agriculture has begun to centralize this highly technical and specialized activity. The Geometronics Service Center (GSC) is to provide those products unique to the Department of Agriculture requirements and not available from other Federal agencies. The implementation of GSC has required a redirection of the identification of financing geometronic activities. In the past the products were multi-financed at the regional and forest level on a project support basis. For fiscal year 1977, the geometronic costs are identified as a single budget activity item. These costs include charges connected with the startup of GSC and reflect long-term budget direction for continued operation.

The establishment of GSC will provide significant reduction of field operations and more effective utilization of a limited manpower resource within the Forest Service. The goal for fiscal year 1977, compared with other years, is:

	1975	1976	1977
Resource inventory (primary series) 1:24,000 scale quadrangles	708	700	1,691
General management (secondary series) forests	12	13	47
Regional series	1	- -	- -
Orthophotos (models)	- -	- -	1,200

This will be accomplished by utilizing the primary map data plates and resource inventory information acquired on the forests.

(5) Maintenance of improvements for fire and general purposes (including communications) ($12,376,000, an increase of $1,300,000, with an increase of 10 full-time positions, for maintenance of fire and general purposes facilities required to maintain health and safety and protect capital investment and $330,000 for increased pay costs.)

This program provides for maintenance and for minor betterment, minor construction or replacement of buildings, utilities, pollution abatement facilities, airfields, communications systems and related structures of a fire and general purpose nature throughout the National Forests and National Grasslands. Individual projects authorized for construction herein are limited to those that are of a fire and general purpose nature and are less than $25,000 each. The maintenance of the fire and general purpose facilities is essential to the achievement of program outputs and the increase reflects the funding necessary to support the goals selected based on the Forest and Rangeland Renewable Resources Planning Act. The value of existing improvements exceeds $350 million.

It is essential that the physical plant, upon which all Forest Service programs depend, be brought to acceptable standards and be maintained at that level. These funds will be used toward maintaining the following:

Type of facility	
Fire lookouts, towers, and observatories	1,500
Dwellings, cabins, barracks, and trailers	5,900
Field offices	800
Storage and service buildings	8,000
Water and sewer systems	5,000
Radio units	22,100
Landing fields and heliports	500
Miles of telephone lines	7,500
Miles of administrative fences	1,200

(6) Special uses--non-recreation ($5,811,000, an increase of $772,000 to improve the standards of administration of special uses with emphasis on mitigation of long-term environmental impacts, and $255,000 for increased pay costs, with an increase of 10 permanent full-time positions.)

Effort will be directed to those uses essential to the Nation and its communities' well being. Priority will be given to energy development and conservation uses such as oil and gas transmission lines, coal development and land reclamation, communications systems, and transmission and water developments. Permitted uses will be accompanied by the necessary administrative attention to assure minimum levels of land and resource stewardship.

On-Going Program

Under this program applications are reviewed, and special use permits are issued and administered for a variety of uses which support development and utilization of energy resources, economic development of rural areas and provide a land base on utilities and communications. These uses include:

(1) Agriculture
(2) Community improvements
(3) Industry
(4) Public information
(5) Research study and training
(6) Transportation
(7) Water resources

In fiscal year 1977, more than 54,000 special use permits covering over 6.2 million acres will be in force.

Of particular importance is the impact on National Forest lands and resources caused by the energy crisis and the attendant need to protect the quality of air and water. Many land uses are associated with coal development in Western United States, as well as gas from Alaska to the lower 48 States and its distribution therein. Additional impacts are created by the need to transmit electrical energy and support mineral extraction and processing operations. The proposed increase of $772,000 will bring administration of 80 percent of the existing permits to a minimum standard that conforms with law, and protection of the environment and timely termination of the use.

The trans-Alaska pipeline authorization (PL 93-153) provides for reimbursement to the U. S. Treasury for all extraordinary work relating to these rights-of-way. The Forest Service will spend about $500,000 in fiscal year 1977 on such work from within the total available under this item. There are no specific provisions in the law which require reimbursement of costs for other rights-of-way or types of uses. Response to such applications must be made from existing funds regardless of the number or complexity of applications. Although the intent of Congress was expressed in the Independent Appropriation Act of 1952 that Government agencies obtain reimbursement when goods and services are provided to persons beyond the level provided to the public at large, it has not been stated elsewhere or specifically as in PL 93-153. We continue to seek ways for the applicant to share the burden of these costs.

Fiscal year 1975 receipts from special land uses were $1,884,304. The fee value of free permits authorized by law, to Government agencies or for public use is estimated to be about $3 million. It is estimated that fiscal year 1977 receipts will be $2 million.

With the resource impacts caused by the energy crisis and limited funding, it will be necessary to rely on industry to finance basic resource data on soils, geology, vegetation, cultural values, hydrology, weather, air and water pollution, in order to prepare timely and responsive environmental impact statements in compliance with NEPA.

65-300 O - 76 - 13

From the current budget about $150,000 will allow proper administration of archaeological permits which are issued in accordance with the Antiquities Act of 1906.

(7) Payments to Employees' Compensation Fund ($4,246,000, an increase of $915,000.)

These funds will be used to reimburse the Employees' Compensation Fund, Department of Labor, in accordance with PL 86-767 (5 USC 785), which was enacted September 13, 1960, for benefit payments made from that fund to employees of the Forest Service who are injured while in the performance of duty. The 1976 payment was $3,330,883.

Project (9)

FIGHTING FOREST FIRES
(All operation and maintenance)

		Permanent Full-Time Positions
1975	$104,275,000	543
1976	4,275,000	553
Transition quarter	(4,275,000)	
1977	4,275,000	553

No increase is proposed.

This program provides an initial amount for suppressing forest fires on or threatening National Forests and Grasslands which cannot be handled by the regular forest fire protection program. This initial appropriation is supplemented each year to the extent necessary to cover all emergency forest firefighting costs.

Included are expenditures for men and equipment to control large fires. In addition, when critical conditions present an unusual threat, men are engaged in special efforts to prevent fires and temporary forces are used at strategic locations to be available to attack fast-spreading fires.

The volume and scope of emergency forest firefighting varies annually according to severity of burning conditions and the extent of the forest fire protection program. This program and the forest fire protection program are directly related. The cost of fire protection on the National Forests and Grasslands is the sum of the two programs.

Calendar Year 1975 Fire Season

Spring burning conditions were below normal throughout the West. However, drier than normal conditions in Minnesota in May enabled the Little Sand Lake fire to spread to 1,185 acres.

By mid-June, the Southwest began to dry out and the Willow fire on the Apache-Sitgreaves National Forest in New Mexico burned 2,200 acres. The heavy summer rains did not accompany the thunderstorms in this area this year and the fire conditions continued to increase throughout the summer, eventually resulting in the 13,700 acre Bob fire on the Tonto National Forest in New Mexico.

California experienced a normal summer fire season, and had seven fires over 1,000 acres. The two largest during the summer were the 4,490 acre Lake Hemet fire on the San Bernardino National Forest and the 12,590 acre Flat fire on the Sequoia National Forest.

The Rocky Mountains had a late Indian summer with accompanying warm dry conditions, resulting in the 1,900 acre Meadowlark Lake fire on the Big Horn National Forest and the 4,483 acre Red Dirt fire on the White River National Forest in Colorado. The Red Dirt fire was the largest fire on record on National Forest land within the State of Colorado.

The Pacific Northwest did not have large fires this year because the fuels were periodically dampened by occasional rains. No large fires occurred in this area or Alaska.

The Southeast experienced a near normal fire season. Increased prevention efforts through additional manning held the number of man-caused fires at about the five-year average.

Through October 31, 1975, about 10,111 fires had burned 118,437 acres. This is a 22 percent reduction in the number of fires and a 44 percent decrease in the acres burned based on the past five-year averages. Of the total fires, 5,202 were man-caused, a 9 percent reduction from the five-year average of 5,729.

However, in November, the hot and dry Santa Ana winds blew in off the Great Basin Desert and drove two large fires through the brush fields of California into residential areas along the foothills of the Angeles National Forest. The Mill fire burned 46,000 acres and destroyed 42 homes and other structures. The Village fire burned 23,000 acres and one structure—the house which caught fire and ignited the holocaust. Control of the blazes was finally obtained by the coordinated efforts of 3,000 firefighters and 23 retardant aircraft including 4 Modular Airborne Fire Fighting System (MAFFS) units working along preconstructed fuelbreaks.

GEOGRAPHIC BREAKDOWN OF PROGRAM LEVEL—Fiscal Year 1975

Alabama	$96,951
Alaska	91,312
Arizona	10,066,131
Arkansas	332,329
California	32,676,534
Colorado	1,023,449
Florida	327,355
Georgia	218,450
Idaho	9,493,750
Illinois	60,215
Indiana	28,608
Kentucky	193,774
Louisiana	89,705
Michigan	208,717
Minnesota	632,390
Mississippi	248,009
Missouri	284,297
Montana	4,596,794
Nebraska	53,993
Nevada	767,171
New Hampshire	3,095
New Mexico	5,973,729
North Carolina	504,083
North Dakota	19,589
Ohio	28,608
Oklahoma	49,728
Oregon	16,952,310
Pennsylvania	6,808
South Carolina	129,827
South Dakota	392,129
Tennessee	279,978
Texas	35,187
Utah	2,008,111
Vermont	14,330
Virginia	510,346
Washington	8,180,352
West Virginia	27,953
Wisconsin	91,993
Wyoming	1,124,071
Undistributed	16,452,839
Total	114,275,000

The amounts for 1976, transition quarter, and 1977 have not been distributed by States. Locations of emergency firefighting funds cannot be forecast with any degree of accuracy.

Project (10)

FOREST INSECT AND DISEASE MANAGEMENT
(All operation and maintenance)

		1/ Permanent full-time positions
1975	$16,462,000	295
1976	19,644,000	242
Transition quarter	(3,078,000)	
1977	15,012,000	213
Change from 1976	-4,632,000	-29

A net decrease of $4,632,000 and 29 permanent full-time positions are proposed as follows:

(1) An increase of $343,000 to provide for the costs of the pay increase effective in October 1975 (Executive Order 11883).

(2) A decrease of $4,975,000 in the contingency fund is proposed, leaving $5,025,000 in reserve. Prior to fiscal year 1976 there was $1,910,000 in the contingency fund. These funds are used to provide adequate financing on a timely basis for emergency insect and disease suppression projects. The appropriation is available until expended, and funds not required during fiscal year 1976 will be available in subsequent years. The Department is reviewing the present levels of Federal participation with the States in financing suppression projects. This review may affect the size of the contingency fund needed to meet high priority suppression needs.

The forest pest control program involves protection of the forest from depredation by insects and diseases on lands of all ownerships. Activities include:

(1) The prevention, detection, evaluation, and suppression of insects and diseases on all Federal forest lands.

(2) Federal financial assistance to States for a similar program on State and private lands.

(3) Coordination of the insect and disease program on forest lands of all ownerships.

Forest pests seriously reduce the potential timber resource through direct killing of trees and growth loss on living trees. Much of the killed volume is dispersed throughout the entire forest and becomes unusable before it can be harvested. Intensive management of the timber resources is geared to using the optimum portion of the productive capacity of the forest land. Achievement of optimum timber production is dependent on a strong program for prevention, detection, evaluation, and suppression of all insect and disease pests.

The program for fiscal year 1977 will continue the strong effort to hold losses caused by bark beetles to tolerable levels. It is not possible to predict this far in advance the exact locale or scope of control operations, but present beetle activity indicates a need for:

(1) Mountain pine beetle control projects in Colorado, Idaho, Montana, Oregon, South Dakota, Wyoming, and Washington.

(2) Douglas-fir beetle, fir engraver, and western pine beetle control projects in California, Oregon, and Washington.

1/ Excludes following positions in other agencies that receive funds from the Forest Service: 1975, 15; 1976, 15; 1977, 15.

(3) Spruce beetle control projects in Alaska, Arizona, Colorado, New Mexico, Oregon, and Washington.

(4) Southern pine beetle control projects in Alabama, Arkansas, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, and Virginia.

Defoliating insects--particularly the gypsy moth and spruce budworm--will be suppressed where resource values are seriously threatened by them and benefit/cost ratios are favorable. Firm data are not available as yet, but it is expected that projects will be required to suppress:

(1) Spruce budworm and western spruce budworm in Maine, Minnesota, Montana, Oregon, and Washington.

(2) Gypsy moth in New Jersey, New York, Pennsylvania, and Rhode Island.

(3) Jack pine budworm in Michigan and Wisconsin.

(4) Sawflies in Michigan, Minnesota, and Wisconsin.

(5) Cankerworms and leaf tiers in New Jersey, New York, Pennsylvania, and Virginia.

Every effort is being made to strengthen procedures for making detection surveys and biological evaluations. The future goal is to cut detection time in half and to obtain more precise figures concerning the status of specific insects and diseases. By decreasing the time during which pests go undetected and better predicting the course they might follow, suppression costs can be lowered and destructive losses to the Nation's timber supply reduced.

Data have been critically needed to determine the forest resource impact caused by insects and diseases for purposes of making meaningful control decisions. During 1975 a Methods Application Group was established to provide the necessary expertise and assistance to field units for collecting this data. Impact data targeted for collection will be biological, environmental, and economic in nature. There will be four major thrusts in this urgent activity:

(1) Compile and sort existing information and store for retrieval and analysis.

(2) Develop and improve existing insect and disease detection and biological surveys, using rigorous statistical techniques of gathering, screening, storing, and analyzing data.

(3) Redesign existing detection, biological, economic, and environmental survey procedures to gather resource impact data.

(4) Initiate special evaluations to gather impact data on soil, vegetative, and stand structure changes; tree mortality and growth loss; recreation; fire hazard; and watershed.

Complete forest resource impact data on which sound suppression decisions can be based are the best means of determining when and where insect and disease control is necessary to meet forest management objectives. Although difficult to quantify, sound, dependable impact data will improve overall efficiency of insect and disease management strategies and should lead to reduced costs on a unit basis over the long-run.

Costs have greatly increased since the implementation of the National Environmental Policy Act of 1969. Not only have additional monies been required to prepare and review environmental statements, but restrictions on pesticides have seriously affected the capability to deal with major outbreaks of forest insects and diseases.

Several pesticide registrations have been cancelled leaving no effective method for reducing destructive losses occurring to the Nation's timber supply. When less persistent chemicals have been available as substitutes, a larger effort has been required to monitor outbreaks for proper timing of application. Much of the effort is devoted to screening and testing of alternate chemicals and other means of managing pest populations.

An evaluation of current policies and control strategies in dwarf mistletoe suppression projects continues. An analysis of the current input from all Forest Service regions indicates the need for more standardized control criteria. These criteria will be drafted in calendar year 1976. Funding will be discontinued until an acceptable control strategy has been developed.

An evaluation of the current oak wilt program indicated only partial success through the control effort. Funding of this project will be discontinued until more effective control methodology can be developed.

White pine blister rust control will be continued primarily as part of the Department of the Interior's program. Some small projects on State and private lands will be undertaken by the Forest Service. Careful evaluation of rust conditions and hazard has reduced the area requiring control materially in recent years.

Insect and disease outbreaks fluctuate greatly. Hence, the cost of containing and suppressing outbreaks cannot be accurately predicted. Using past experience as a guide, along with the knowledge of developing situations, Federal funds (all operation and maintenance) needed for fiscal year 1977, as compared with previous periods, are as follows:

	1975	1976	Transition quarter	1977	Change from 1976
			(in thousands)		
Technical assistance, training impact, detection and evaluation	$7,713	$8,164	$2,144	$8,867	+$703
Methods improvement	226	145	37	145	- -
Bark beetle control	3,154	663	897	300	-363
Defoliator control	4,845	342	- -	345	+3
Other insect control	134	130	- -	130	- -
Blister rust control	264	150	- -	150	- -
Oak wilt control	52	- - 1/	- -	- -	- -
Dwarf mistletoe control	24	- - 1/	- -	- -	- -
Other disease control	50	50	- -	50	- -
Contingency	- -	10,000	- -	5,025	-4,975
Total	16,462	19,644	3,078	15,012	-4,632

1/ These funds have been transferred to technical assistance, training impact, detection and evaluation to further emphasize field programs.

Insect and disease control scientists serve to protect the environment by carefully evaluating and weighing the adverse effects of unchecked insect and disease outbreaks against the benefits which might result from prescribed suppression treatments. As part of their overall responsibilities, forest insect and disease management personnel attempt to keep all environmental impacts, both beneficial and adverse, in proper perspective and recommend only those courses of action that will provide the greatest benefits to the American people.

Examples of Recent Accomplishments

Cooperation with States. In fiscal year 1975, 41 States participated in the Cooperative Forest Pest Action Program. It is expected that 2 to 3 additional States will join the program in fiscal year 1976. Fiscal year 1975 suppression project cost-sharing with the States led to approximately 7.3 million Federal dollars moving directly and 3.2 million Federal dollars moving indirectly into the cooperative State forest insect and disease management programs.

Bark beetles. Suppression of various bark beetle outbreaks involved treatment of numerous individual spot infestations in the South and West. The massive Southern pine beetle epidemic now underway is being vigorously attacked on many fronts. Although direct chemical treatment was necessary in some places, greater advantage was taken to utilize the removal of infested trees through commercial sale as a means of removing beetle infested trees from the woods before the insects were able to emerge and kill additional trees. Last year approximately 273.5 million board feet and 64.4 thousand cubic feet of beetle infested timber was salvaged from forests in the South.

Spruce budworm and Western spruce budworm. Some 5.3 million acres of spruce-fir type in Maine were infested by spruce budworm in 1975. Zectran, fenitrothion, and Sevin-4-oil were used in a cooperative suppression effort with the State of Maine to treat some 2.2 million acres where high damage was imminent, if the infestation was allowed to go unchecked. Foliage protection was achieved in the treatment area, but unfortunately an additional 1.3 million acres requiring suppression could not be treated, because of a shortage in registered pesticides.

The current outlook is that spruce budworm and Western spruce budworm outbreaks are extremely high, nationwide. In Eastern North America, some 124 million acres are still infested, 7 million acres of which are located in Maine. Outbreaks are underway in the Western United States on approximately 5 million acres. A four million acre suppression project is being considered in Maine during fiscal year 1976. A suppression operation is also being planned for destructive Western spruce budworm populations occurring on approximately 300,000 acres in Washington.

Cooperative gypsy moth suppression. Some 48,579 acres were cooperatively treated in New Jersey, New York, Pennsylvania, and Rhode Island. Treatments were successful in protecting the current year's foliage. Significance of any long-term benefits must await further evaluation. No new defoliation was reported in Delaware, Maryland, Virginia, or West Virginia. Outbreaks in the Northeast States continued to decline in 1975. A total of 464,451 acres were defoliated to some degree in 1975 compared to 1,773,846 acres in 1973.

Air pollution. The impact of air pollutants on forest resources continues to increase in importance annually. Current impact studies show that substantial mortality and growth loss has occurred to forest vegetation. In addition, injury to wildlife populations has resulted in areas subject to fluoride emissions. Pollutants identified as damaging agents to all forest resources include fluorides, sulfur dioxide, and ozone. Studies are continuing to better define the total of pollutants on all forest resources.

Progeny testing for fusiform rust resistance. The progeny testing program for determining the susceptibility of slash and loblolly pine seed lots to fusiform rust is fully operational now. Approximately 800 seed lots have been screened against several isolates of the rust fungus from various geographic locations in the South. Nursery producers' interest in the program continues to grow as evidence indicates the losses from this disease will be drastically reduced. It is anticipated that within 2-3 years the present facility will be capable of testing 1,500 seed lots annually. Additional procedures are currently being developed for brown spot needle blight on longleaf pine, white pine blister rust, and other disease problems.

Project (10)

GEOGRAPHIC BREAKDOWN OF PROGRAM LEVEL--in thousands

	1975	1976 estimate	Transition quarter estimate	1977 estimate	Change from 1976
Alabama	$557	$388	$70	$350	-$38
Alaska	176	209	50	218	+9
Arizona	280	242	63	150	-92
Arkansas	194	152	41	58	-94
California	980	1,041	249	1,041	- -
Colorado	830	583	200	480	-103
Connecticut	1	21	6	48	+27
Delaware	1	6	2	10	+4
District of Columbia	350	387	100	400	+13
Florida	144	150	71	52	-98
Georgia	275	475	50	400	-75
Hawaii	15	15	7	15	- -
Idaho	757	741	200	541	-200
Illinois	11	8	2	8	- -
Indiana	19	50	11	8	-42
Iowa	9	32	7	7	-25
Kansas	8	6	2	6	- -
Kentucky	139	141	34	50	-91
Louisiana	187	210	50	210	- -
Maine	4,475	650	56	150	-500
Maryland	10	41	10	50	+9
Massachusetts	2	21	6	27	+6
Michigan	63	165	33	120	-45
Minnesota	118	186	42	120	-66
Mississippi	238	158	50	150	-8
Missouri	56	103	33	90	-13
Montana	791	821	152	650	-171
Nebraska	11	8	2	8	- -
Nevada	15	31	10	40	+9
New Hampshire	29	104	33	105	+1
New Jersey	125	219	53	190	-29
New Mexico	96	279	83	318	+39
New York	130	174	40	110	-64
North Carolina	350	324	98	250	-74
Ohio	23	64	20	67	+3
Oklahoma	109	120	30	10	-110
Oregon	866	601	152	601	- -
Pennsylvania	257	328	105	110	-218
Rhode Island	-28	136	10	40	-96
South Carolina	217	147	91	147	- -
South Dakota	664	450	100	183	-267
Tennessee	175	207	52	150	-57
Texas	531	250	75	250	- -
Utah	70	142	21	90	-52
Vermont	36	78	30	85	+7
Virginia	647	978	289	980	+2
Washington	465	538	69	284	-254
West Virginia	170	191	50	200	+9
Wisconsin	102	210	43	150	-60
Wyoming	176	202	25	210	+8
Total program level	15,922	12,783	3,078	9,987	-2,796
Contingency	- -	10,000	- -	5,025	-4,975
Unobligated balance brought forward	-2,599	-3,139	- -	- -	+3,139
Unobligated balance carried forward	3,139	- -	- -	- -	- -
Total appropriation	16,462	19,644	3,078	15,012	-4,632

Project (11)

COOPERATIVE LAW ENFORCEMENT

		Permanent full-time positions
1975	$1,632,000	47
1976	3,931,000	51
Transition quarter	(1,060,000)	
1977	5,306,000	56
Change from 1976	+1,375,000	+5

An increase of $1,375,000 is proposed as follows:

(1) To provide increased assistance to State and local law enforcement agencies in the enforcement of State and local laws on National Forest System lands, $1,314,000.

(2) To provide for the costs of the pay increase effective in October 1975 (Executive Order 11883), $61,000.

An increase of 5 permanent full-time positions is proposed.

Fiscal year 1977 funds, compared with other periods, follow:

	FY 1975	FY 1976 estimate	Transition quarter estimate	FY 1977 estimate	Change from 1976
Program level	$3,608	$4,750	$1,060	$5,306	+$556
Unobligated balance brought forward	-2,795	-819	- -	- -	+819
Unobligated balance carried forward	819	- -	- -	- -	- -
Appropriation (budget authority)	1,632	3,931	1,060	5,306	+1,375

The President, in his special crime message to the Congress on June 19, 1975, emphasized that the responsibility in combating crime lies with State and local officials, and that the Federal Government can, and should, provide assistance to these State and local officials in their efforts. Forest Service law enforcement policy places primary emphasis on cooperative relationships, under PL 92-82, with State and local law enforcement agencies.

Public Law 92-82 (August 10, 1971) authorized the Secretary of Agriculture to cooperate with any State or political subdivision thereof in the enforcement of State or local laws on lands of the National Forest System. Such cooperation includes reimbursement to a State or its subdivision for expenditures incurred in connection with activities on National Forest System lands.

State and local laws and ordinances are applicable on National Forest System lands with few exceptions. The Forest Service must look to State and local law enforcement officials to enforce these laws and ordinances on the National Forests. State and local law enforcement agencies will continue to perform, on a nonreimbursable basis, their normal law enforcement duties without cost to the Federal Government. This program provides for the negotiation of law enforcement agreements between the local law enforcement agencies and the Forest Service to handle abnormal impacts caused by public use of the National Forest.

The increase requested will be utilized to increase Forest Service participation under existing agreements and to increase the number of agreements.

Project (11)

During fiscal year 1976 there are approximately 420 agreements in operation. It is expected that this number will increase to 465 in fiscal year 1977. 741 counties in 43 States are eligible to participate in this program.

GEOGRAPHIC BREAKDOWN OF PROGRAM LEVEL

	FY 1975	FY 1976 estimate	Transition quarter estimate	FY 1977 estimate	Change from 1976
			(in thousands)		
Alabama	$32,015	$26,000	$3,709	$40,000	+$14,000
Alaska	46,816	197,000	29,800	175,000	-22,000
Arizona	278,978	259,000	68,158	315,000	+56,000
Arkansas	49,747	64,000	8,737	100,000	+36,000
California	699,893	862,141	222,043	837,000	-25,141
Colorado	29,136	66,000	23,948	71,000	+5,000
District of Columbia	53,579	45,000	9,000	192,000	+147,000
Florida	65,475	66,000	9,067	104,000	+38,000
Georgia	26,278	37,000	4,999	55,000	+18,000
Idaho	221,726	324,000	56,590	308,000	-16,000
Illinois	27,869	32,000	6,392	40,000	+8,000
Indiana	13,860	18,000	2,876	25,000	+7,000
Kentucky	45,190	25,000	3,423	40,000	+15,000
Louisiana	26,946	23,000	3,174	35,000	+12,000
Maine	4,304	10,000	1,199	15,000	+5,000
Michigan	57,727	65,000	24,110	85,000	+20,000
Minnesota	53,155	62,000	28,986	80,000	+18,000
Mississippi	21,487	33,000	4,479	50,000	+17,000
Missouri	77,596	78,000	18,774	90,000	+12,000
Montana	242,629	309,000	38,400	310,000	+1,000
Nebraska	163	- -	130	- -	- -
Nevada	41,284	75,000	12,669	70,000	-5,000
New Hampshire	61,904	55,000	6,794	70,000	+15,000
New Mexico	178,265	234,000	61,342	283,000	+49,000
New York	2,661	5,000	1,146	6,000	+1,000
North Carolina	28,611	63,000	8,686	95,000	+32,000
Ohio	16,941	22,000	3,516	30,000	+8,000
Oklahoma	1,855	4,000	579	5,000	+1,000
Oregon	319,072	448,000	113,045	425,000	-23,000
Pennsylvania	40,834	42,000	13,318	55,000	+13,000
Puerto Rico	16,489	23,000	3,167	35,000	+12,000
South Carolina	11,573	23,000	3,174	35,000	+12,000
South Dakota	27,860	63,000	22,910	70,000	+7,000
Tennessee	19,167	50,000	6,993	75,000	+25,000
Texas	22,345	23,000	3,174	35,000	+12,000
Utah	258,802	341,000	66,095	315,000	-26,000
Vermont	47,841	45,000	10,310	60,000	+15,000
Virginia	37,064	65,000	8,957	100,000	+35,000
Washington	305,871	428,000	108,101	405,000	-23,000
West Virginia	16,970	30,000	5,774	40,000	+10,000
Wisconsin	21,044	37,000	11,587	50,000	+13,000
Wyoming	56,520	73,000	20,669	80,000	+7,000
Total	3,607,542	4,750,141	1,060,000	5,306,000	+555,859

FOREST PROTECTION AND UTILIZATION

Proposed Changes in Language

Changes in language are proposed as follows. New language is underscored and deleted matter is enclosed in brackets.

For necessary expenses of the Forest Service ..... fighting and preventing
1 forest fires on or threatening such lands and [emergency rehabilitation and]
for liquidation of obligations incurred in the preceding fiscal year for
2 such purposes, control of [white pine blister rust and other] forest diseases
1 ..... of which $4,275,000 for fighting and preventing forest fires [and for
the emergency rehabilitation of burned-over lands under its jurisdiction]
and apportioned for use ..... Provided further, That funds appropriated for
3 the cooperative law enforcement program, $_____, and insect and
3 disease control, $_____, shall remain available until expended.

Change 1 eliminates the advance authorization for emergency fire rehabilitation work. We are developing cost/benefits and criteria for emergency rehabilitation efforts and propose to eliminate this language pending the completion of the work.

Change 2 eliminates superfluous words.

Change 3 adds dollar amounts for cooperative law and insect and disease control. This addition will resolve any questions Treasury or anyone else may have as to the portion of the appropriation that should be a continuing fund.

FOREST PROTECTION AND UTILIZATION
FOREST LAND MANAGEMENT

Proposed Change in Activity Structure

Present Structure	Proposed Structure
National forest protection and management	National forest protection and management
(6) Minerals management	(6) Minerals area management
(10) Forest insect and disease control	(10) Forest insect and disease management

Minor changes are proposed for more descriptive and appropriate titles.

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
FOREST PROTECTION AND UTILIZATION
Forest Land Management

A-11-34b

Type size:
10 M6/52

STANDARD FORM 304-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised
304-101T

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 05-96-1100-0-1-302		19 75 actual	19 76 estimate	19 TQ estimate	19 77 estimate
FOREST SERVICE--Direct Obligations:					
	Personnel compensation:				
11.1	Permanent positions	134,669	144,090	47,760	147,836
11.3	Positions other than permanent	71,148	51,100	19,508	52,767
11.5	Other personnel compensation	26,026	4,282	2,158	4,210
11.8	Special personal services payments	4,035	200	175	200
	Total personnel compensation	235,878	199,672	69,601	205,013
	Personnel benefits:				
12.1	Civilian	26,275	26,005	7,208	26,659
13.0	Benefits for former personnel	34	18	10	.....
21.0	Travel and transportation of persons	14,990	14,610	3,855	12,270
22.0	Transportation of things	15,297	15,150	4,890	13,035
23.0	Rent, communications, and utilities	24,984	11,585	4,145	20,280
24.0	Printing and reproduction	2,341	2,255	385	1,780
25.0	Other services	71,781	67,286	19,399	70,803
26.0	Supplies and materials	25,990	20,560	5,155	21,740
31.0	Equipment	7,948	6,845	810	6,110
32.0	Lands and structures	4,088	4,150	720	3,505
33.0	Investments and loans				
41.0	Grants, subsidies, and contributions	2,232	2,985	1,097	8,760
42.0	Insurance claims and indemnities	134	5	5	5
43.0	Interest and dividends				
44.0	Refunds	1	.....	.....	.....
	Subtotal, direct obligations	431,973	371,126	117,280	389,960
51.0	Quarters and subsistence charges	-1,753	-1,840	-630	-1,855
99.0	Total direct obligations	430,220	369,286	116,650	388,105
		(Mono cost: 22.18)	(Mono cost: 5.9)	(Mono cost: 5.9)	70 (Mono cost: 5)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE

A-11-34b

Type size:
17n 8&/72

STANDARD FORM 304-T FOREST PROTECTION AND UTILIZATION
June 1975, Office of Management and Budget
Circular No. A-11, Revised.
304-103T

Forest Land Management

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 05-96-1100-0-1-302		19 75 actual	19 76 estimate	19 TQ estimate	19 77 estimate
	FOREST SERVICE--Reimbursable obligations:				
	Personnel compensation:				
11.1	Permanent positions	1,432	1,605	625	1,615
11.3	Positions other than permanent	668	895	376	905
11.5	Other personnel compensation	621	516	424	516
11.8	Special personal services payments	443	360	215	360
	Total personnel compensation	3,164	3,376	1,640	3,396
	Personnel benefits:				
12.1	Civilian	217	255	107	255
13.0	~~Benefits for former personnel~~				
21.0	Travel and transportation of persons	228	255	97	255
22.0	Transportation of things	155	128	64	128
23.0	Rent, communications, and utilities	247	305	55	305
24.0	Printing and reproduction	24	250	25	250
25.0	Other services	3,247	3,396	1,361	3,376
26.0	Supplies and materials	1,235	1,305	590	1,305
31.0	Equipment	156	38	10	38
32.0	Lands and structures	1	1	.....	1
33.0	~~Investments and loans~~				
41.0	~~Grants, subsidies, and contributions~~				
42.0	Insurance claims and indemnities	1	.....	.....	.....
43.0	~~Interest and dividends~~				
44.0	Refunds	1	1	1	1
	Subtotal, reimbursable obligations	8,676	9,310	3,950	9,310
95.0	Quarters and subsistence charges	-6	-10	.....	-10
99.0	Total reimbursable obligations	8,670	9,300	3,950	9,300
	Total obligations, Forest Service	438,890 (Mono cost: 22.18)	378,586 (Mono cost: 5.9)	120,600 (Mono cost: 5.9)	397,405 (Mono cost: 5)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
FOREST PROTECTION AND UTILIZATION
Forest Land Management

A-11-34b

Type size:
17th Ed/10

STANDARD FORM 304-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.
304-103T

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 05-96-1100-0-1-302	19 75 actual	19 76 estimate	TQ estimate	19 77 estimate
ALLOCATION ACCOUNTS				
Personnel compensation:				
11.1 Permanent positions	303	347	95	365
11.3 Positions other than permanent	352	360	87	362
~~11.5 Other personnel compensation~~				
11.8 Special personal services payments	6	1	.....	.....
Total personnel compensation	661	708	182	727
Personnel benefits:				
12.1 Civilian	57	59	16	62
~~13.0 Benefits for former personnel~~				
21.0 Travel and transportation of persons	152	140	37	150
22.0 Transportation of things	39	40	12	40
23.0 Rent, communications, and utilities	4	5	1	4
~~24.0 Printing and reproduction~~				
25.0 Other services	209	184	74	153
26.0 Supplies and materials	53	50	15	50
31.0 Equipment	46	30	13	30
~~32.0 Lands and structures~~				
~~33.0 Investments and loans~~				
~~41.0 Grants, subsidies, and contributions~~				
Total obligations, Allocation Accounts	1,221	1,216	350	1,216
99.0 Total obligations	440,111	379,802	120,950	398,621
Obligations are distributed as follows:				
Department of Agriculture:				
Forest Service	438,890	378,586	120,600	397,405
Department of the Interior	1,221	1,216	350	1,216
(Memo entr: 22.18)	(Memo entr: 5.9)	(Memo entr: 5.9)	(Memo entr: 5.9)	(Memo entr: 5)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
FOREST PROTECTION AND UTILIZATION
Forest Land Management
Personnel Summary

A-11-34b

STANDARD FORM 300-T
June 1973, Office of Management and Budget
Circular No. A-11, Revised.

Identification code 05-96-1100-0-1-302	FY 75 actual	FY 76 estimate	Transition Quarter estimate	FY 77 estimate
FOREST SERVICE				
Direct:				
Total number of permanent positions	10,452	10,543		10,689
Full-time equivalent of other positions	8,705	5,832		5,892
Average paid employment	17,537	14,931		15,105
Average GS grade	8.63	8.64		8.64
Average GS salary	$15,149	$15,947		$15,947
Average salary of ungraded positions	$12,261	$13,008		$13,008
Reimbursable:				
Total number of permanent positions	94	101		101
Full-time equivalent of other positions	78	103		103
Average paid employment	159	193		193
Average GS grade	8.63	8.64		8.64
Average GS salary	$15,149	$15,947		$15,947
Average salary of ungraded positions	$12,261	$13,008		$13,008
ALLOCATION ACCOUNTS				
Total number of permanent positions	29	29		29
Full-time equivalent of other positions	41	41		41
Average paid employment	67	67		67
Average GS grade	8.99	9.00		9.00
Average GS salary	$15,043	$15,059		$15,059
Average salary of ungraded positions	$4,867	$4,867		$4,867
(Memo cost: 72.18)	(Memo cost: 3.9)	(Memo cost: 3.9)	(Memo cost: 3.9)	(Memo cost: 3)

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FOREST PROTECTION AND UTILIZATION
FOREST RESEARCH

		Permanent full-time positions
Appropriation, 1975	$77,612,000	2,654
Appropriation, 1976	80,355,000	2,739
Appropriation, transition quarter	(21,737,000)	
Estimate, 1977	84,691,000	2,750
Change from 1976	+4,336,000	+11

SUMMARY OF INCREASES AND DECREASES
(On basis of adjusted appropriation--dollars in thousands)

	Increase or Decrease (-)				Total Permanent Full-time Positions
	Pay Costs	Program	Permanent Full-time Positions	Total 1977 Estimate	
Renewable resources evaluation--Increase of $1,445,000 will be used to strengthen renewable resource evaluation, particularly in non-timber alternatives, to improve data base and assessment for 1979	$249	$1,445	11	$7,153	198
Trees and timber management research	547	- -	- -	15,252	637
Forest watershed management research	280	- -	- -	7,802	292
Wildlife, range, and fish habitat research	207	- -	- -	5,770	176
Forest recreation research	54	- -	- -	1,518	39
Surface environment and mining	94	- -	- -	2,628	17
Fire and atmospheric sciences research	251	- -	- -	8,456	235
Forest insects and disease research	569	- -	- -	19,142	520
Forest products utilization research	440	- -	- -	11,395	439
Forest engineering research	61	- -	- -	1,581	56
Forest economics and marketing research	139	- -	- -	3,994	141
Total, Forest Research	2,891	1,445	11	84,691	2,750

FOREST PROTECTION AND UTILIZATION
FOREST RESEARCH

PROJECT STATEMENT
(On obligation basis)

Project	1975	1976 estimate	Transition quarter estimate	1977 estimate	Change from 1976
FOREST RESEARCH:					
Forest and range management research:					
(12) Trees and timber management research	$15,043,242	$14,705,000	$4,214,000	$15,252,000	+$547,000
(13) Forest watershed management research	8,655,516	7,522,000	2,630,000	7,802,000	+280,000
(14) Wildlife, range, and fish habitat research	4,935,971	5,563,000	899,000	5,770,000	+207,000
(15) Forest recreation research	1,468,852	1,464,000	516,000	1,518,000	+54,000
(16) Surface environment and mining	2,205,297	2,534,000	1,726,000	2,628,000	+94,000
Subtotal, Forest and range management research	32,308,878	31,788,000	9,985,000	32,970,000	+1,182,000
Forest protection research:					
(17) Fire and atmospheric sciences research	8,051,619	8,205,000	1,648,000	8,456,000	+251,000
(18) Forest insects and disease research	17,320,461	18,573,000	4,234,000	19,142,000	+569,000
Subtotal, Forest protection research	25,372,080	26,778,000	5,882,000	27,598,000	+820,000
Forest products and engineering research:					
(19) Forest products utilization research	9,892,092	10,955,000	2,812,000	11,395,000	+440,000
(20) Forest engineering research	1,630,024	1,520,000	349,000	1,581,000	+61,000
Subtotal, Forest products and engineering research	11,522,116	12,475,000	3,161,000	12,976,000	+501,000
Forest resource economics research:					
(21) Renewable resources evaluation	4,128,453	5,459,000	1,706,000	7,153,000	+1,694,000
(22) Forest economics and marketing research	3,881,548	3,855,000	1,003,000	3,994,000	+139,000
Subtotal, Forest resource economics research	8,010,001	9,314,000	2,709,000	11,147,000	+1,833,000
Total obligations or estimate	77,213,075	80,355,000	21,737,000	84,691,000	+4,336,000
Unobligated balance lapsing	398,925	- -	- -	- -	- -
Appropriation or estimate	77,612,000	80,355,000	21,737,000	84,691,000	+4,336,000

Projects (12) - (22)

GEOGRAPHIC BREAKDOWN OF APPROPRIATION

Forest Research

State	Headquarters or Project Location	FY 1976 estimate	Transition quarter estimate	FY 1977 estimate	Increase over 1976
			(in thousands)		
Alabama	Auburn	$301	$82	$313	+$12
Alaska	Fairbanks	635	172	652	+17
	Juneau	957	259	1,045	+88
Arizona	Flagstaff	816	220	849	+33
	Tempe	1,037	281	1,077	+40
	Tucson	292	79	304	+12
Arkansas	Fayetteville	235	64	245	+10
California	Arcata	270	73	281	+11
	Berkeley	3,288	890	3,434	+146
	Fresno	455	123	475	+20
	Redding	220	60	230	+10
	Riverside	2,814	762	2,901	+87
Colorado	Fort Collins	2,998	812	3,214	+216
Connecticut	Hamden	950	257	995	+45
District of Columbia	Washington	759	206	762	+3
Florida	Gainesville	351	95	353	+2
	Lehigh Acres	149	40	156	+7
	Marianna	244	66	254	+10
	Olustee	741	200	772	+31
Georgia	Athens	1,906	516	1,996	+90
	Macon	1,398	379	1,444	+46
Hawaii	Honolulu	848	230	875	+27
Idaho	Boise	447	121	464	+17
	Moscow	1,152	312	1,203	+51
Illinois	Carbondale	871	236	909	+38
Kentucky	Berea	893	242	930	+37
Louisiana	Pineville	3,485	944	3,592	+107
	New Orleans	1,142	309	1,440	+298
Maine	Orono	687	186	705	+18
Maryland	Beltsville	265	72	277	+12
	Hyattsville	1,200	325	1,200	- -
Massachusetts	Amherst	336	91	350	+14
Michigan	East Lansing	821	222	850	+29
	Houghton	432	117	450	+18
	Marquette	288	78	301	+13

Projects (12) - (22)

GEOGRAPHIC BREAKDOWN OF APPROPRIATION

Forest Research -- continued

State	Headquarters or Project Location	FY 1976 estimate	Trantition quarter estimate	FY 1977 estimate	Increase over 1976
			(in thousands)		
Minnesota	Duluth	$336	$91	$349	+$13
	Grand Rapids	436	118	454	+18
	St. Paul	1,629	441	1,978	+349
Mississippi	Gulfport	1,679	454	1,758	+79
	Oxford	359	97	373	+14
	State College	400	108	416	+16
	Stoneville	863	234	903	+40
Missouri	Columbia	324	88	338	+14
Montana	Bozeman	322	87	335	+13
	Missoula	3,352	908	3,466	+114
	Billings	2,065	559	2,139	+74
Nebraska	Lincoln	247	67	259	+12
Nevada	Reno	126	34	131	+5
New Hampshire	Durham	1,153	312	1,194	+41
New Jersey	Pennington	339	92	352	+13
New Mexico	Albuquerque	199	54	207	+8
New York	Syracuse	116	31	121	+5
North Carolina	Asheville	1,005	272	1,303	+298
	Franklin	413	112	425	+12
	Research Triangle (Raleigh-Durham)	803	217	841	+38
North Dakota	Bottineau	267	72	280	+13
Ohio	Delaware (including Columbus)	1,828	495	1,913	+85
Oregon	Bend	378	102	394	+16
	Corvallis	2,678	725	2,801	+123
	LaGrande	779	211	798	+19
	Portland	3,176	860	3,445	+269
Pennsylvania	Upper Darby	762	206	938	+176
	Warren	457	124	477	+20
Puerto Rico	Rio Piedras	316	86	330	+14
South Carolina	Charleston	449	122	462	+13
	Clemson	323	87	337	+14
South Dakota	Rapid City	350	95	365	+15
Tennessee	Sewanee	236	64	246	+10
Texas	Nacogdoches	349	95	364	+15

GEOGRAPHIC BREAKDOWN OF APPROPRIATION

Forest Research -- continued

State	Headquarters or Project Location	FY 1976 estimate	Transition quarter estimate	FY 1977 estimate	Increase over 1976
			(In thousands)		
Utah	Logan	$530	$144	$551	+$21
	Ogden	677	183	790	+113
	Provo	601	163	623	+22
Vermont	Burlington	576	156	599	+23
Washington	Olympia	324	88	339	+15
	Seattle	577	156	600	+23
	Wenatchee	350	95	364	+14
West Virginia	Morgantown	386	105	402	+16
	Parsons	391	106	407	+16
	Princeton	1,308	354	1,355	+47
Wisconsin	LaCrosse	39	11	40	+1
	Madison	8,811	2,386	9,188	+377
	Rhinelander	1,026	278	1,071	+45
Wyoming	Laramie	259	70	269	+10
Total		78,052	21,136	82,388	+4,336
Allocations to other agencies:					
Agricultural Research Service		436	110	436	- -
Animal and Plant Health Inspection Service		683	171	683	- -
Cooperative State Research Service		1,184	320	1,184	- -
Totals		80,355	21,737	84,691	+4,336

Project (12)

TREES AND TIMBER MANAGEMENT RESEARCH
(All operation and maintenance)

		Permanent full-time positions
1975	$14,535,000	635
1976	14,705,000	637
Transition quarter	(4,214,000)	
1977	15,252,000	637
Change from 1976	+547,000	- -

An increase of $547,000 is proposed to provide for the costs of the pay increase effective in October 1975 (Executive Order 11883).

No change in permanent full-time positions is proposed.

Timber management research develops scientific knowledge of forest ecosystems with trees as a principal component and develops methods for culture of trees and management of forests for production of timber and for modification and improvement of man's environment. This includes:

(1) Development of cultural methods for timber and timber-related crops.

(2) Techniques of timber measurement.

(3) Techniques of forest management planning.

(4) Techniques for environmental tree culture.

(5) Research in forest genetics.

The core of this research is determining the proper culture for over a hundred different commercial timber species based on a thorough knowledge of their ecology and growth requirements. This research determines how the Nation's needs for timber and other forest benefits can be met on Federal, State, and private lands through measures such as brush control, forest establishment, protection from animals, stand culture, soil and site improvement, and reestablishment of tree species valuable for timber or environmental purposes.

Research is being accelerated on intensive culture of important timber types to help meet the Nation's growing needs for domestic forest products.

Timber management research also provides forest managers with reliable information on growth and yield of forests and on the influence of cultural practices on yield and quality of the stand.

This program includes research on methods of producing timber-related forest crops such as gum naval stores, maple sap, Christmas trees, and other income-producing natural products from forests.

Forest genetics research includes scientific study of variation and inheritance in trees and development of techniques for producing strains or hybrids which are superior in growth rate, wood quality, resistance to insects, diseases, and other damaging factors, or special value for use in environmental improvement.

Examples of Recent Accomplishments

Intensive culture more than doubles loblolly pine sawtimber production in southeastern Arkansas. To meet increasing demand in the South for lumber and veneer logs, production of short-rotation sawlogs is necessary. In southeastern

Arkansas, using experimental intensive culture methods such as heavy thinning, understory control, and pruning, loblolly pine sawtimber was produced in 27 years on good sites. At age 27, standing volume was 11.9 thousand board feet per acre in intensive treatments compared to 5.3 thousand board feet per acre in control stands.

Management of lodgepole pine ecosystems. Lodgepole pine is one of the most widely distributed trees in western North America; however, silvicultural knowledge about the species has not been readily available. An international symposium on lodgepole pine ecosystems resulted in a 2-volume compendium of over 1,100 references on lodgepole pine. This was followed by a detailed state-of-the-knowledge summary bulletin on silviculture and management of lodgepole pine in the central and southern Rocky Mountain region. Information is provided on recommended regeneration techniques, stocking guidelines, and thinning and cutting practices. These important publications provide land managers and researchers in the western United States with up-to-date information and readily available guidelines to better manage lodgepole pine ecosystems.

New management guides now available for ponderosa pine in the western United States. Ponderosa pine is one of the most important tree species in the western forest region. New state-of-knowledge bulletins summarize silvical characteristics, behavior, and recommended silvicultural practices for ponderosa pine in the Black Hills of South Dakota and in the southwestern States of Arizona, Colorado, New Mexico, and Utah. Modifications of conventional approaches to thinning, cutting systems, plus flexible standards for growing stock levels are also available for ponderosa pine stands of central Colorado. These bulletins will be valuable to professional foresters and resource managers in making multiple use management decisions and prescribing silvicultural prescriptions for improving ponderosa pine yields and related forest resources.

Computer program developed to improve management decisions in old-growth spruce-fir stands. Large areas of old-growth spruce-fir forests in the central Rocky Mountains are being converted to stands that must be managed from regeneration to harvesting. To assist in making management decisions in this region a new computer program was developed which produces yield tables for managed even-aged Engelmann spruce--subalpine fir stands based on combinations of site quality, frequency and intensity of thinning, regeneration system, rotation length, and utilization standards. With the new computer program, a manager can assess probable results of his proposed operations from a set of yield tables and make necessary changes in management goals before operations are carried out in actual forest stands.

Thinning guidelines available for Appalachian yellow-poplar. The majority of unthinned natural yellow-poplar stands in the southern Appalachians are overstocked for maximum board foot and diameter growth. Thus, knowing the response of yellow poplar to thinning is basic to achieving many objectives of forest management in this region. Equations which describe growth and yield in response to thinning were developed using data from 141 natural yellow-poplar stands in the Appalachian Mountains of Virginia, North Carolina, and Georgia. Maximum board foot and diameter growth were obtained at considerably lower densities than needed to produce maximum cubic-foot volume. These guidelines aid resource managers in making decisions on treatment of natural stands of yellow poplar.

Results of fertilization and thinning studies in Pacific Northwest Douglas-fir stands. In the Pacific Northwest where availability of old-growth Douglas-fir stands is rapidly declining, the responses of second-growth Douglas-fir to various silvicultural practices is critical to maintaining the timber supply. In a 30-year-old Site IV stand of Douglas-fir in southwest Oregon, fertilization increased 4-year basal area growth 57 percent over control growth. Thinning increased growth by 53 percent. When combined, the treatments increased growth 94 percent on a clay loam soil and 132 percent on a sandy loam soil. In similar tests with 75-year-old Douglas-fir in western Washington, nitrogen fertilization increased average 5-year basal area growth 17 to 53 percent over the controls. The increased

The growth from fertilized and thinned Douglas-fir stands provides high value wood which can help maintain an adequate supply of merchantable Douglas-fir in the Pacific Northwest.

New handbook on identification of tropical forest tree species. The numerous native and introduced tropical forest tree species of Puerto Rico and the Virgin Islands require special, detailed studies for their identification. A new illustrated reference contains descriptions and drawings of 460 species, briefly describes 40 other species, and provides keys to all 500 species. Common names, including those from other countries, are given and indexed. This reference is useful over large areas in tropical America as well as along the southern border of the continental United States.

Inventory of rare and endangered conifers completed. Thirty-five of the 96 species of conifers (cone-bearing evergreens) native to the continental United States are now considered to be rare and/or locally distributed. The locations of rare or endangered tree species have been mapped. This compilation provides essential information for the study, protection, and preservation of rare conifer species.

Management practices increase productivity of pine hardwood stands. There is an extensive area of depleted pine hardwood forests in the Cumberland Plateau of northern Alabama in need of rehabilitation. Nineteen years after improvement cuttings were made, stand volume increased 778 cubic feet per acre on an area where all merchantable low-value trees were removed in a commercial cut, and 1,498 cubic feet on an area where the commercial cut was supplemented by repeated removal of cull and undesirable trees larger than 2 inches diameter breast height. Unmanaged stands grew 237 cubic feet. These findings demonstrated that managing depleted pine hardwood stands will increase yields, income, and forest land values.

Better growth estimates available for longleaf pine. Little is known about growth rates of longleaf pine plantations under varying intensities of management. Research, in an east Texas plantation where site index averaged 83 feet at 50 years, has resulted in equations which predict growth rates of individual trees and stands. This information will enable landowners to select residual densities for longleaf pine plantations that best fit their management goals.

Thinnings from immature fine hardwood stands are usable. Under present utilization standards, many of the Nation's fine hardwoods, such as black walnut and yellow poplar, have little or no value if they are smaller than sawlog size, thus, resulting in considerable waste when immature stands of these species are thinned. In two studies in southern Illinois, small diameter black walnut and yellow poplar trees removed during thinning operations were successfully converted into furniture dimension material. Use of thinning residue to help supply the furniture manufacturers needs would increase the supply of all lumber grades and help conserve the rapidly dwindling supply of high-quality hardwoods.

New vegetative propagation techniques aid in tree improvement. Vegetative propagation greatly simplifies the task of mass producing genetically uniform planting material. A new vegetative propagation method developed in Mississippi allows tree improvement specialists to increase material with desirable traits. The method involves environmental and chemical treatments. The rooting success of cuttings from pines up to 13 years old ranged between 83 and 100 percent. In Georgia similar techniques have been found successful in rooting cuttings from selected trees representing ten genera of important Southern hardwoods. These treatments have wide application in tree improvement programs.

Project (13)

FOREST WATERSHED MANAGEMENT RESEARCH
(All operation and maintenance)

		Permanent full-time positions
1975	$8,527,000	296
1976	7,522,000	292
Transition quarter	(2,630,000)	
1977	7,802,000	292
Change from 1976	+280,000	- -

An increase of $280,000 is proposed to provide for the costs of the pay increase effective in October 1975 (Executive Order 11883).

No change in permanent full-time positions is proposed.

Watershed management research is conducted to:

(1) Develop methods and techniques for managing forest-related watersheds to protect and improve soil and water quality, improve the yield and timing of water flows, and restore and rehabilitate degraded landscapes.

(2) Develop adequate means of protecting soil and water resources, especially on fragile or unstable soils, while forest and forest-related lands are being managed for other products and services.

(3) Provide basic knowledge of vegetation, soil, water, and atmospheric relationships in wildland and related forest areas.

Examples of Recent Accomplishments

Trees for human comfort in urban areas. Urban microclimates are characterized by local extremes of temperature, solar and terrestrial radiation, and wind speed. Strategic location of tree stands in urban areas can ameliorate these severe conditions. Use of trees for control of air flow requires care because in the summer increased wind speed is desired, but in the winter, trees can greatly increase human comfort by reducing wind speed. City planners and urban foresters can use information from Forest Service studies in New Jersey to provide a more desirable microclimate in cities.

Refuse banks from underground bituminous mines can be reclaimed. Chemical characteristics of the refuse appear to be responsible for limiting plant growth. Greenhouse studies show that lime and fertilizer ameliorate the conditions enough to allow germination and growth of grasses on over half the spoil samples. Lime, fertilizer and hardwood bark mulch were essential on most of the areas to establish herbaceous cover. Tree survival did not appear to be greatly influenced by the amendments. A vegetative cover on these spoils enhances their esthetic qualities and reduces dust and water pollution.

Fly ash from power plants can be used for surface mine reclamation. Surface mine spoils are frequently difficult to revegetate because of nutrient deficiencies, unfavorable moisture regimes, acidity, and excessive salts or toxic substances. Fly ash from power plants can be used for reclamation of surface mine spoils and provide an attractive outlet for large tonnages of this waste material. A Forest Service study in West Virginia shows that a fly ash treatment neutralized acidity, added plant-available phosphorous, lowered spoil density, and increased subsurface moisture.

Sewage effluents and sludges from municipal and industrial sources can provide water and nutrients for forest crops. Intensive silviculture requires adequate nutrients and water for accelerated tree growth. Successful recycling of sewage nutrients on land requires crops with high nutrient and water demands. Forest Service studies show that in Michigan intensive-culture forestry offers the only wildland management alternative that gives adequate uptake to provide long-term renovation of wastewater. In Illinois studies show sludge is a useful amendment for enhancing vegetation on spoil banks. The nutrient value of sewage effluent and sludge is the key to their usefulness in silviculture.

Endrin coated seed produces only a short-term water quality problem. Endrin has been extensively used in the Pacific Northwest for the past 15 years to protect directly sown Douglas-fir seed from seed-eating rodents. Following aerial seeding of two western Oregon watersheds with treated Douglas-fir seed, detectable residues of endrin were found in a steep gradient stream for less than 5 hours and in a slower flowing stream for 11 days. In both cases, maximum concentrations were well below 96-hour median tolerance limits for important fish species. Stream contamination can be minimized or eliminated by leaving buffer strips and avoiding application to open water and streambanks.

Conversion of hardwood forests to pine may substantially change amount of streamflow. Fifteen years ago two experimental watersheds in the southern Appalachians were converted from a mature deciduous hardwood cover to white pine. Annual streamflow was reduced about 20 percent below that expected for hardwood cover. These results have important implications for the management of municipal watersheds. On municipal watersheds in the East, white pine has long been a favorite species for planting, but this practice will reduce water supplies.

Difficult, eroded planting sites in Mississippi detected by statistical analysis. Establishment of loblolly pine is one of the surest ways to stabilize eroding sites in the South. Most areas are successfully planted, but a few defy repeated revegetation efforts. Statistical analysis of the chemical and physical characteristics of the soil were used to detect hard-to-plant areas. Results of the tests showed that high bulk density of the soils substantially contributed to pine mortality either through physical impedance of root growth or poor aeration or by interference with proper planting.

Project (14)

WILDLIFE, RANGE, AND FISH HABITAT RESEARCH
(All operation and maintenance)

		Permanent full-time positions
1975	$5,224,000	160
1976	5,563,000	176
Transition quarter	(899,000)	
1977	5,770,000	176
Change from 1976	+207,000	- -

An increase of $207,000 is proposed to provide for the costs of the pay increase effective in October 1975 (Executive Order 11883).

No change in permanent full-time positions is proposed.

Land management decisions must be made with full knowledge of the probable impact upon habitat productivity. Where competitive uses exist and where habitat values are low, more effective management systems are essential for rapid improvement in the years ahead.

Wildlife, range, and fish habitat research is conducted to maintain and increase the diversity and productivity of fish and wildlife, as well as domestic livestock populations by:

(1) Defining the habitat requirements of the many species of fish, wildlife, and livestock.

(2) Assessing the impact of alternative land use practices upon habitat values.

(3) Generating strategies to optimize the habitat values of forests and ranges.

Examples of Recent Accomplishments

Livestock production on native ranges in Southeast can be increased. High energy costs associated with production of feed grain and improved pastures are focusing attention to production of livestock on native range. Managers must recognize the limited quality of native forage species and use some supplemental feeds to boost the overall nutritional level in order to have a profitable livestock operation on southeastern ranges. There are 20.5 million acres of longleaf slash pine wiregrass ranges in the Southeast dominated by low quality shrubs and grasses. Research results show that when grazing of native range is combined with improved forages, survival of calves increases 35-45 percent and weaning weights double. Range improvement through shrub control, fertilization, or plant conversion will greatly increase stocking capacity without excessive energy requirements.

Possible cause found for decline in population of the endangered timber wolf. The Forest Service, cooperating with the Fish and Wildlife Service, universities, and State Natural Resource Departments, has been studying populations of the endangered timber wolf in northern Minnesota. During research conducted to learn what factors affect juvenile wolf survival in natural wolf populations, growth rates ranging from 0.05 to 0.23 kilograms per day were observed. Similar variation occurred in development of canine teeth. Pups with relative weights less than 65 percent of standard have a poor chance of survival, whereas pups of at least 80 percent of

standard have a high survivability. Pups born in 1972, which were especially underweight, may be the result of a declining population of white-tailed deer in the study area.

Short-term survival of nestling mountain bluebirds or house wrens not affected by DDT. DDT was sprayed on Oregon forests at the rate of 0.75 pounds per acre to control the Douglas-fir tussock moth. Researchers evaluated the short-term effects of DDT on survival of nestling songbirds, and found no detrimental short-term effects on mountain bluebirds or house wrens. Nest boxes were placed in a spray and nonspray area to attract mountain bluebirds and house wrens. The number of eggs laid and hatched and survival of nestlings were compared to determine the impacts of DDT. These results provide managers with some quantitative data on short-term impacts of DDT on songbirds, but results should be not extrapolated to other species of insectivorous birds or to other habitat types.

Toxicity of herbicides to Salmonids determined. The herbicides 2, 4-D, and 2, 4, 5-T, are used to control brush in Oregon and Alaska. Toxic contaminants from the herbicides may enter forest streams during spray operations. Researchers at Corvallis, Oregon, have determined levels of toxicity for several species of salmon and other aquatic organisms. This information helps resource managers predict the impacts of herbicides on aquatic organisms.

Urban wildlife management information summarized. Wildlife in the urban realm is an important indicator of quality environment. Researchers in Massachusetts assisted in a symposium (Wildlife in an Urbanizing Environment) and publication of the proceedings. This state-of-the-art publication contains 34 separate papers covering philosophical aspects; problems with people-wildlife interactions; habitat requirements for urban wildlife; and the role of the Federal and State governments in urban wildlife. The proceedings represent the first effort at summarizing the state-of-knowledge about urban wildlife and is, therefore, useful for planning and management of wildlife in urban environments.

Production of forage for livestock and deer improved in lodgepole pine forest by logging and slash disposal. Bitterbrush is an important livestock and wildlife food in central Oregon. However, little is known about the impact of logging and slash disposal on bitterbrush. On an experimental forest site, logging destroyed 72 percent of the bitterbrush crown area. Disposal of slash was the primary cause of soil disturbance and reduction in shrub cover. Forage production recovered in 5 years after logging and continued to increase for 12-15 years. Production of forage for livestock, deer and elk improved for 15 years. These results were used in development of guidelines for coordinated management of timber and wildlife habitat.

Project (15)

FOREST RECREATION RESEARCH
(All operation and maintenance)

		Permanent full-time positions
1975	$1,251,000	44
1976	1,464,000	39
Transition quarter	(516,000)	
1977	1,518,000	39
Change from 1976	+54,000	- -

An increase of $54,000 is proposed to provide for the costs of the pay increase effective in October 1975 (Executive Order 11883).

No change in permanent full-time positions is proposed.

Growing public demands for forest-based recreation opportunities has generated new needs for both public and private developments, new forest management requirements, new conflicts among users and resource managers, and new threats to both the quality of recreational experiences and the health of the natural resource base. Conflicts and environmental impacts faced by today's resource managers were quite rare only a few years ago.

Forest recreation research is being conducted to:

(1) Develop new and better resource management practices which enhance amenity values.

(2) Understand man's need for, and use of, forests, open space, and parks as environments for living, working, and recreation.

(3) Analyze and understand the interactions between people and forests, social and economic factors underlying outdoor leisure activities, esthetic quality of forest landscapes and environmental situations, trends in recreation uses, use and management of wilderness areas, and alternative management strategies for meeting the public demands.

(4) Identify interrelations among recreation, environmental amenities, and other uses of forests and open spaces--and find better ways of coordinating these uses.

The program includes research on planning and management of forest-based recreation opportunities, landscape scenery, preservation and use of wilderness resources, and the interactions between man and his forest environment.

Examples of Recent Accomplishments

Landscape assessment symposium provides vital information for regional planners. In thinking of the landscape as a scenic resource, public awareness has expanded greatly in the last 15 years to include a new assessment of the everyday, non-spectacular landscapes in which most Americans spend the major portion of their lives. This awareness--and the resultant legislation on Federal, State, and local levels--has put forth a challenge to planners, designers, and scientists to ensure that "intangible" or "amenity" values enter into the landscape decision-making process. A recent symposium, sponsored by the Forest Service's Pinchot Institute, provides a comprehensive overview of current research in landscape perception and a close look at the development of landscape assessment methods. Practitioners and researchers in the areas of landscape planning, landscape management, and resource planning will find the book Landscape Assessment, which resulted from the symposium, a useful summary and guide.

Long-range planning assisted. To grow--indeed to survive--a technology-oriented society must anticipate changes that will detrimentally affect its basic life support systems of air, water, soil, flora, and fauna. Forecasts of 125 future events relating to the Nation's natural environment were projected by a panel of 900 experts. Events were grouped into five categories--natural resources management; wildland recreation management; environmental pollution; population-workforce-leisure; and urban environments. These perspectives on the future provide a basis for dealing more effectively with future environmental problems.

Knowing preferences of fishermen leads to improved service to the public. Management needs to know what aspects of a fishing experience increase the satisfaction of participants. A personal interview survey of 100 licensed fishermen indicated that water quality, scenic beauty, and privacy were consistently rated as most important to a fishing experience. Number of fish caught, weather, and convenience or accessability to trout were of moderate importance. Type of water body was unimportant. The results provide managers with suggestions on how to manipulate the environment to increase the enjoyments of fishing.

National market research aids commercial campground enterprises. Developers of commercial outdoor recreation enterprises and public park planners need factual information on trends in recreation participation. Analysis of 8 years of data on camping participation (reported by a nationwide panel of 459 camping families) revealed that: 51 percent of campers were either camping less or had dropped out of the camping market; campers changing their rate of participation were more likely to have experienced a change in their style of camping; and changes in camping style were either toward a more primitive type or toward season-long rentals and advance reservations at commercial campgrounds. Both trends in volume and style provide important clues for planning future facilities.

Recreation workshop translates research findings to management principles. There is a need for recreation researchers to work closely with land managers in order to relate research findings to management needs. A workshop at Marquette, Michigan, promoted this interaction. The proceedings contain 15 papers on subjects ranging from social and esthetic considerations in recreation management, through economic problems, to questions of design and development of sites. These state-of-the-art papers provide summaries of new technology and information for recreation management programs.

Guidelines for improving scenic quality. Guidelines have been needed for reducing the impacts of timber harvest residue on recreational and esthetic values. Relevant information has been developed for timber management activities to enhance scenic beauty and, through interpretative activities, to help forest visitors understand what they see. Management can apply these principles to improve satisfaction of recreation visitors in environments disturbed by logging slash.

Wilderness research provides the scientific foundation for management. To evaluate the use of fire as a technique for managing vegetation in the interior-zone of the Boundary Waters Canoe Area in Minnesota, the historical role of fire in the ecosystem needs to be understood. Research indicates that fire largely determined the composition and age structure of the area's forests; influenced nutrient cycles; and maintained the diversity, productivity, and long-term stability of the area's ecosystem. The results of this research suggest that the use of fire is an ecologically viable approach to maintaining the natural ecosystem of this wilderness area.

Research on principles of communications used to improve education and interpretation programs. Communication skills are not always effectively utilized by resource managers when they attempt to interpret ecological information for the public. Research has shown that to have maximum viewer interest, the interpretation must be dynamic, rewarding to visitors, easily obtained, tailored to diverse visitors, and meaningfully structured. Adoption of these principles will improve the effectiveness of interpretation by attracting more visitors and holding their attention longer.

Project (16)

SURFACE ENVIRONMENT AND MINING
(All operation and maintenance)

		Permanent full-time positions
1975	$2,264,000	16
1976	2,534,000	17
Transition quarter	(1,726,000)	
1977	2,628,000	17
Change from 1976	+94,000	- -

An increase of $94,000 is proposed to provide for the costs of the pay increase effective in October 1975 (Executive Order 11883).

No change in permanent full-time positions is proposed.

SEAM is a research, development and applications program designed to provide an innovative array of economical and effective surface mine reclamation alternatives which satisfy environmental, energy, and mineral needs. The direct end product of SEAM will be several demonstration areas where new techniques in planning of mining operations, new methods of rehabilitation, and environmental stewardship criteria can be evaluated and displayed.

SEAM is an on-the-ground problem-solving effort. SEAM is a partnership undertaking with land managers, the mining industry, and political jurisdictions. It is closely coordinated with ongoing Federal and State programs.

The development and application funds for SEAM in fiscal year 1977 will be used to continue work on five basic objectives:

(1) Determine and evaluate the effects of mining and related activities on forest and rangelands.

(2) Determine and evaluate the effects of mining and related developments on forest users and associated communities.

(3) Develop alternative methods to minimize adverse impacts of mining on the forest and range environment and on forest users and associated communities.

(4) Test, evaluate, analyze, and demonstrate alternative reclamation and planning methods.

(5) Develop recommendations and disseminate findings.

Examples of Recent Accomplishments

Northern Great Plains mining lands classified for rehabilitation. The rehabilitation potential of lands likely to be surface mined in the Northern Great Plains ranges from fair to excellent if proper constraints are applied. Guidelines have been developed for predicting the potential rehabilitation of surface-mined land for this area. The guidelines are based on: (1) amount and distribution of precipitation, (2) suitability and availability of plant materials, and (3) soil productivity and stability. The potential for rehabilitation is greatest in such areas as west-central North Dakota, and lowest in southeastern Montana and western North Dakota.

Handbook "Anatomy of a Mine from Prospect to Production." A looseleaf handbook has been developed that provides information and instructions concerning mining law, prospecting, exploration, mine development, production, and reclamation. The document is designed to be expanded and updated and is intended to bring about a better understanding between land managers, planners, environmentalists, and the mining industry.

Design and construction criteria developed for phosphate mine spoil dumps. For phosphate mines located in the steep terrain of southeastern Idaho, it is environmentally important to design spoil dumps that will not have massive structural failures or produce serious surface erosion. Investigations have revealed that dumps should not be subject to failure, even under saturated conditions, if placed on slopes of 3-to-1 or less. Erosion channels are caused where runoff concentrations approach 0.8 cubic feet per second. Runoff concentrations sufficient to cause erosion channels can be prevented by vegetation and/or mulch.

Handbook of Federal and Utah State laws on energy and mineral resource development. Energy and mineral resource development is often slowed because of the need to work simultaneously with government agencies operating under different laws and regulations. To solve this problem this handbook provides: (1) an overview of Federal agencies whose primary concern is resource management; (2) a summary of energy regulatory functions of pertinent Federal agencies; (3) relevant Federal laws pertaining to environmental matters; and (4) a summary of laws related to energy developments.

Energy research information available. A system has been implemented by the Old West Regional Commission and SEAM to collect and disseminate information on energy research that is under way in Montana, Wyoming, Nebraska, and the Dakotas. The system provides a quarterly report on active research projects for use by researchers, funding agencies, and decisionmakers at the State, local, and Federal levels.

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Project (17)

FIRE AND ATMOSPHERIC SCIENCES RESEARCH
(All operation and maintenance)

		Permanent full-time positions
1975	$8,213,000	235
1976	8,205,000	235
Transition quarter	(1,648,000)	
1977	8,456,000	235
Change from 1976	+251,000	- -

An increase of $251,000 is proposed to provide for the costs of the pay increase effective in October 1975 (Executive Order 11883).

No change in permanent full-time positions is proposed.

The fire research program develops knowledge and technology to reduce forest fire costs and to protect the quality and productivity of American forests. This research is designed to aid all private, State, and Federal agencies in protecting 1.2 billion acres of forest and watershed lands. Although research has aided in bringing about a major percentage reduction in total forest fire losses, increasing use of forest lands makes the forest fire control job more difficult than ever before.

Opportunities to make substantial savings through development of new technology for fire prevention and control are clearly evident. Timber losses now average 1.5 million acres of commercial forest land burned per year. Environmental quality degradation results from fires on some five million acres on all classes of lands each year. The current fire research program is focused on:

(1) Fire prevention.

(2) Fire hazard reduction.

(3) Fire control systems.

(4) Prescribed burning smoke management.

Examples of Recent Accomplishments

Fire effects in interior Alaska summarized. Until quite recently, forest fires burned more than a million acres of interior Alaskan forests every year. As fire control became more effective and the acreage burned reduced, there have been several unforeseen consequences. In permafrost areas firelines have caused more erosion and watershed damage than does the fire itself. Plant species changed markedly with a resulting shift in game habitat and the borders between tundra and forest have shifted. Consequently, for the past few years there has been much uncertainty over how intensive fire control efforts should be in interior Alaska, and what kinds of sites should be protected from fire. These decisions can be made more intelligently as a result of a new publication, "Wildfire in the Taiga of Alaska." Compiled by scientists at the Forest Service Institute of Northern Forestry, the booklet covers what is known about fire effects on vegetation, wildlife, soils, and hydrology in the harsh but fragile environment of the far north.

Progress in forest fire smoke management. The effects of forest fire smoke on air quality--especially from prescribed burning operations--must be minimized. A simple method for prediction of smoke concentrations at locations downwind from a fire has been developed by Forest Service scientists in Georgia. This method will be helpful to the land manager for predicting where smoke from his prescribed burning will go and how dense it will be. With this prediction capability and

recently developed aids for measuring fuel concentrations in the slash pine type, the quantity of particulates produced by a fire may be estimated by the manager before the fire is started, allowing him to use prescribed fire without violating air quality standards.

Forest residue management guidelines available for Pacific Northwest. Public awareness of environmental issues has made all forest land managers--both public and private--take a hard look at forest residues management objectives. A new publication not only aids land managers but also provides needed information to regulatory agencies such as Environmental Protection Agency and State environmental departments. These practical guidelines summarize, step by step, decisions that affect the creation and treatment of forest residues. The guidelines represent current state-of-the-art in residue management supported by research findings and extensive practical experience--the results of scientists and practitioner interacting in technical panels. This publication is primarily directed to Pacific Northwest situations, but many concepts have wider applications.

Air tanker management made easy. Personnel at the Northern Forest Fire Laboratory in Montana have cooperated with the Honeywell Corporation to prepare operation manuals for the four most popular firefighting aircraft. Each model of air tanker lays down a different pattern of fire retardant, depending on the intensity of the fire, the height and speed of the aircraft, and the type of fire retardant. It has been difficult for fire managers to coordinate air operations for optimum effectiveness when several different aircraft were working the same fire. The new operation manuals show rapidly and graphically the optimum height, speed, and drop delay time needed to achieve the greatest length of retardant fire line for each type of fire and each type of retardant. Manuals for the B-17, SF-2, DC68 and Canadair CL-215 were used successfully during the past fire season. The series of manuals will be expanded to include all aircraft commonly used in forest fire control.

Togetherness on the firelines. An Incident Command System has been designed to significantly improve the capabilities of individual firefighting agencies to efficiently manage resources on large fires, or in other emergencies, has been completed by the FIRESCOPE Program. Encompassing terminology, emergency organization, and operating procedures, the system, which is being adopted by major southern California fire agencies, will make it possible for them to work more effectively together, particularly on major wildland fires involving large numbers of personnel from many different jurisdictions. Initial use of the system occurred on the 7,200-acre Pacojma fire, Angeles National Forest, which was controlled through the joint efforts of the Forest Service, California Division of Forestry, and Los Angeles County Fire Department.

How the wind blows--by computer. A numerical model capable of describing winds in mountainous terrain is now in operation. It has been used to identify air pollution potential, to provide wind maps in areas of fire danger and for impact assessment. Mass and energy conservation principles applied to forest fuels have led to predictions of moisture content. Application of these principles to living fuels and air pollution effects are underway.

Project (18)

FOREST INSECTS AND DISEASE RESEARCH
(All operation and maintenance)

		1/ Permanent full-time positions
1975	$17,883,000	480
1976	18,573,000	520
Transition quarter	(4,234,000)	
1977	19,142,000	520
Change from 1976	+569,000	- -

An increase of $569,000 is proposed to provide for the costs of the pay increase effective in October 1975 (Executive Order 11883).

No change in permanent full-time positions is proposed.

The mission of forest insects and disease research is to provide the knowledge and technology to:

(1) Define, measure, and evaluate the impacts of destructive insects and diseases on forest resources, and on wood in storage and use.

(2) Detect, assess, and predict changes in the occurrence of these pests.

(3) Reduce their numbers and impacts to tolerable levels by means of control techniques and management strategies that are ecologically sound, economically practical, and environmentally acceptable.

Current research is strongly oriented toward developing comprehensive integrated pest management systems for major forest insects and diseases.

Special emphasis is being given to:

(1) Continuing work on the special forest insect program started in 1975. Intensive research and development will lead to control of three of the most important forest pests--the Douglas-fir tussock moth, Southern pine beetle, and the gypsy moth.

(2) Understanding and quantifying the full impacts on forest resources of pests such as the gypsy moth, Southern pine beetle, Douglas-fir tussock moth, mountain pine beetle, spruce budworms, dwarf mistletoes and fusiform rust.

(3) Finding and developing specific microbial and other biological agents for control of the gypsy moth, Douglas-fir tussock moth, root rots and similar major pests.

(4) Finding and developing safer chemicals for suppressing or manipulating pest populations. These materials include systemic fungicides; insect attractants, repellents, deterrents, and other behavioral chemicals; as well as more selective, nonpersistent toxicants.

(5) Developing specialized equipment and improved techniques for efficient and safe application of pesticidal materials to individual trees and to forested areas.

(6) Developing technology to detect, monitor, evaluate, and reduce adverse environmental effects of air pollutants in forest and related ecosystems.

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1/ Excludes following positions in other agencies that receive funds from the Forest Service: 1975, 3; 1976, 13; 1977, 13.

Examples of Recent Accomplishments

Attack on gypsy moth, tussock moth, and Southern pine beetle progresses. In both rural and urban environments severe damage continues from major forest pests. The combined resources of four USDA agencies, numerous universities, several States and industry, in a cooperative research and development program are beginning to provide new technology for insect control. A few of the more significant research findings this year follow:

Gypsy Moth

New insecticide protects foliage from gypsy moth. A new insect growth regulator, Dimilin®, was pilot-tested in Pennsylvania for gypsy moth control. At 0.06 pounds active ingredient per acre, foliage protection was excellent and insect mortality high. Final results will be determined by egg mass counts in the treated area.

Nucleopolyhedrosis virus (NPV) reduces gypsy moth populations. The natural virus of gypsy moth was field-tested against low, medium, and heavy gypsy moth populations in Pennsylvania. Significant population reduction and good foliage protection was obtained, verifying previous trials. These tests were significant in that two commercially available compounds were included as carriers. The eventual formulation to be registered will have to include a carrier to retard breakdown of the virus due to weathering--primarily degradation by ultra violet light.

Douglas-Fir Tussock Moth

New insecticides suppress Douglas-fir tussock moth. Two new chemical insecticides, Dimilin® and Orthene®, and a naturally occurring virus of the tussock moth were field-tested in British Columbia in cooperation with the Canadian Forest Service. All three materials were highly effective in reducing moth populations. This brings to six the insecticides which are strong candidates for registration as substitutes for DDT.

Sex attractant of Douglas-fir tussock moth highly effective. The synthesized sex pheromone of the insect was field-tested. It readily attracted male tussock moths. When deployed in inexpensive traps, this material provides a means for early detection and warning of moth outbreaks.

Southern Pine Beetle

Laboratory studies find candidate chemicals for control of Southern pine beetle. Safe and effective chemical toxicants are urgently needed to replace chlorinated hydrocarbons in Southern pine beetle control. Topical and feeding studies in the laboratory have identified five new candidate chemicals. These will be further tested and evaluated for safety and efficiency in the forests.

Chemicals which affect the behavior of Southern pine beetle are identified. Behavioral chemicals (attractants and inhibitors) offer potential alternatives to toxic chemicals in controlling Southern pine beetle. Several of these compounds from the beetle and the host tree have been identified and are effective in regulating beetle behavior. Strategies for using these behavioral chemicals are being developed and tested in the laboratory and field.

Improved control method available for Scleroderris canker. Scleroderris canker causes serious losses in young red and jack pine plantations and nurseries in the Northern United States. Recent developments suggest older trees also may be susceptible to heavy mortality from this disease. In a continuing series of tests to provide fully satisfactory controls the fungicide, chlorothalonil, has been shown to be more effective in controlling infection than the previously recommended materials.

Control developed for a foliage disease of pines in the Great Plains. A serious foliage disease caused by Diplodia pinea has caused severe damage in Great Plains pine plantations that are 30 or more years of age. This disease now can be controlled with as few as one or two sprays with Bordeaux mixture if properly timed to coincide with foliage development. Arborists following a carefully timed spray schedule have obtained good control of Diplodia blight.

Controls effective against pales weevil. The pales weevil is the most serious insect pest of coniferous reproduction in eastern North America. Together with the pitch-eating weevil, it can cost the owner of new plantations $20 more per acre; not uncommonly, 40 percent of newly planted seedlings may be killed. Recent experiments have resulted in the registration of carbofuran and chlorpyrifos, both of which give excellent protection of newly planted pine seedlings. Additionally, the need for insecticide treatment can be sharply reduced by appropriate timing of cutting and planting so that adult weevils, attracted by fresh cuttings, will disperse before new seedlings are planted. Together, the use of these techniques will significantly enhance the development of the Third Forest in the South.

Pheromones show promise in survey and control of three Western forest pests. The European pine shoot moth produces a sex attractant, and the Douglas-fir beetle and Western pine beetle produce chemicals that either encourage the beetles to aggregate or inhibit aggregation behavior. These chemicals, called pheromones, have been identified and successfully tested in the field. Pheromones are promising tools for insect detection and survey and have potential for use in control techniques.

Simple field test developed for evaluating tree vigor. Knowledge of tree vigor is important in judging resistance of trees to disease and insect attack or predicting the ability of trees to tolerate stresses from defoliation, drought, or air pollution. Previous attempts to evaluate the relative vigor of trees often have been unsuccessful. Two techniques have been developed. One technique evaluates the relative vigor of trees by measuring root starch content. High starch content in the roots indicates a vigorous tree. With the second technique general tree vigor and stress from defoliation or other causes can be determined by measuring the resistance to pulsed electric current. Use of these techniques will permit evaluation of tree condition much more readily than in the past.

Guidelines developed for identifying air pollution damage on pine. Air pollution damage to ponderosa and sugar pines is significant in California, but guidelines for distinguishing this type of injury from other common foliage problems have been lacking. Changes in needles of ponderosa pine caused by ozone and sulfur dioxide singly and in combination were distinguished microscopically and contrasted with other injuries. The ability to identify air pollution damage in the Western United States will permit development of better management and control recommendations for minimizing this problem.

Project (19)

FOREST PRODUCTS UTILIZATION RESEARCH
(All operation and maintenance)

		Permanent full-time positions
1975	$10,297,000	439
1976	10,955,000	439
Transition quarter	(2,812,000)	
1977	11,395,000	439
Change from 1976	+440,000	- -

An increase of $440,000 is proposed to provide for the costs of the pay increase effective in October 1975 (Executive Order 11883).

No change in permanent full-time positions is proposed.

Within the goals of supplying timber and improving environments, the focus of forest products utilization research is on:

(1) Producing the knowledge and technology necessary for improved utilization practices.

(2) Extending the service life of wood in use.

(3) Utilizing wood and paper wastes.

(4) Developing technologies to produce or conserve energy in forestry related activities.

Examples of Recent Accomplishments

Newly designed truss-frame house saves wood framing material. The conventional house is overbuilt in many respects and does not utilize our timber resource to its maximum efficiency. New lightweight truss-framed construction is an improved framing system directly applicable to residential or light-frame construction. It consists of a special floor system, trussed rafters, and conventional wall studs all tied together by rigid joints into a unitized frame. Superior performance in both strength and stiffness has been demonstrated by full-scale structural tests. Savings of up to 30 percent in framing material are possible with truss-frame construction.

More wood from Southern forests. The increasing national demand for wood can be satisfied by substantially increasing the utilization of tree species. In the South, the Forest Service has developed equipment which will produce pallet cants from mixed hardwoods previously unused. Residual wood flakes from this equipment can be the basis for a new major industry manufacturing structural exterior flakeboard by a forming and pressing process developed in the Pineville, Louisiana, Laboratory.

Utilization of Western standing dead timber. Standing dead timber throughout the Western softwood timber regions can significantly add to the merchantable timber resource. Cooperative research with the forest products industries has determined the timber quality characteristics, grade volume and value in standing dead Western white pine in Idaho and the true fir in Oregon and Washington. This dead timber was killed by the Douglas-fir tussock moth. The results show that in Western white pine there is lumber yield potential from recently killed trees and debarked snags. Tussock moth-killed true firs, harvested over a 2-year period, lost about 10 percent of the merchantable tree volume and 20 percent of the merchantable tree value.

Improved fire safety of wood products. A greater level of fire safety in wood structures has been made possible through recent research findings.

(1) A reduction in the rate of flamespread was achieved in dry-formed hardboard by the addition of chemical borate inhibitors.

(2) Treating wood building materials with sodium dichromate will reduce the amount of smoke generated under certain flaming and non-flaming conditions.

(3) In order to develop adequate fire safety criteria for building products, a better concept and testing method for "rate of heat release" was needed. Test equipment has been developed to measure this property. The rate of heat release for various wood products and structures has been determined.

Preserving wood without toxic chemicals. The toxic chemicals added to wood in conventional preservative treatments are a source of environmental concern. By chemically modifying wood with nontoxic chemicals such as alkylene oxides, the wood becomes resistant to fungal attack and less likely to swell, shrink or warp when the moisture level changes. These new preservative treatments result in a superior material particularly suitable for applications such as flooring, window units, and tool handles.

New drying process increases paper strength. With present papermaking processes, the lower quality high-yield ground wood pulps, and hardwood pulps often cannot be utilized for paper products where high strength and stiffness are required. Insufficient interfiber bonding results in a low-strength paper. A new drying system substantially increases interfiber bonding in these papers by restraining fiber movements during drying. The resulting paper has greatly improved performance properties that permit it to be used where high strengths are required. The process improves the potential for utilization of hardwoods.

Pulpmill residue has potential value as animal feed. New combinations of wood-processing wastes are valuable as animal feed components. Short fibers in pulpmill waste provide carbohydrate and aspen bark provides the roughage in these experimental feeds. Aspen bark alone, when properly supplemented, is equivalent to medium-quality hay in feeding value. It appears suitable as a major ingredient in maintenance rations and as a roughage replacement in feedlots.

Insulation economy and energy improved. Design methods for determining insulation thickness in houses have resulted in excessive costs and enormous energy wastes. An engineering analysis of heat loss, coupled with total cost effectiveness over the useful life of a home, was used to demonstrate that there is an optimum insulation thickness for any climate. This optimum thickness results in least total cost of insulation and operation for the life of the building and also results in a significant reduction in energy use. Estimated energy savings of more than 1,400 trillion BTU's per year are possible if this method is applied to existing homes with insufficient insulation, and additional savings of some 6,000 trillion BTU's are possible over a 10-year period by improved design of new construction.

Modified paper retains stiffness when wet. One of the most serious limitations on the use of paper as a material is its loss in stiffness properties when it becomes wet. Formaldehyde reacts with paper fibers to produce paper that retains 90 percent of its stiffness under high wetness conditions. This treatment can reduce the fiber requirements for products and can also replace the use of costly petrochemical resins that are presently used to gain wet strength.

Residue yield tables help sawmillers and land managers. Increased timber demands and costs have forced wood-using industries and land managers to look for additional sources of raw material. Sawmill residues (slabs, edgings and trim, bark, and sawdust) once considered waste are now salable products, but accurate methods of estimating the yields of these residues are essential for equitable purchase and sale of timber. The weight scale of the residues of major species of yellow

pine, black oak, and yellow poplar have been developed for use by timber owners, cruisers, and sawmill operators to estimate lumber yield and residue yield in standing timber.

Composite crossties can bolster supplies. Demand for railroad crossties has resulted in a shortage. Two new developments, however, add to the potential supply. In one system, thin boards are treated with preservatives and then laminated to reach crosstie size, providing a more durable tie. In another system, discarded crossties are converted to flakes and made into new, durable particle-composite crossties.

Project (20)

FOREST ENGINEERING RESEARCH
(All operation and maintenance)

		Permanent full-time positions
1975	$1,629,000	48
1976	1,520,000	56
Transition quarter	(349,000)	
1977	1,581,000	56
Change from 1976	+61,000	--

An increase of $61,000 is proposed to provide for the costs of the pay increase effective in October 1975 (Executive Order 11883).

No change in permanent full-time positions is proposed.

Forest engineering research provides direct support to managers and planners through development of essential new forest management technologies. Timber harvesting, transportation planning, and mechanization of other forest practices have engineering components that require systematic study. Solutions have far-reaching implications affecting many forest management practices.

Forest engineering research has the following objectives:

(1) Producing the knowledge and least cost technology necessary for more efficient and environmentally sound harvesting and transportation practices and the efficient use of wood as an engineered material.

(2) Developing engineering criteria for minimizing environmental and socio-economic impacts of mineral development on forest and related lands.

(3) Developing the engineering systems needed to permit more effective and economical reforestation and silvicultural improvement operations.

Examples of Recent Accomplishments

Whole-tree utilization. The removal of bark from whole-tree chips is the key to complete tree utilization by the pulp and paper industry. The chip bark removal process developed at Houghton, Michigan, has been tested by a large pulp and paper equipment builder. Many pulp mill representatives have endorsed the process. This culminates a 5-year project to develop acceptable systems to utilize the entire tree.

Running skyline economically harvests partial cuts in Pacific Northwest. Increasing environmental and economic constraints on logging have focused attention on the need to develop timber harvesting systems capable of economically operating under any reasonable silvicultural prescription with a minimum impact on the forest environment. To minimize road and landing construction and associated ground disturbance in the Pacific Northwest, long reach running skylines capable of logging partial cuts or clear-cuts on down- or up-hill settings, have been developed. The possible payoffs in terms of road and landing construction costs and protection of other forest values may run into millions of dollars annually.

Computer model helps logging managers. When whole-tree chippers are integrated into a logging system there are many variables, and it is difficult to achieve equipment and manpower balance, minimum cost, and an efficient operation. A model which simulates all phases of a logging operation (SAPLOS--Simulation Applied to Logging Systems) has been developed and is being tested with pulp and paper companies. Logging managers can use SAPLOS to compare production cost, equipment mix, and manpower use before actual logging takes place and thereby select the most efficient logging system.

Project (20)

Skyline logging in Appalachia. The problems associated with logging steep Appalachian slopes are compounded by concern for esthetics and soil disturbance. Tests conducted in West Virginia with a small, modern skyline logging system indicated that soil disturbance would be much less with skylines than with tractor logging. Both clear-cut and selection logging were possible. Wider scale tests are planned over a greater range of conditions.

Mechanized harvesting of gum naval stores. A dwindling labor force is available for harvesting operations of the naval stores industry. A mechanized bark hack for use in harvesting operations was conceptually designed, developed, tested, and evaluated. Results proved that pine trees can be streaked automatically with a mechanical bark hack mounted on a small farm tractor. The automation of one of the dirtiest and most tiring jobs in naval stores harvesting should increase the ease of harvesting and make wood jobs more attractive.

Project (21)

RENEWABLE RESOURCES EVALUATION
(All operation and maintenance)

		Permanent full-time positions
1975	$3,918,000	153
1976	5,459,000	187
Transition quarter	(1,706,000)	
1977	7,153,000	198
Change from 1976	+1,694,000	+11

An increase of $1,694,000 is proposed:

(1) To strengthen renewable resource evaluation, particularly in non-timber alternatives, to improve data base and assessment for 1979, $1,445,000.

(2) To provide for the costs of the pay increase effective in October 1975 (Executive Order 11883), $249,000.

An increase of 11 permanent full-time positions is proposed.

Forests and rangelands in the United States vary greatly in productivity, ownership, availability for industrial as well as noncommercial use, and opportunities for management. Accelerating changes in renewable resource conditions result from changing land uses, timber growth, resource harvesting, and losses to destructive agents. Demands on renewable resource lands for a wide range of uses are also increasing. Consequently, up-to-date inventories of forest and rangeland renewable resources are essential to guide programs for production of forest and rangeland resource values.

The Forest and Rangeland Renewable Resources Planning Act calls for a Renewable Resources Assessment that must consider all forest, range and related lands in the United States, estimated to include 1.6 billion acres. The first assessment will be transmitted to Congress in 1976 and will be followed by detailed assessments in 1979, and every 10 years thereafter. The assessment includes, in part:

(1) An analysis of present and anticipated uses, demand for, and supply of renewable resources, including a consideration of the international resource situation.

(2) An inventory of present and potential renewable resources, and opportunities for improving their yield of goods and services, with estimates of the investment costs and returns to the Federal Government.

To provide the data and information base needed for the assessment, the Act requires a current, comprehensive survey and analysis of:

(1) Present and prospective conditions of, and requirements for, renewable resources of forest and range lands of the United States.

(2) Supplies of these resources.

(3) Present and potential productivity of the land.

(4) Other facts necessary and useful in determination of ways and means to balance demands for and supplies of these resources.

Examples of Recent Accomplishments

Eastern pulpwood production analyzed. Pulpwood production in the South, Northeast, and Lake States all increased in 1973 with the Northeast showing the largest gain--29 percent over 1972. In the South and Lake States, 73 percent of production was softwood, but in the Northeast hardwoods accounted for 54 percent. The bulk of the production increase in all regions was hardwood, reflecting changes in pulping chemistry and the relative scarcity of softwoods. Use of plant residues for pulpwood continues to increase, particularly in the South where it rose to 27 percent of production.

Southern veneer log production analyzed. Veneer log production in the Mid-South reached 2.3 million board feet in 1972. Softwood accounted for 93 percent of Mid-South production, up from 13 percent in 1969, reflecting the growth of Southern pine plywood production which started in 1963. The Mid-South produced over 20 percent of the United States softwood plywood in 1972.

Veneer log production analyzed in North Central and Northeastern regions. The North Central region veneer log production in 1972 was 64 million board feet. Production and number of mills in the North Central hardwood veneer industries declined, continuing a trend of many years. In the Northeast, the number of mills declined, but hardwood production increased to 125 million board feet.

Rocky Mountain forest situation summarized. The decade of the '60s saw dramatic changes in use and management of Rocky Mountain forests. A rapid increase in demand for nontimber uses of forest land, growing public awareness of forests' role in man's environment, and active concern for protection of that environment led to restrictions on certain uses of forest land and on the kinds of activities allowed in timber production. Timber manager's primary concern shifted from the relationship of cut and growth to availability of forest land for timber production and the need to operate within budgetary and environmental constraints. Recent research describes the resource, the timber supply outlook, and some of the problems associated with increasing timber output from shrinking acreage available for timber production.

Public informed of forest resource situation. Reports of the forest resource situation in Oregon, Alaska, Georgia, Connecticut, Massachusetts, Rhode Island, Vermont, and New Hampshire were published to provide interested publics with bases for resource management and utilization decisions.

Twenty-one million acres of commercial forest land were reinventoried during fiscal year 1975. Field surveys were conducted in Alaska, Iowa, Kentucky, Louisiana, Maryland, Minnesota, North Carolina, Oregon, Texas, Virginia, and West Virginia. At current rates timberlands of all States are being reinventoried on an average of every 17 years. Because of increasing costs, the annual reinventoried area has declined from 47 million acres in 1973 to 21 million acres in 1975.

Forestry Incentives Program assisted. A procedure for apportioning Federal cost-share funds under the 1974 Forestry Incentives Program for silvicultural practices was developed using data on distribution of forest area, financial returns on investments, and ability of the respective components of forest area to yield financial returns. Using this procedure, the South received 68 percent of 1974 funds, the North 31 percent, and the West 1 percent. Though some problems remain, the system developed meets statutory requirements with a simple procedure. It will be refined and updated as new data become available.

Renewable resources assessed. Resource data were gathered for the 1975 Renewable Resources Assessment under PL 93-378. This compilation revealed a total of 1.6 million acres of forest and range lands in the United States from which such products as outdoor recreation and wilderness, fish and wildlife, range forage, timber, and water are obtained. New research was initiated to develop methods for inventorying all forest and rangeland renewable resources as required by the Forest and Rangeland Renewable Resources Planning Act.

Project (22)

FOREST ECONOMICS AND MARKETING RESEARCH
(All operation and maintenance)

		Permanent full-time positions
1975	$3,871,000	148
1976	3,855,000	141
Transition quarter	(1,003,000)	
1977	3,994,000	141
Change from 1976	+139,000	- -

An increase of $139,000 is proposed to provide for the costs of the pay increase effective in October 1975 (Executive Order 11883).

No change in permanent full-time positions is proposed.

Forest economics and marketing research seeks to improve economic benefits from use of the Nation's forest land for timber and other values, including water, recreation, range, and wildlife. Research is conducted on:

(1) Uses and demands for wood products and other forest values to provide necessary inputs for assessing future demands on the Nation's forest lands.

(2) Reducing costs in timber growing, harvesting, processing and product distribution to achieve more efficient use of available timber resources.

(3) Timber growing and multiple use management policies and practices, including impacts on environmental quality, to provide guidelines for development of forest resources.

(4) Evaluations of new technology to help guide implementation of a wide range of technical advances.

Collectively, the results of forest economics and marketing research constitute a major source of information for formulating forest management and use policies and practices at the national, State and local levels.

Examples of Recent Accomplishments

The demand and price situation for forest products, 1974-75. In response to a general decline in activity in major markets, consumption of industrial timber products dropped to 12.6 billion cubic feet in 1974--6 percent under the record consumption of 1973. Production showed a somewhat smaller 3 percent decline. Trends in important markets indicate a probable rise in demand for most products in the last half of 1975. The longer term outlook is one of continued growth in demand for most timber products. Competition for available timber and high prices for stumpage and timber products could adversely affect housing and other programs necessary in the rest of the '70s and beyond to meet needs of a growing population and expanding economy.

Effective use of the timber resource in pallet manufacture. Low density wood species have long been considered inferior for production of durable wooden pallets. Recent research shows that species such as aspen make good pallets provided the lumber is properly used and the pallets are adequately designed. Aspen pallets can be stiffer and more rigid than oak pallets of the same basic design. Use of low density species can greatly increase supplies of raw material for pallets.

Project (22)

Biological and economic response under selection silviculture in Appalachian hardwoods. An economic evaluation was conducted of the individual tree-selection system of silviculture based on data obtained from two different quality sites in West Virginia. Over a 12-year period, an analysis of trends in species, composition, growth rates, timber quality, and reproduction characteristics indicated that internal rates of return were similar for the two sites, but the absolute value response was about three times higher on the better site. Of particular importance to the forest manager is the indication that selective cutting practices will change the species composition toward a climax stand favoring shade-tolerant, slower-growing, and lower-valued tree species.

Mechanized thinning system in slash pine plantations. Each year some 200,000 acres of slash pine plantations in the South are reaching the preferred age for a first commercial thinning. Sufficient labor is not available to do the job by current methods. Mechanized row-thinning might be the answer. Productivity of harvester machines in shortwood, long-log, and whole-tree thinning systems was estimated from measurements of machine operating times and tree measurements on row-thinning operations. Output and costs were calculated for specific stand conditions. This investigation can serve as a guide for other studies of this type. It illustrates the data collection procedure, analytical method, and application of results. With movement toward capital-intensive thinning systems, the need for such studies increases because consequences of poor planning and administration become more and more costly.

Wood use in nonresidential construction. Information on the amount of wood products consumed in construction of nonresidential buildings is needed for accurate assessment of current and prospective demand for timber. The volume of lumber and panel products used in different types and structural classes of buildings was measured. Wood use factors were developed. Volumes of different wood products used, by building type and building component, were reported for use by processors, marketers, and others interested in the size and nature of this important market.

Opportunities to reduce timber processing costs in Appalachia. Extreme variation in sizes of loads hauled on Appalachian logging trucks prevents optimization of hauling costs. Measurement of 125 loads from seven cutting sites showed differences of 10,000 pounds and 1,000 board feet per load even for the same truck, driver, and cutting site. Four out of five trucks were loaded below legal weight limits. Hauling costs can be reduced at least $5.00 per MBF by increasing average load size through use of higher stakes, presorting and proper placement of logs on the load, and double tiering short logs to use more of the available cargo space.

Financial returns on forage seeded in thinned ponderosa pine. Research on the economic feasibility of public forage-seeding investments has led to the development of a tool for estimating the financial return on forage seeded in thinned ponderosa pine stands. This tool is applicable to an array of forage production costs, market-based forage values, and forage production levels and will be useful to public land managers in scheduling forage-seeding investments on both forested and open rangeland.

Markets for bark residues. Enactment of anti-pollution regulations necessitated development of new processes and markets for utilizing bark residues. Bark products have been developed for use in agriculture, industry, and construction. Markets for mulches and soil conditioners have been established in the horticultural trades and garden stores. The 1972 market for horticultural bark products was estimated at $30-40 million. Research and development efforts in processing, handling and application of bark have provided timber processors with alternative use opportunities in most sections of the country.

Project (22)

A descriptive analysis of Montana's forest resources. Due to the overall importance of the forest resources of Montana, this study included an analysis of employment, income, economics, and amenity values in addition to an analysis of the timber resource. Economic values of the timber resource are important to the State and are critical to many individual communities. However, Montana no longer enjoys a large surplus of timber; there is sharp competition for currently available wood supplies. The importance of the timber resource is countered by a growing State and national interest in preservation, environmental concerns, and resulting conflicts over forest land use. The results of this survey will enable planners to formulate a clearer definition of alternatives for reaching both commodity and noncommodity objectives.

FOREST PROTECTION AND UTILIZATION
FOREST RESEARCH

Proposed Change in Activity Structure

Present Structure	Proposed Structure
Forest resource economics research:	Forest resource economics research:
(20) Forest resources evaluation	(20) Renewable resources evaluation

Minor change is proposed for more descriptive and appropriate title.

65-300 O - 76 - 16

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
FOREST PROTECTION AND UTILIZATION
Forest Research

A-11-34b

STANDARD FORM 304-T
Form 1175, Office of Management and Budget
Circular No. A-11, Revised
304-1017

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 05-96-1100-0-1-302		19 75 actual	19 76 estimate	19 TQ estimate	19 77 estimate
FOREST SERVICE--Direct obligations:					
	Personnel compensation:				
11.1	Permanent positions	41,478	45,373	9,813	45,560
11.3	Positions other than permanent	3,666	3,402	1,010	3,460
11.5	Other personnel compensation	202	183	41	185
11.8	Special personal services payments				
	Total personnel compensation	45,346	48,958	10,864	49,205
	Personnel benefits:				
12.1	Civilian	4,458	4,845	1,065	4,871
13.0	Benefits for former personnel	12	12	.....	.....
21.0	Travel and transportation of persons	2,646	2,555	970	2,980
22.0	Transportation of things	779	750	285	880
23.0	Rent, communications, and utilities	1,835	1,770	675	2,070
24.0	Printing and reproduction	751	725	275	845
25.0	Other services	11,802	11,402	4,332	13,317
26.0	Supplies and materials	3,204	3,095	1,175	3,610
31.0	Equipment	2,874	2,775	1,055	3,240
32.0	Lands and structures	83	80	30	95
33.0	Investments and loans				
41.0	Grants, subsidies, and contributions	1,147	1,100	420	1,290
42.0	Insurance claims and indemnities	2	5	.....	5
43.0	Interest and dividends				
44.0	Refunds				
	Subtotal, direct obligations	74,939	78,072	21,146	82,408
95.0	Quarters and subsistence charges	-17	-20	-10	-20
99.0	Total direct obligations	74,922	78,052	21,136	82,388
		(Mono cost: 22.1)	(Mono cost: 3.9)	(Mono cost: 3.9)	(Mono cost: 3.9)
					106 (Mono cost: 3)

A-11-34b

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
FOREST PROTECTION AND UTILIZATION
Forest Research

STANDARD FORM 304-T
From 1079, Office of Management and Budget
Circular No. A-11, Revised.
304-103T

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code
05-96-1100-0-1-302
FOREST SERVICE--Reimbursable obligations:

		19 75 actual	19 76 estimate	19 TQ estimate	19 77 estimate
	Personnel compensation:				
11.1	Permanent positions	653	565	94	565
11.3	Positions other than permanent	114	180	39	180
11.5	Other personnel compensation	4	4	1	4
11.8	Special personal services payments				
	Total personnel compensation	771	749	134	749
	Personnel benefits:				
12.1	Civilian	80	67	12	67
13.0	Benefits for former personnel				
21.0	Travel and transportation of persons	53	50	30	50
22.0	Transportation of things	53	55	35	55
23.0	Rent, communications, and utilities	42	45	25	45
24.0	Printing and reproduction				
25.0	Other services	389	659	409	659
26.0	Supplies and materials	91	100	60	100
31.0	Equipment	70	75	45	75
32.0	Lands and structures				
33.0	Investments and loans				
41.0	Grants, subsidies, and contributions	31	.....	.....	.....
42.0	Insurance claims and indemnities				
43.0	Interest and dividends				
44.0	Refunds				
99.0	reimbursable Total obligations	1,580	1,800	750	1,800
	Total obligations, Forest Service	76,502 (Memo cost. 22.1E)	79,852 (Memo cost. 5.1)	21,886 (Memo cost 5.5)	84,188 (Memo cost 5)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
A-11-34b

STANDARD FORM 304—TFOREST PROTECTION AND UTILIZATION
Forest Research

OBJECT CLASSIFICATION (in thousands of dollars)

05-96-1100-0-1-302	19 75 actual	19 76 estimate	19 TQ estimate	19 77 estimate
ALLOCATION ACCOUNTS				
Personnel compensation:				
11.1 Permanent positions	25	189	47	180
11.3 Positions other than permanent	12	65	16	73
11.5 Other personnel compensation	1	.....	.....	.....
11.8 Special personal services payments				
Total personnel compensation	38	254	63	253
Personnel benefits:				
12.1 Civilian	3	23	7	23
13.0 Benefits for former personnel				
21.0 Travel and transportation of persons	9	35	9	25
22.0 Transportation of things	25	23	7	25
23.0 Rent, communications, and utilities	31	11	3	11
24.0 Printing and reproduction				
25.0 Other services	620	612	151	622
26.0 Supplies and materials	254	49	13	50
31.0 Equipment	59	112	28	110
32.0 Lands and structures	11	.....	.....	.....
33.0 Investments and loans				
41.0 Grants, subsidies, and contributions	1,241	1,184	320	1,184
Total obligations, allocation accounts	2,291	2,303	601	2,303
99.0 Total obligations	78,793	82,155	22,487	86,491
Obligations are distributed as follows:				
Department of Agriculture:				
Forest Service	76,502	79,852	21,886	84,188
Animal and Plant Health Inspection Service	636	683	171	683
Agricultural Research Service	414	436	110	436
Cooperative State Research Service	1,241	1,184	320	1,184
(Memo cost: 22.1)	(Memo cost: 1.6)	(Memo cost: 1.6)	(Memo cost: 1.6)	(Memo cost: 1.6)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
FOREST PROTECTION AND UTILIZATION
Forest Research
Personnel Summary

A-11-34b

STANDARD FORM 300-T
June 1978, Office of Management and Budget
Circular No. A-11, Revised.

Identification code 05-96-1100-0-1-302	1975 actual	1976 estimate	Transition Quarter estimate	1977 estimate
FOREST SERVICE				
Direct:				
Total number of permanent positions	2,654	2,739		2,750
Full-time equivalent of other positions	445	415		422
Average paid employment	2,882	3,084		3,102
Average GS grade	8.63	8.64		8.64
Average GS salary	$15,149	$15,947		$15,947
Average salary of ungraded positions	$12,261	$13,008		$13,008
Reimbursable:				
Total number of permanent positions	41	36		36
Full-time equivalent of other positions	13	19		19
Average paid employment	51	54		54
Average GS grade	8.63	8.64		8.64
Average GS salary	$15,149	$15,947		$15,947
Average salary of ungraded positions	$12,261	$13,008		$13,008
ALLOCATION ACCOUNTS				
Total number of permanent positions	3	13		13
Full-time equivalent of other positions	1	7		7
Average paid employment	3	18		18
Average GS grade	8.99	9.00		9.00
Average GS salary	$15,043	$15,059		$15,059
Average salary of ungraded positions	$4,867	$4,867		$4,867
(Memo cost: 23.1%)	(Memo cost: 8.8%)	(Memo cost: 8.8%)	(Memo cost: 5.8%)	(Memo cost: 8%)

FOREST PROTECTION AND UTILIZATION
STATE AND PRIVATE FORESTRY COOPERATION

		Permanent full-time positions
Appropriation, 1975	$34,784,000	195
Appropriation, 1976	32,994,000	227
Appropriation, transition quarter	(9,802,000)	
Estimate, 1977	24,800,000	224
Change from 1976	-8,194,000	-3

SUMMARY OF INCREASES AND DECREASES
(On basis of adjusted appropriation--dollars in thousands)

	Increase or Decrease (-)				Total Permanent Full-time Positions
	Pay Costs	Program	Permanent Full-time Positions	Total 1977 Estimate	
General forestry assistance--Increase consists of $150,000 for specialists needed in connection with recently enacted legislation; $150,000 to accelerate technical assistance program which could reduce losses in seasoning degrade by 200 million board feet; $142,000 to accelerate Wild and Scenic River studies; and $420,000 for an improved hardwood utilization program to increase the Nation's material supply by 280 million board feet at a cost of $1.50 per thousand board feet.	$106	$862	4	$5,429	136
Cooperation in forest management and processing-- Increase consists of $750,000 to expand the sawmill improvement program; $480,000 to expand the improved timber harvesting program; $456,000 to expand the multiple use management technical assistance and provide a full range of landowner services.	32	1,686	3	7,318	36
Cooperation in forest fire control-- Decrease of $10,939,000 is proposed as first step in phasing out the grant portion of this program.	55	-10,939	-10	11,712	46
Cooperation in forest tree planting.	4	--	--	341	6
Total, State and Private Forestry Cooperation.	197	-8,391	-3	24,800	224

FOREST PROTECTION AND UTILIZATION

STATE AND PRIVATE FORESTRY COOPERATION

Project Statement
(On obligation basis)

Project	1975	1976 estimate	Transition quarter estimate	1977 estimate	Change from 1976
STATE AND PRIVATE FORESTRY COOPERATION:					
(23) Cooperation in forest fire control	$25,088,271	$22,596,000	$7,614,000	$11,712,000	-$10,884,000
(24) Cooperation in forest tree planting	323,673	337,000	50,000	341,000	+4,000
(25) Cooperation in forest management and processing	5,569,519	5,600,000	608,000	7,318,000	+1,718,000
(26) General forestry assistance	3,698,714	4,461,000	1,530,000	5,429,000	+968,000
Total obligations or estimate	34,680,177	32,994,000	9,802,000	24,800,000	-8,194,000
Unobligated balance lapsing	103,823	- -	- -	- -	- -
Appropriation or estimate	34,784,000	32,994,000	9,802,000	24,800,000	-8,194,000

Projects (23) - (26)

GEOGRAPHIC BREAKDOWN OF APPROPRIATIONS

State and Private Forestry Cooperation

	1976 estimate	Transition quarter estimate	1977 estimate	Decrease 1976-1977
			(in thousands)	
Alabama	$915	$256	$787	$128
Alaska	764	297	359	405
Arizona	216	75	120	96
Arkansas	806	225	668	138
California	1,705	653	1,135	570
Colorado	537	181	388	149
Connecticut	220	62	164	56
Delaware	126	36	96	30
District of Columbia	1,406	459	1,425	-19
Florida	1,116	311	859	257
Georgia	1,140	318	987	153
Guam	67	13	54	13
Hawaii	104	27	96	8
Idaho	683	224	397	286
Illinois	303	86	267	36
Indiana	264	75	208	56
Iowa	155	44	118	37
Kansas	431	145	287	144
Kentucky	793	222	616	177
Louisiana	902	251	675	227
Maine	800	228	585	215
Maryland	498	142	357	141
Massachusetts	362	103	254	108
Michigan	972	276	707	265
Minnesota	616	175	472	144
Mississippi	962	268	803	159
Missouri	910	258	656	254
Montana	502	162	382	120
Nebraska	362	123	245	117
Nevada	422	141	247	175
New Hampshire	261	74	220	41
New Jersey	454	128	306	148
New Mexico	302	102	173	129
New York	894	254	732	162
North Carolina	1,195	334	1,028	167
North Dakota	153	51	110	43
Ohio	423	119	360	63
Oklahoma	491	136	342	149
Oregon	1,476	346	739	737
Pennsylvania	894	253	709	185
Puerto Rico	164	30	50	114
Rhode Island	150	42	110	40
South Carolina	923	258	727	196
South Dakota	202	68	171	31
Tennessee	859	241	700	159
Texas	740	205	559	181
Utah	362	108	220	142
Vermont	232	66	203	29
Virgin Islands	- -	- -	19	-19
Virginia	1,013	285	867	146
Washington	992	352	673	319
West Virginia	458	131	394	64
Wisconsin	1,027	292	787	240
Wyoming	270	91	187	83
Total	32,994	9,802	24,800	8,194

Project (23)

COOPERATION IN FOREST FIRE CONTROL
(All operation and maintenance)

		Permanent full-time positions
1975	$25,135,000	55
1976	22,596,000	56
Transition quarter	(7,614,000)	
1977	11,712,000	46
Change from 1976	-10,884,000	-10

A net decrease of $10,884,000 and 10 permanent full-time positions are proposed as follows:

(1) An increase of $55,000 to provide for the costs of the pay increase effective in October 1975 (Executive Order 11883).

(2) A decrease of $10,939,000 is proposed as the first step in phasing out the grant portion of this program. The current total expenditures in this program are 84.8 percent by States and counties, 0.6 percent by private owners, and 14.6 percent by the Federal Government. It is expected that the States and counties will increase their share to continue the program of preventing and suppressing forest fires on private and non-Federal public lands. In fiscal year 1978 financial assistance to States will be discontinued. After fiscal year 1978 the Federal role will be one of coordination, training, development and procurement of equipment, and providing a nationwide fire prevention campaign.

Protection of non-Federal land from destruction by fire is primarily a State and local responsibility. The Federal role is one of providing technical support and financial assistance as incentive to the States in their effort.

The Forest Service also assists the States by fighting fires on State and private lands in instances where these fires pose a threat to Federal lands. The work is on a reimbursable basis. In 1975, the Forest Service provided firefighting services valued at approximately $4.3 million.

Protection from fire is a necessity for the development of all forest resources--water, timber, special forest products, wildlife, forage, and recreation. The Cooperative Forest Fire Control program is authorized by the Clarke-McNary Act of 1924. During the first five-year period of the program (1924-1928) losses from wildfire were high with an average of 262 fires and 58,800 acres burned per million acres protected. This compared with 151 fires and 2,292 acres burned per million acres protected during the most recent five-year period (1970-1974). Another positive factor is the increase in protected area from 284 million acres in 1924 to over 631 million acres in 1974. Protection costs have grown from $1.9 million in 1924 to over $150 million in 1974. Much of the increase in fire control costs is due to the greater use of more effective and expensive new types of equipment and higher operating costs. There has been a significant increase in the use of aircraft in fire detection and suppression which is costly.

This program enables the State forestry agencies to organize and train effective fire control organizations. Air and water pollution will be lessened by reducing the number of wildfires, especially the large (over 300 acre) disaster-type fires. These are the most destructive as well as the most costly fires. Law enforcement training will be increased and fuels management, including use of prescribed fire, will be increased to reduce the risk of man-caused fire starts.

A formula that applies uniformly to all 50 State cooperators is used in distributing the Federal funds. The formula recognizes the two factors most directly related to fire control:

(1) Extent of the fire protection job.
(2) State and local performance as represented by expenditures.

Each of these factors is given equal weight. The half based on need is termed the "regular allotment" and is determined by a periodic fire protection analysis. A new analysis is currently in progress. The half based upon expenditures uses the average of the most current 3-year State and private expenditures and is termed the "extra allotment." The total of these two parts becomes the Federal allotment to each State. A sliding scale is used to reduce the total allotment to bring total State payments equal to available funds.

The table following this section shows proposed financing.

Examples of Recent Accomplishments

The effect of keeping well trained and equipped fire control forces for fast initial attack was demonstrated in calendar year 1974. There were only 1,511,477 acres burned on lands protected by State fire organizations.

The fire protection analysis study was completed. This is one of the periodic studies made to determine the cost of fire protection for non-Federal lands which qualify for protection under the Clarke-McNary Act. The study shows a total of 1,062,849,000 acres which qualify for fire protection. Of these, 180,526,000 acres are not planned for protection during the planning period. Upon acceptance of the study data by the National Association of State Foresters, 806 million acres will be protected at an estimated total cost of $273 million. The remaining 76 million acres, which are planned for protection at an estimated cost of $5.5 million, are primarily non-forested watershed lands. All cost estimates used in the study were 1974 prices.

COOPERATIVE FOREST FIRE CONTROL
(in thousands)

Project (23)

	1/ State and Private Funds Expended FY 1974	Federal Allotments FY 1975	FY 1976 (estimate)	Transition quarter (estimate)	FY 1977 (estimate)
Alabama	$2,603	$717	$634	$218	$310
Alaska	2,186	504	448	154	219
Arizona	223	110	72	25	35
Arkansas	1,813	662	588	203	288
California	36,226	1,574	1,300	448	636
Colorado	2,446	409	394	136	193
Connecticut	104	168	144	49	70
Delaware	62	73	71	24	34
Florida	8,407	872	765	263	374
Georgia	7,697	895	769	265	376
Guam	- -	16	47	16	23
Hawaii	214	82	73	25	36
Idaho	1,470	473	407	140	199
Illinois	313	206	182	63	89
Indiana	178	130	115	39	56
Iowa	433	84	73	25	36
Kansas	1,068	314	301	104	147
Kentucky	1,440	536	475	164	233
Louisiana	3,653	780	682	235	333
Maine	2,181	625	557	192	273
Maryland	890	347	302	104	147
Massachusetts	878	295	259	90	127
Michigan	3,529	807	675	232	330
Minnesota	458	483	415	143	203
Mississippi	3,621	781	688	237	336
Missouri	2,200	653	568	196	278
Montana	2,173	310	329	113	161
Nebraska	999	273	262	90	128
Nevada	881	317	254	87	124
New Hampshire	393	169	153	53	75
New Jersey	1,195	385	332	114	162
New Mexico	347	153	101	35	49
New York	2,958	663	582	201	285
North Carolina	4,964	814	713	246	349
North Dakota	23	67	69	24	34
Ohio	643	279	240	82	117
Oklahoma	868	386	356	123	174
Oregon	5,080	822	707	244	346
Pennsylvania	3,796	642	569	197	279
Rhode Island	231	99	89	30	43
South Carolina	3,747	760	670	231	328
South Dakota	479	139	143	49	70
Tennessee	2,341	742	640	221	313
Texas	1,874	552	496	171	243
Utah	521	231	184	63	90
Vermont	89	92	80	28	39
Virginia	2,227	703	622	214	304
Washington	5,488	825	712	245	348
West Virginia	981	321	292	101	143
Wisconsin	3,209	758	664	229	325
Wyoming	486	194	184	63	90
Administration, inspection, prevention and special services	- -	1,843	2,149	570	1,712
Total	130,286	25,135	22,596	7,614	11,712

1/ Actual fiscal year 1975 data not available.

2/ While the amount available to a State may, if the allotment is small, exceed previously computed expenditures by that State, the actual payment to a State never exceeds State and private funds expended by or under the control of the State.

Project (24)

COOPERATION IN FOREST TREE PLANTING
(All capital investment)

		Permanent full-time positions
1975	$336,000	5
1976	337,000	6
Transition quarter	(50,000)	
1977	341,000	6
Change from 1976	+4,000	- -

An increase of $4,000 is proposed to provide for the costs of the pay increase effective in October 1975 (Executive Order 11883).

No change in permanent fulltime positions is proposed.

This program provides financial and technical assistance to cooperating States in the production, acquisition, and distribution of tree seed and planting stock for forest and windbarrier plantings on non-Federal lands. Seed and trees thus furnished at modest cost form the backbone of current public forestation efforts which contribute to increased timber production and the enhancement of environmental values, including public recreation, wildlife habitat, and pollution abatement.

Program funds are used to assist the States in meeting the cost of seed extraction, seedling production, nursery maintenance, and other operations.

The procedure for allotment of funds provides for a project approach with funds to be allocated on the basis of projects which will be designed to stimulate more efficient nursery operations. Proposals to date include projects such as:

(1) Containerized seedling production.

(2) Mechanized seedling harvest.

(3) Development of improved methods for seedling storage.

The number of trees that States shipped to landowners during each of the past 4 fiscal years follows:

Year	Federal-State Cooperative Program (Seedlings)
1971	550,797,000
1972	552,997,000
1973	581,090,000
1974	539,549,000

The drop in seedling production in 1974 can be ascribed to the temporary elimination of the tree planting cost-sharing programs.

REGULAR ALLOTMENTS TO STATES

	FY 1976	FY 1977
Alaska	- -	$3,000
Arizona	$6,000	6,000
Colorado	7,000	7,000
Delaware	2,500	2,500
Guam	8,000	7,000
Idaho	10,000	10,000
Kansas	10,000	10,000
Montana	10,000	10,000
Nebraska	8,000	8,000
Nevada	12,000	12,000
New Jersey	2,500	2,500
New Mexico	10,000	12,000
North Dakota	12,000	12,000
Oklahoma	9,000	9,000
Puerto Rico	2,500	3,000
Rhode Island	2,000	2,000
South Dakota	10,000	10,000
Utah	10,000	10,000
Virgin Islands	- -	3,000
Wyoming	4,000	4,000

SPECIAL PROJECT ALLOTMENTS TO STATES

	FY 1976	FY 1977
Alabama (Auburn University weed control)	$26,000	$20,000
California (sprinkler system)	- -	8,000
Idaho (transplanter, container planting, nursery study)	6,500	- -
New York (increased nursery production)	- -	15,000
Texas (weed control)	4,000	- -
Vermont (seed production)	5,000	- -
Virgin Islands (nursery improvements)	2,500	- -
Oregon (weedicide test)	- -	15,000
Montana (equipment development)	- -	18,000

Examples of Recent Accomplishments

There has been a steady improvement of the physiological condition of the seedlings produced throughout the country which translates into better survival figures, planting cost savings, and eventually, better erosion control, quicker environmental enhancement, and increased timber production. Seedlings that are now grown are sturdier, have a better top-root ratio, more compact and fibrous root-systems and are grown in shorter time, thus decreasing the need for nursery space.

New technology of containerized seedling production is being implemented at a rapid rate. Five years ago only 900,000 containerized seedlings were grown in the entire Pacific Northwest. In 1975, about 48 million seedlings were produced in 24 nurseries.

A new directory of forest tree seed orchards in the United States was published and serves as a source of improved seed for use in reforestation projects.

Project (25)

COOPERATION IN FOREST MANAGEMENT AND PROCESSING
(All operation and maintenance)

		Permanent full-time positions
1975	$5,590,000	33
1976	5,600,000	33
Transition quarter	(608,000)	
1977	7,318,000	36
Change from 1976	+1,718,000	+3

An increase of $1,718,000 and three permanent full-time positions are proposed as follows:

(1) To expand the sawmill improvement program that is presently underway and provide an additional yield of 625 million board feet from the same volume of logs at a cost of $1.20 per MBF, $750,000. Higher recovery of lumber from sawlogs can be achieved through quality control and application of new technology. According to data obtained to date, through this program, a 6 to 10 percent increase in lumber recovery from the same volume of logs can be gained through better quality control. Installation of new equipment can provide a 30 percent additional increase in lumber recovery in many mills.

(2) To expand the improved timber harvesting program now underway, $480,000. It is estimated that an additional 40 million cubic feet of timber can be placed on the market per year through the application of improved harvesting and utilization practice. Total industrial roundwood production for the United States in 1974 was approximately 11 billion cubic feet. In the process of harvesting this volume of wood, it is estimated that 8 billion cubic feet of timber were left in the forest in the form of unused thinnings, fire-, disease-, and insect-damaged timber and logging residue. About 60 percent of this volume could be converted to marketable products. Accelerated technical assistance to landowners and logging operators will enable them to make use of the improved harvesting and utilization practices and bring part of this wasted material to market.

(3) To expand the multiple use management technical assistance and enable State forestry organizations to more adequately provide a full range of landowner services, $456,000. Emphasis would be on developing technical expertise in State field organizations which are in direct contact with nonindustrial private forest landowners. Fields of expertise to be emphasized are forest range management, wildlife habitat development and management, the management of outdoor recreation opportunities and enhancement of forested watersheds. The proposed funding would increase livestock grazing by an estimated 50 thousand animal unit months while controlling destructive grazing on forest lands. Many forest landowners are seeking assistance other than timber management and this additional expertise will enable the field foresters to more effectively encourage multiple use management.

(4) To provide for the costs of the pay increase effective in October 1975 (Executive Order 11883), $32,000.

Through State-Federal cooperative programs, technical assistance is provided to private nonindustrial woodland owners, loggers, wood-using industries, communities, and organizations concerned with the protection, management and use of forest resources. On-the-ground assistance is provided by State professional personnel with training and expert backstopping by Federal specialists.

Three-fifths of the productive forest land in the United States, or 296 million acres, is in the hands of nonindustrial private owners. Most of them lack the technical forestry skills required to manage the lands to provide their share of the Nation's needs for forest products and services. The program provides technical

assistance to these landowners, through State service foresters, to increase the flow of timber and nontimber products and to improve environmental values. The individual owner decides whether to implement the recommendations. A major effort of the program is to assist those landowners requesting cost-share payments from the local Agricultural Stabilization and Conservation Service offices through the Forestry Incentives Program (FIP) made available in 1975.

The program will continue to give special emphasis to the role of the private consulting forester in providing assistance to the nonindustrial private landowner. Opportunities will be identified and developed for consulting foresters to establish and expand their forestry assistance operations.

Technical assistance is given to loggers, sawmill, and other plant operators to improve logging, processing and business methods to improve the supply of softwood lumber and plywood through the reduction of wood waste and increased utilization of wood residue. The program of technical assistance to sawmill operators through the sawmill improvement program and closely related activities will continue in fiscal year 1977. The emphasis is on expanding and improving the capability of the States in forest products utilization activities. An estimated 200 mill analyses will be completed during fiscal years 1975 and 1976.

State forestry personnel provide specialized forestry assistance to rural development committees throughout the Nation. State personnel serve on State committees, sub-State units, and rural communities, thereby strengthening the overall effectiveness of local rural development efforts.

Technical assistance is provided in cooperation with the State forestry agencies in 50 States, Puerto Rico, the Virgin Islands, and Guam. Base level Federal appropriated funds are distributed to the States by formula which is applied to each State's need and performance.

(1) Need is based on the number of small woodland owners in the State and the acres of commercial forest owned expressed as a percentage of the total in the Nation.

(2) Performance is based on State funds expended in excess of Federal funds. The excess is determined for each State and then expressed as a percentage of the total excess for all States.

(3) The average of the need and performance percentages for each State represents the State's share of total funds available for distribution.

(4) Each State is guaranteed a minimum of $30,000 or the amount it can match up to $30,000.

Funds for the sawmill improvement and improved harvesting programs will be distributed separately based on targets developed in cooperation with the States. For the sawmill improvement program, targets will directly reflect the number of mill analyses planned by the States and indirectly, the additional product yields obtainable.

Major work accomplishments are shown in the following table:

Major benefits	Unit	FY 1975 (actual)	FY 1976 (estimated)
Woodland owners assisted	No.	117,000	125,000
Forest products operators assisted	No.	5,700	5,800
Incidental forestry assistance	No.	190,000	190,000
Area of woodland involved	Acres	7,000,000	7,500,000
Area harvested under improved practices	Acres	1,370,000	1,500,000

The following illustrates some of the forest land improvement work attributable to the coordinated efforts of technical assistance and financial incentives:

	CY 1974	CY 1975
Tree planting and seeding (acres)	450,000	460,000
Timber stand improvement (acres)	270,000	280,000

Examples of Recent Accomplishments

A Union County, South Dakota, landowner became a cooperator in 1974 so that he could transform an unproductive forest that supported only weeds, scrub growth, and dead trees into a productive forest. He received technical assistance from the State Division of Forestry in drawing up a forest management program and to qualify for financial assistance. About 10 acres of land will be renovated annually by planting black walnut seedlings.

The importance of local markets to the development of forest management on private lands has been demonstrated in western Nebraska. New ownership in a local sawmill has focused attention on utilization of the pine timber resource. In direct response, the State has increased its technical assistance program to enable it to provide a full service to forest landowners.

A Floyd County, Kentucky, landowner received advice from the State Division of Forestry that enabled him to substantially increase his income from the sale of timber. As a result, he has become conscious of the need for careful planning and management of his timber property and has adopted recommendations made by foresters. A landowning partnership of doctors in Garrard County has begun a multiple use management program on recently purchased land. Both timber production and wildlife habitat improvement are objectives. Tree planting, timber stand improvement, and forest fire protection practices have been initiated.

A Jackson, South Carolina, resident received an offer of $900 for the timber on one acre of land. Instead of immediately selling, she contacted the CFM project forester who assisted her in marking the timber and offered advice in making the sale. She was able to receive more than six times what she had been previously offered.

A Montana realtor and owner of 313 acres of forest land actively cooperates with the Division of Forestry as well as other State and Federal agencies. A complete forest management program has been implemented on his property, utilizing available technical and financial assistance. The success of this effort is reflected in his primary occupation as he informs each person purchasing land from him of the services available from the State Division of Forestry.

The CFM program in Hawaii, although small, has found ample opportunity to be of assistance to forest landowners. Assistance in maintenance and harvesting methods has been provided growers of Norfolk Island pine Christmas trees. Evaluation of the potential of tree fern as a marketable forest product has been given operators and producers in the Islands. The plant has use in the flower growing industry, in landscaping, and as a carving material.

Project (25)

Thirty years of cooperation have existed between a forest landowner of Venango County, Pennsylvania, and the Bureau of Forestry. A timber sale on a 5-acre woodland initiated the management program. Subsequent timber sales were made in 1959 and 1974 with the total amount realized coming to well over $6,000, excellent testimony to the value of proper management even on small tracts. The owner, now in his late sixties and handicapped, continues his interest in forestry as he has begun a timber stand improvement project on a 15-acre woodland on another part of his property.

Multiple use management is given as the reason for the successful operation of a farm and forest enterprise in Florida. Faced with rising costs and salaries and lack of adequate income, the owner called upon all available sources of assistance. The Florida Division of Forestry worked closely with other agencies in planning and developing an action program for the property. Timber was thinned to provide periodic income. A cattle operation, compatible with timber growing was started. Sales of seasonal greenery and nuts were made to supplement income. A flourishing and financially rewarding business is the result.

Forest products specialists' assistance to the operators of a Colorado sawmill and planing mill has resulted in elimination of air pollution caused by burning the mills' residue. Wood shavings are baled and sold for poultry and animal bedding and sawdust is processed into compressed fuel logs. In addition to converting a waste disposal problem into a profitable undertaking, four new full-time jobs were created in a period characterized by high unemployment in the forest products industries.

Privately-owned plantations, established in Michigan 25 to 35 years ago, have presented a challenge in forest management and utilization. Small size and lack of landowner interest in timber harvest contribute to little interest by commercial loggers in this resource. Through a State forestry-sponsored plantation aggregate project utilizing two consulting foresters, economically feasible blocks of timber ready for harvest have been assembled and sold. Timber marked for harvest in accordance with an individual management plan for each owner is finding its way to multiproduct markets that include pulpwood, posts and poles, fireplace wood, and bark mulch and bedding.

Sawmill improvement program. Computerized studies by Forest Service-State forester teams have shown over 425 sawmill owners in the United States how they can stretch the timber supply by producing more lumber from each log.

Under the sawmill improvement program (SIP), 425 sawmills producing 5.3 billion board feet of softwood lumber have been evaluated since June 1973. The production of these mills represents 16 percent of the Nation's annual output of softwood lumber. An individual analysis was given each mill after the team analyzed operations, gathered data, and fed the information into computers. The analyses reveal that 6 percent more lumber, amounting to 320 million board feet, could be produced at these mills from the same volume of sawlogs by improved bucking and sawing methods. An additional 25,000 homes could be built from the 320 million board feet. If these mills also installed computerized sawing systems, they could get 30 percent more lumber, or 1.2 billion board feet. This program has proven to be a most cost-effective, short-range means of increasing lumber production.

Consulting foresters and engineers have praised the Forest Service and cooperating State foresters for the efficient way in which the program has been conducted. The program has been strongly endorsed by the Sierra Club as an effective means of reducing wastes of natural resources and utilizing more of the wood residues that were previously disposed of in a polluting manner.

After an initial sawmill analysis in an Idaho sawmill, careful steps taken to tighten control and increase recovery were found by a reanalysis to be so successful that the mill manager is continuing his own "Maximum Recovery Program." Based

65-300 O - 76 - 17

on the SIP approach, this recovery and quality control covers the firm's operations from log making through milling. The manager noted: "We were able to establish just what our actual lumber recovery factor was at a certain time, using certain equipment, personnel, and methods. We then could measure our improvement through supplementary SIP studies. Putting our mill into a laboratory test tube with variables known and controlled is a real thing with SIP."

Project (25)

The following table shows financing (in thousands):

	1975	1976 estimate	Transition quarter estimate	1977 estimate
Alabama	$130	$126	$10	$222
Alaska	30	30	2	30
Arizona	33	33	3	43
Arkansas	113	112	9	180
California	76	76	6	152
Colorado	56	56	4	72
Connecticut	34	34	3	45
Delaware	30	30	2	31
Florida	221	216	17	228
Georgia	219	219	17	316
Guam	8	8	1	8
Hawaii	28	28	2	31
Idaho	46	38	4	69
Illinois	73	73	6	98
Indiana	73	63	6	90
Iowa	42	42	3	47
Kansas	36	36	3	44
Kentucky	166	166	13	199
Louisiana	105	105	8	140
Maine	110	110	8	137
Maryland	80	80	6	103
Massachusetts	42	42	3	51
Michigan	142	142	11	166
Minnesota	102	102	8	128
Mississippi	153	153	12	227
Missouri	163	163	13	182
Montana	57	51	4	79
Nebraska	36	36	3	36
Nevada	32	32	3	37
New Hampshire	56	55	4	80
New Jersey	43	43	3	50
New Mexico	46	46	4	60
New York	172	172	13	213
North Carolina	288	283	22	372
North Dakota	30	30	2	31
Ohio	123	123	9	136
Oklahoma	49	49	4	57
Oregon	61	61	5	157
Pennsylvania	173	173	13	218
Puerto Rico	30	30	2	32
Rhode Island	34	25	3	32
South Carolina	137	137	11	182
South Dakota	32	32	3	40
Tennessee	99	100	8	177
Texas	105	105	8	149
Utah	35	41	3	54
Vermont	97	97	7	103
Virgin Islands	9	13	1	10
Virginia	225	225	18	304
Washington	78	95	6	124
West Virginia	82	82	7	133
Wisconsin	189	189	16	227
Wyoming	34	34	3	37
Total to States	4,663	4,642	365	6,169
Forest Service administration	927	958	243	1,149
Total appropriation	5,590	5,600	608	7,318

Project (26)

GENERAL FORESTRY ASSISTANCE
(All operation and maintenance)

		Permanent full-time positions
1975	$3,723,000	102
1976	4,461,000	132
Transition quarter	(1,530,000)	
1977	5,429,000	136
Change from 1976	+968,000	+4

An increase of $968,000 and 4 permanent full-time positions are proposed as follows:

(1) For employment of highly trained specialists for recently enacted legislative programs, $150,000. The programs which have created major impacts on Federal, State and local governments and the private sector in the planning, development, and use of forest lands are:

-- The HUD 701 program as broadened by the 1974 amendments to the Housing Act of 1954;
-- Coastal Zone Management, PL 92-583; and
-- Water Pollution Control Act, PL 92-500, particularly the requirements to identify and prescribe controls for nonpoint source pollution.

The legislation includes deadline requirements for various actions. Forest Service efforts will assist State foresters in planning, data gathering, analysis, evaluation, legislative processes, training, and implementation of research and technology.

(2) To accelerate technical assistance program which could reduce losses in seasoning degrade by 200 million board feet, $150,000. The need for effective control of wood drying losses is accentuated by low profit margins in lumber-producing and remanufacturing industries. Studies indicate losses of $8-$11 per thousand board feet of lumber produced. Available research, if widely utilized, would reduce such losses to $1-$2 per MBF.

(3) To accelerate study activities on Wild and Scenic Rivers, $142,000. There are 29 new studies which must be completed by October 2, 1979.

(4) For an improved hardwood utilization program to increase the Nation's material supply, $420,000. Technical assistance to hardwood producers, manufacturers, and consumers would result in more economical and environmentally acceptable utilization. These proposed funds would yield an additional 280 million board feet of hardwood lumber from the current hardwood cut at a cost of $1.50 per thousand board feet.

(5) To provide for the costs of the pay increase effective in October 1975 (Executive Order 11883), $106,000.

General forestry assistance funds are used to accomplish highly specialized forestry assistance not available through other Forest Service cooperative programs. A major portion of the funds is used to provide professional assistance to State forestry agencies, woodland owners, associations, and the wood industry to enhance rural community development and to achieve more efficient management, increase production, and improve processing of the Nation's timber resources.

General forestry assistance funds are used to provide expert forest resource management and use assistance in such activities as:

(1) Forest products utilization.
(2) Dissemination of forest research findings.
(3) Continuous forest inventory.
(4) Advisory management services provided to State forestry agencies, including organizational management training.
(5) Multiple use management.
(6) Forest hydrology.
(7) Wild and scenic river studies.
(8) Threatened and endangered species.
(9) Land use planning.
(10) Special studies.

Technical assistance is provided directly by the Forest Service or through specific agreements with State foresters, colleges, and/or private contractors.

Examples of activities currently being conducted are:

(1) Pollution abatement planning and control. In implementing the Federal Water Pollution Control Act Amendments of 1972 (PL 92-500), the State and the designated agencies must identify, assess and plan for the control of pollution from all lands. The Forest Service is helping the State foresters work with Section 208 agencies by providing information, training, and technical assistance.

(2) Cooperative land use planning. Technical assistance is provided to State foresters in cooperative land use planning. State foresters are providing to State or sub-State planning agencies data and specialized forest land planning and evaluation information. These efforts assure that forest resources are considered in all aspects of State and local planning and development. The balance achieved through the inclusion of forest areas and resources in the planning and implementation activities provides for:

(a) Employment for local workers.
(b) Recreation for resident and non-resident visitors.
(c) Adequate supplies of quality water.
(d) Raw materials such as timber and specialty products that will increase income and jobs.
(e) Open space and esthetically pleasing environment for rural community living.

(3) Wild and Scenic Rivers Act of 1968. The Forest Service has lead responsibility for the Department of Agriculture relating to studies under the Wild and Scenic Rivers Act of 1968. In addition to the rivers assigned to the Department, the Forest Service coordinates USDA input to Interior-led studies. For fiscal year 1977, some work remains on 9 of the original 27 studies. In addition, 29 new rivers have been designated for detailed study, under PL 93-621. Funds are used to carry out the full Federal responsibility and to augment the States' efforts under the Act. These activities are needed to assure that study areas are evaluated against the criteria of PL 90-542 and to meet the Nation's demand for a quality environment.

(4) Forest land aggregates. Many private nonindustrial forest landowners lack knowledge of forest management and marketing practices. Because of this, many of these ownerships are not managed to produce forest products beyond a level which accrues in unmanaged forest stands. A pilot test of aggregation to improve the effectiveness of technical assistance delivery and to provide management and marketing assistance to members of the aggregate organization through a private consulting forester is underway in Arkansas.

(5) Forest products utilization. State and Forest Service personnel, working closely with private consultants and university staff members are extending the Nation's supply of forest resources by determining new and better uses for logging and milling residues and low quality trees. For example, the processing and merchandising of sawdust, bark, and even twigs and needles, has expanded dramatically since foresters began analyzing the benefits of using these materials for soil amendments and as a mulch.

Examples of recent accomplishments follow:

Pollution abatement planning. A Forest Service hydrologist has worked closely with the Florida, North Carolina and Virginia State foresters and the Section 208 agencies (PL 92-500) in identifying the magnitude and extent of pollution from forest lands. They are also assisting in defining the Best Management Practices (BMP) for controlling pollution from forested lands. A procedure for estimating the current and potential pollution from forested lands has been developed. Training in the procedures is being provided to State forestry, industry and Section 208 agency personnel.

North Carolina. A consultant was employed to consolidate recent planning efforts of river basin studies, small watershed plans and resource conservation and development forestry plans into a single document. The forestry information for the State was incorporated into a Statewide land use plan.

Florida. A professional planner is now employed by the Division of Forestry to work with the various county planning commissions. This input is very helpful and in some instances, conversion or development of forest land is not authorized until approved by the county forester.

Improved harvesting program. This program, begun in fiscal year 1975, is designed to put more timber on the market with less waste and reduced environmental impacts through improved harvesting and utilization techniques. The program, which is being conducted through cooperating State foresters on a project basis, includes projects of the following nature:

(1) Improved timber availability and access.
(2) Multiproduct logging.
(3) Improved felling and bucking.
(4) Utilization of recoverable wood from urban areas.
(5) Timber salvage.

A computer program will be used to analyze the efficiency of felling and bucking based on data obtained from actual logging operations.

Projects funded in 34 States in the first 2 years are estimated to have a first-year benefit of increasing timber recovery by more than 130 million cubic feet (nearly three-quarters of a billion board feet).

Alaska. In a series of field forestry workshops developed and conducted by Forest Service specialists at the request of the Indian tribal corporations, representatives of southeastern Alaska corporations were introduced to forestry planning and operations, harvesting and marketing of forest products, and land use planning. Success of the workshops in helping the corporation members understand the needs and opportunities for sound forestry measures on their lands was indicated by comments such as: "We had no prior knowledge of any of this and realize how much we needed it." "Thank you for coming. We want you to come back. We now begin to understand forestry and tools."

Endangered species. Forest Service personnel have been working with the Fish and Wildlife Service personnel on responsibilities under the Endangered Species Act of 1973 (87 Stat. 884). The work has mainly been locating habitats of threatened and endangered species--including both animals and plants. Forest Service biologists have been assigned to recovery teams that (1) locate critical habitats, (2) evaluate limiting factors to the animal's recovery, (3) recommend compatible management practices, and (4) pinpoint areas where further studies are needed before habitats can be safely managed.

Forest Service personnel also have been training State foresters in responsibilities under the Act.

Management assistance to State forestry agencies. Through cooperative efforts the Forest Service strengthens its management assistance to State forestry organizations. The purpose of this assistance is to help States improve their organizations, management skills and training programs. Improved skills will result in increased effectiveness in the protection and management of forest and related natural resources.

DEPARTMENT OF AGRICULTURE
FOREST SERVICE

A-11-34b

Type size:
(7x MA/20

STANDARD FORM 304-T FOREST PROTECTION AND UTILIZATION
June 1976, Office of Management and Budget
Circular No. A-11, Revised.
304-103T

State and Private Forestry Cooperation

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 05-96-1100-0-1-302	19 75 actual	19 76 estimate	19 TQ estimate	19 77 estimate
FOREST SERVICE--Direct Obligations:				
Personnel compensation:				
11.1 Permanent positions	3,200	4,192	1,102	4,134
11.3 Positions other than permanent	146	183	37	183
11.5 Other personnel compensation	8	5	1	5
11.8 Special personal services payments	1	.....	.....	.....
Total personnel compensation	3,355	4,380	1,140	4,322
Personnel benefits:				
12.1 Civilian	418	525	132	520
~~13.0 Benefits for former personnel~~				
21.0 Travel and transportation of persons	571	570	200	600
22.0 Transportation of things	72	70	50	85
23.0 Rent, communications, and utilities	145	145	50	150
24.0 Printing and reproduction	164	165	50	175
25.0 Other services	1,066	1,079	5,675	1,858
26.0 Supplies and materials	129	130	100	150
31.0 Equipment	131	130	100	150
~~32.0 Lands and structures~~				
~~33.0 Investments and loans~~				
41.0 Grants, subsidies, and contributions	27,901	25,750	2,300	16,750
42.0 Insurance claims and indemnities	728	50	5	40
~~43.0 Interest and dividends~~				
~~44.0 Refunds~~				
~~99.0~~ Total direct obligations	34,680	32,994	9,802	24,800
	(Mono cost: 22.18)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
A-11-34b

Type size:
17x MOD

STANDARD FORM 304-T FOREST PROTECTION AND UTILIZATION
June 1973, Office of Management and Budget
Circular No. A-11, Revised.
304-101T

State and Private Forestry Cooperation

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 05-96-1100-0-1-302	19 75 actual	19 76 estimate	19 TQ estimate	19 77 estimate
FOREST SERVICE--Reimbursable obligations:				
Personnel compensation:				
11.1 Permanent positions	28	25	6	25
11.3 Positions other than permanent	3	.....	.....	.....
11.5 Other personnel compensation	1	.....	.....	.....
~~11.8 Special personal services payments~~				
Total personnel compensation	32	25	6	25
Personnel benefits:				
12.1 Civilian	3	3	1	3
~~13.0 Benefits for former personnel~~				
21.0 Travel and transportation of persons	5	5	3	5
22.0 Transportation of things	1	2	1	2
~~23.0 Rent, communications, and utilities~~				
~~24.0 Printing and reproduction~~				
25.0 Other services	591	613	264	613
26.0 Supplies and materials	35	50	25	50
31.0 Equipment	2	2	.....	2
~~32.0 Lands and structures~~				
~~33.0 Investments and loans~~				
41.0 Grants, subsidies, and contributions	6	.....	.....	.....
~~42.0 Insurance claims and indemnities~~				
~~43.0 Interest and dividends~~				
~~44.0 Refunds~~				
98.0 Total reimbursable obligations	675	700	300	700
99.0 Total obligations	35,355	33,694	10,102	25,500
	(Mono cost: 22.18)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
FOREST PROTECTION AND UTILIZATION
State and Private Forestry Cooperation
Personnel Summary

A-11-34b

STANDARD FORM 300-T
June 1978, Office of Management and Budget
Circular No. A-11, Revised.

Identification code 05-96-1100-0-1-302	19 75 actual	19 76 estimate	Transition Quarter estimate	19 77 estimate
FOREST SERVICE				
Direct:				
Total number of permanent positions	195	227		224
Full-time equivalent of other positions	18	22		22
Average paid employment	181	237		234
Average GS grade	8.63	8.64		8.64
Average GS salary	$15,149	$15,947		$15,947
Average salary of ungraded positions	$12,261	$13,008		$13,008
Reimbursable:				
Total number of permanent positions	1	1		1
Full-time equivalent of other positions	0	0		0
Average paid employment	1	1		1
Average GS grade	8.63	8.64		8.64
Average GS salary	$15,149	$15,947		$15,947
Average salary of ungraded positions	$12,261	$13,008		$13,008
(Memo cost: 33.1E)	(Memo cost: 1.E)	(Memo cost: 1.E)	(Memo cost: 1.E)	(Memo cost: E)

COOPERATIVE RANGE IMPROVEMENTS

Appropriation, 1975	$700,000
Appropriation, 1976	700,000
Appropriation, transition quarter	(- -)
Estimate, 1977	700,000
Operation and maintenance	$490,000
Capital investment	210,000

PROJECT STATEMENT

Project	1975	1976 estimate	Transition quarter estimate	1977 estimate
Cooperative range improvements	$679,172	$720,828	- -	$700,000
Unobligated balance brought forward	- -	-20,828	- -	- -
Unobligated balance carried forward	20,828	- -	- -	- -
Appropriation or estimate	700,000	700,000	- -	700,000

Part of the grazing fees from the National Forests, when appropriated, are used for revegetation of depleted rangelands, construction and maintenance of range improvements, rodent control, and eradication of poisonous plants and noxious weeds. These funds are advanced to, and merged with, the appropriation, Forest Protection and Utilization, subappropriation, Forest Land Management.

Section 12 of the Act of April 25, 1950, (Granger-Thye Act) provides that of the money received from grazing fees by the Treasury from each National Forest during each fiscal year there shall be available at the end thereof, when appropriated by Congress, an amount equivalent to 2 cents per animal month for sheep and goats and 10 cents per animal month for other kinds of livestock under permit on such National Forest during the calendar year in which the fiscal year begins.

Since figures for animal months permitted are not available until after more than one-half of the fiscal year for which funds are appropriated has elapsed, the 1977 appropriation request of $700,000 represents the best current approximation of the amount which will become available in the calendar year 1976 under the animal-months-permitted formula.

For calendar year 1974, the latest available figures, animal months permitted were 6.7 million for cattle and horses, and 3.7 million for sheep and goats. This calculates to $744,000 available under the formula.

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
COOPERATIVE RANGE IMPROVEMENTS
Program and Financing (in thousands of dollars)

A-11-32a

STANDARD FORM 300-T
June 1973, Office of Management and Budget
Circular No. A-11, Revised.

Identification code 05-96-5207-0-2-302		1975 actual	1976 estimate	Transition Quarter estimate	1977 estimate
	Program by activities:				
10	Advanced to forest protection and utilization (costs--obligations) (object class 25.0)	679	721	.....	700
	Financing:				
21	Unobligated balance available, start of period	.....	-21	.....	.....
24	Unobligated balance available, end of period	21	.....	.....	.....
40	Budget authority (appropriation) (special fund)	700	700	.....	700
	Relation of obligations to outlays:				
71	Obligations incurred, net	679	721	.....	700
90	Outlays	679	721	.....	700

(Memo entr: 22.12) (Memo entr: 2.8) (Memo entr: 2.9) (Memo entr: 2.9) (Memo entr: 2)

CONSTRUCTION AND LAND ACQUISITION

Appropriation, 1975	$31,337,000
Appropriation, 1976	18,134,000
Appropriation, Transition quarter	(11,074,000)
Estimate, 1977	14,414,000
Change from 1976	-3,720,000

SUMMARY OF INCREASES AND DECREASES

	Increase or Decrease (-)				
	Pay Costs	Program	Permanent Full-time Positions	Total 1977 Estimate	Total Permanent Full-time Positions
Recreation use areas--The amount of $3,740,000 is proposed to be used for construction of projects previously started, planning new construction, reconstruction of worn-out facilities, and expansion of existing recreation projects. ..	$52,000	$638,000	- -	$3,740,000	69
Construction for fire, administration, and other purposes--The amount of $2,665,000 is programed to construct projects necessary to support forest land management activities. .	22,000	181,000	- -	2,665,000	27
Land Acquisition, Weeks Act--The amount of $1,740,000 will provide for the acquisition of land to protect headwaters of navigable streams against land abuse, and for production of timber.	9,000	206,000	- -	1,740,000	12
All other--Decreases are due to nonrecurring construction projects.					
Research construction .	3,000	-1,625,000	- -	213,000	7
Pollution abatement ...	340,000	-3,546,000	- -	6,056,000	413
Total	426,000	-4,146,000	- -	14,414,000	528

PROJECT STATEMENT
(On basis of adjusted appropriation)

Project	1975	1976 estimate	Transition: quarter estimate	1977 estimate	Change from 1976
(1) Forest land management construction:					
(a) Recreation use areas	$7,155,000	$3,050,000	$1,010,000	$3,740,000	+$690,000
(b) Construction for fire, administration, and other purposes	1,748,000	2,462,000	1,512,000	2,665,000	+203,000
(2) Research construction	3,957,000	1,835,000	- -	213,000	-1,622,000
(3) Pollution abatement	16,896,000	9,262,000	8,050,000	6,056,000	-3,206,000
(4) Land Acquisition, Weeks Act	1,581,000	1,525,000	502,000	1,740,000	+215,000
Appropriation or estimate	31,337,000	18,134,000	11,074,000	14,414,000	-3,720,000

PROJECT STATEMENT
(On obligations basis)

Project	1975	1976 estimate	Transition: quarter estimate	1977 estimate	Change from 1976
(1) Forest land management construction:					
(a) Recreation use areas	$4,894,046	$7,300,597	$1,010,000	$3,740,000	-$3,560,597
(b) Construction for fire, administration, and other purposes	2,113,960	2,462,000	1,512,000	2,665,000	+203,000
(2) Research construction	3,318,288	5,474,657	- -	213,000	-5,261,657
(3) Pollution abatement	14,483,850	19,074,255	8,050,000	6,056,000	-13,018,255
(4) Land Acquisition, Weeks Act	978,710	2,137,794	502,000	1,740,000	-397,794
Total obligations or estimate	25,788,854	36,449,303	11,074,000	14,414,000	-22,035,303
Unobligated balance brought forward	-12,767,157	-18,315,303	- -	- -	+18,315,303
Unobligated balance carried forward	18,315,303	- -	- -	- -	- -
Appropriation or estimate	31,337,000	18,134,000	11,074,000	14,414,000	-3,720,000

CONSTRUCTION AND LAND ACQUISITION
(All capital investment)

		Permanent full-time positions
Appropriation, 1975	$31,337,000	473
Appropriation, 1976	18,134,000	528
Appropriation, transition quarter	(11,074,000	
Estimate, 1977	14,414,000	528
Change from 1976	-3,720,000	- -

A net decrease of $3,720,000, with no change in permanent full-time positions is proposed as follows:

(1) Increase of $638,000 to construct projects necessary to support forest land management activities.

(2) Increase of $206,000 for Weeks Act land acquisition.

(3) Increase of $181,000 for construction and reconstruction of recreation use area projects.

(4) To provide for the costs of the pay increase effective in October 1975 (Executive Order 11883), $426,000.

(5) Decrease of $5,171,000 due to nonrecurring construction projects.

The program provides for the construction and improvement of buildings, utilities, other physical facilities and land acquisition throughout the National Forests and National Grasslands. The financing for some development projects, including relatively minor construction projects estimated to cost less than $25,000, is provided by the operating and research programs of which such construction items are an integral part.

(1a) Recreation use areas ($3,740,000, an appropriation increase of $690,000, with no change in permanent full-time positions. On the basis of program level, there will be a decrease of $3,560,597 from the 1976 level of $7,300,597.)

GOAL: The Forest Service goal is to manage the recreation resource on National Forest lands to best serve the steadily increasing numbers of Americans seeking inspiration, enjoyment, and relaxation in the outdoors.

To meet this objective, items 1(a) and 1(b) will provide recreation and interpretive facilities on National Forest System lands to meet the most critical demands for diverse forest-based outdoor recreation opportunities. Design and construction will stress preserving environmental values, which make up a quality experience, and the needs of all people including the physically, economically, and socially disadvantaged. The most urgent and expanding urban needs will be served congruent with contributing to rural community stability.

The proposed program level will be matched to those projects reflecting the highest order of relative priority. The following activities are proposed with fiscal year 1977 funds:

	No. of Sites
(1) Plan new construction	4
(2) Complete construction previously started	9
(3) Reconstruction of worn-out facilities	37
(4) Expansion	19

The lists of proposed projects are included in Exhibit I.

(1b) Construction for fire, administration, and other purposes ($2,665,000, an appropriation increase of $203,000, with no change in permanent full-time positions. On the basis of program level, there will be an increase of $203,000 from the 1976 level of $2,462,000.)

GOAL: To support the Forest Service land management programs by providing adequate structural improvement and communications necessary to achieve the program objectives.

Water and sanitation systems--to replace worn out, improve existing, or construct 12 new systems that will comply with Federal and State water quality standards at a total cost of $755,000.

Specific project locations are as follows:

State	National Forest	Project	Amount
Montana	Kootenai	Trout Creek (water)	$60
Montana	Kootenai	Murphy Lake (sanitation)	190
Montana	Regionwide	Missoula HFD Fire Protection (water)	77
Idaho	Panhandle	Bonners Ferry (sewer)	38
Oregon	Wallowa-Whitman	Pine Sewer System	68
Oregon	Fremont	Silverlake Water System	178
Oregon	Fremont	Paisley Water System	41
Washington	Mt. Baker-Snoqualmie	Komo Kulsan Water System	23
Washington	Mt. Baker-Snoqualmie	North Bend (drainage)	7
Washington	Mt. Baker-Snoqualmie	North Bend (sewer)	13
Washington	Mt. Baker-Snoqualmie	Stevens Pass (sewer)	20
Arkansas	Ozark	Ozark Administrative Site Utility (water and sewer)	40

Offices--Two offices to be constructed at a cost of $201,000 as follows:

State	National Forest	Project	Amount
Wisconsin	Nicolet	Lakewood Ranger District	$26
Alaska	Tongass	Juneau Work Center	175

Dwellings--Three to be constructed at a total cost of $245,000 in rural and isolated locations where rental housing is not available. They will be located as follows:

State	National Forest	Project	Amount
Idaho	Payette	Krassel	$72
Illinois	Shawnee	Jonesboro Ranger District	26
Alaska	Tongass	Juneau Work Center (crew quarters)	147

Communications system (radios)--Five systems will be improved through new construction or upgrading existing systems at a total cost of $796,000 at the following locations:

State	National Forest	System	Amount
New Mexico	Lincoln	Lincoln radio	$52
Idaho	Caribou	Caribou radio	1
Idaho	Targhee	Targhee radio	160
Region 9	Regionwide	Radio replacement	123
California	Regionwide	Radio conversion	460

Service and storage buildings--Four to be constructed at a cost of $448,000 as follows:

State	National Forest	Project	Amount
Michigan	Ottawa	Kenton Warehouse	$50
Alaska	Tongass	Juneau Work Center Warehouse	270
Alaska	Tongass	Juneau Work Center equipment storage	93
Alaska	Tongass	Ketchikan Marine facility	35

Airport project and lookout--Two to be constructed at a cost of $220,000 for protection of the National Forests from wildfires as follows:

State	National Forest	Project	Amount
New Mexico	Lincoln	Alamogordo Tanker Base	$195
Idaho	Sawtooth	Mt. Harrison Lookout	25

Examples of Recent Accomplishments

The following units were constructed or reconstructed or construction contracts awarded in fiscal year 1975:

Units	No.
Water and sanitation systems	8
Communication systems upgraded and modernized	6
Offices	1
Dwellings	8
Service and storage buildings	3

(2) Research construction ($213,000, an appropriation decrease of $1,622,000 with no change in permanent full-time positions. On the basis of program level, there will be a decrease of $5,261,657.)

The proposed funds will be used for:

(a) Tree seed processing shop, Starkville, Mississippi $79,000

(b) Remodeling to provide additional laboratory space at the Institute of Forest Genetics, Rhinelander, Wisconsin 35,000

(c) Soils laboratory and instrument laboratory within existing structure at Coweeta, Franklin, North Carolina 66,000

(d) Security fencing, well, overflow ditches and road improvements at the Hastings Research Area, Adams County, Nebraska 33,000

(3) Pollution abatement ($6,056,000, an appropriation decrease of $3,206,000, with no change in permanent full-time positions. On the basis of program level, there will be a decrease of $13,018,255 from the 1976 level of $19,074,255.)

GOAL: To reduce water pollution from existing Forest Service facilities consistent with State water quality standards as required by PL 92-500 and E.O. 11752.

The program is to continue work required by PL 92-500 and E.O. 11752 and related State and Federal standards promulgated by that Act. Such action will include investigation of both point and non-point discharges including monitoring and surveillance systems and corrective action on identified deficient National Forest lands and facilities. Where corrective action on previously unidentified sites is found to be necessary, funds will be used for thorough analysis and preliminary design. Corrective action proposed at administrative and recreation sites is primarily to meet requirements established by EPA issued NPDES discharge permits under Sec. 402 of the Act.

65-300 O - 76 - 18

(a) Point discharge evaluation and design	$711,000
(b) Correct deficient administrative site	734,000
(c) Correct deficient recreation sites	3,411,000
(d) Non-point monitoring, evaluation, and design	1,200,000
Total	6,056,000

Pollution abatement and prevention requirements aimed largely at point source discharges have been broadened by PL 92-500.

(4) Land Acquisition, Weeks Act ($1,740,000, an appropriation increase of $215,000, with no increase in permanent full-time positions. On basis of program level, there will be a decrease of $397,794 from the 1976 level of $2,137,794.)

Acquisition of key watershed and timber producing lands primarily in the Eastern United States. The lands acquired through this program will insure quality water yields, enhance the environment, and through proper management, provide future harvests of valuable renewable resources.

This program is concentrated in the depressed areas of Appalachia and in Midwestern States where public ownership is limited. Funds proposed in 1977 will involve the acquisition of approximately 14,000 acres of key watershed and timber-producing lands.

In the past 3 years land costs have increased at a slower rate; however, payments required by PL 91-646 and increased costs of doing business results in less acreage acquired per dollar expended. At the current funding level fewer acres will be acquired each year. Sound management of acquired areas will contribute to:

(a) Stabilization of the local economy.
(b) Environmental enhancement.
(c) Prevention of stream pollution in rural America.
(d) Improved timber production.

Lands primarily valuable for recreation are not included in this program, since acquisition of such lands is financed under the Land and Water Conservation Fund.

See the tabulation at the end of this section for more detailed information on the actual and planned accomplishments in fiscal years 1975-1977 (Exhibit II).

Examples of Recent Accomplishments

In 1975, a total of 77 tracts were contracted for purchase under authority of the Weeks Act using regular appropriated Weeks Act funds. These cases involved the acquisition of 6,099 acres at a total cost of $761,412. These transactions involve lands suited to timber production and watershed protection in areas where National Forest ownership needs to be consolidated or extended to facilitate these programs. Many of the smaller parcels, 20-40-80 acres in size, are purchases made at a price equal to, or nearly equal to, the cost that would otherwise have been incurred to survey, post, and mark the National Forest boundary surrounding the property.

EXHIBIT I -- RECREATION USE -- FY 1977
CAPITAL INVESTMENTS

State Forest and Project	PAOT Capacity	Cost	Projected Visitor-Day Use
Alabama			
National Forests (Houston boat ramp) ...	100	$17,000	5,500 (I)
National Forests (Payne Lake water system)	890	17,000	42,200 (A)
Alaska			
Tongass (Prince of Wales road sanitary facilities)	100	25,000	21,000 (I)
Arkansas			
Ozark (Blanchard Campground entrance station)	1,455	60,000	100,300 (A)
Ouachita (Shady Lake trailer dump)	485	150,000	58,700 (A)
California			
Lassen (Eagle Lake Marina)	750	335,000	13,000 (A)
Colorado			
San Isabel (Twin Lakes Visitor Center) .	50	6,000	1,000 (I)
San Isabel (Turquoise Lake)	125	52,000	7,000 (I)
White River (Green Mountain Reservoir) .	200	80,000	60,000 (A)
Georgia			
National Forests (Rabun Beach water system)	735	67,000	35,800 (A)
National Forests (The Pocket water system)	170	28,000	9,000 (A)
National Forests (Chattooga River Recreation Area)	100	18,000	5,000 (I)
Idaho			
Challis (Boundary Creek-Dagger Creek boat ramp)	208	37,000	3,000 (I)
Salmon (Cash Creek Bar boat ramp)	30	60,000	4,000 (I)
Sawtooth (North Fork Headquarters - Sawtooth NRA)	50	715,000	3,000 (I)
Illinois			
Shawnee (Cedar Lake South Bay Campground planning)	--	46,000	--
Indiana			
Hoosier (Lake Celina Campground completion and Indian Lake boat ramp)	285	165,000	18,000 (I)
Kentucky			
Daniel Boone (Laurel Reservoir Marina utilities)	--	278,000	--
Michigan			
Hiawatha (Round Island lighthouse restoration)	--	112,000	--
Huron-Manistee (Bowman Bridge Campground)	200	72,000	10,000 (I)
Ottawa (Black River Harbor Campground) .	1,210	200,000	54,000 (A)
Mississippi			
National Forests (Turkey Fork Day Use Area)	255	95,000	5,000 (I)
National Forests (Big Biloxi water system)	50	35,000	10,200 (A)

EXHIBIT I -- RECREATION USE -- FY 1977 -- continued

State Forest and Project	PAOT Capacity	Cost	Projected Visitor- Day Use
North Carolina			
National Forests (Black Mountain water system)	230	$55,000	25,700 (A)
National Forests (5 campgrounds rehabilitation)	540	26,000	30,000 (A)
National Forests (North Mills River)	385	30,000	17,600 (A)
National Forests (Chattooga River Recreation Area)	40	12,000	3,000 (I)
Oregon			
Deschutes (campground barriers)	605	20,000	73,500 (A)
Mount Hood (Timberline Lodge)	3,000	83,000	130,000 (A)
Mount Baker-Snoqualmie (Heather Meadows)	3,000	19,000	52,100 (A)
Mount Baker-Snoqualmie (conversion to vault toilets)	1,355	123,000	74,800 (A)
Mount Baker-Snoqualmie (Stevens Pass trailhead)	250	63,000	10,000 (I)
Pennsylvania			
Allegheny (Recreation site rehabilitation)	2,940	50,000	500,000 (A)
Allegheny (Sugar Bay facility design)	- -	50,000	- -
Puerto Rico			
Caribbean (recreation facility planning)	- -	70,000	- -
South Carolina			
National Forests (Chattooga River Recreation Area)	65	15,000	10,000 (I)
National Forests (Buckhall Seawall)	185	130,000	17,700 (A)
South Dakota			
Black Hills (4 developed site water systems)	335	22,000	125,000 (A)
Utah			
Ashley (Flaming Gorge Visitor Center)	25	84,000	3,500 (A)
Virginia			
George Washington (North River Campground)	60	24,000	10,800 (A)
George Washington (Sherando water system)	1,285	15,000	129,900 (A)
George Washington (North River picnic site)	145	12,000	700 (A)
George Washington (Bubbling Spring water system)	25	12,000	4,700 (A)
West Virginia			
Monongahela (Spruce Knob environmental impact statement)	- -	25,000	- -
Wisconsin			
Chequamegon (recreation site rehabilitation)	145	25,000	8,000 (A)
Chequamegon (Perch Lake and Fanny Lake Campground)	40	7,000	1,000 (I)
Nicolet (Laura Lake Campground)	55	12,000	3,000 (I)
Nicolet (Boulder Lake Campground)	130	85,000	8,500 (I)
....	150	- -	10,000 (A)
Wyoming			
Bighorn (Greybull Office Indian Museum)	20	1,000	200 (I)
TOTAL	22,458	3,740,000	118,200 (I) 1,597,200 (A)

PAOT -- Persons-at-one-time
(A) -- Affected--no increase
(I) -- Increased use

EXHIBIT II - WEEKS ACT PURCHASES 1975-1977

(dollars in thousands)

	FY 1975			FY 1976			Transition Quarter			FY 1977		
	Options accepted	Acres	Obligation	Options to be accepted	Acres	Obligation	Options to be accepted	Acres	Obligation	Options to be accepted	Acres	Obligation
Alabama				2	80	$20.0						
Arkansas	7	930	$126.1	11	870	134.3				15	1,000	$194.4
Illinois	3	688	128.5	9	600	70.0	2	160	$25.0	12	625	78.4
Indiana	5	190	39.9	8	700	100.0	2	175	25.0	7	725	130.0
Kentucky	16	1,129	85.4	48	10,326	899.1	6	250	200.0	39	7,000	551.4
Michigan	11	184	29.8	14	775	70.0	5	380	35.0	11	1,230	130.0
Minnesota	4	223	21.3	6	300	16.0				9	725	50.0
Missouri	4	319	41.8	10	550	70.0	10	500	50.0	3	270	35.0
Nebraska	1	100	23.0	1	420	50.0	1	420	55.0			
New Hampshire	2	128	19.1	4	645	94.3				1	50	10.0
North Carolina				1	34	9.5						
Ohio	21	2,005	220.1	16	1,033	111.6	4	235	25.0	23	780	130.0
South Carolina	1	2	0.8	1	60	8.0						
Vermont										1	250	50.0
Virginia				6	284	77.4						
West Virginia	1	1	0.6	3	390	70.6	2	160	10.0	2	80	10.0
Wisconsin	1	200	25.0	3	310	18.0				12	820	65.0
Subtotal	77	6,099	761.4	143	17,377	1,818.8	32	2,280	425.0	135	13,555	1,434.2
Surveys and related acquisition costs			217.3			319.0			77.0			305.8
Unobligated balance carried forward			612.8									
Unobligated balance brought forward			-10.5			-612.8						
Total Appropriation			1,581.0			1,525.0			502.0			1,740.0

CONSTRUCTION AND LAND ACQUISITION

Proposed Change in Activity Structure

Present Structure	Proposed Structure
(1) Forest land management construction: (a) Development of recreation-public use areas (b) Water resource development construction (c) Construction for fire, administration, and other purposes	(1) Forest land management construction: (a) Recreation use areas (b) Construction for fire, administration, and other purposes

It is proposed that the separate activity, water resource development construction, be combined with development of recreation-public use areas, since it is considered a part of recreation use areas for management purposes.

A-11-32a

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
CONSTRUCTION AND LAND ACQUISITION
Program and Financing (in thousands of dollars)

STANDARD FORM 300-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.

Identification code 05-96-1103-0-1-302		19 75 actual	19 76 estimate	Transition Quarter estimate	19 77 estimate
	Program by activities:				
	1. Forest land management construction	7,497	10,100	5,272	5,763
	2. Research construction	4,181	4,170	3,000	204
	3. Pollution abatement	23,896	17,909	13,050	6,016
	4. Land acquisition, Weeks Act	1,653	1,884	902	1,331
	Total direct program	37,227	34,063	22,224	13,314
	Total reimbursable program	65	250	50	250
	Total program costs, funded 1/	37,292	34,313	22,274	13,564
	Change in selected resources (undelivered orders)	-11,438	2,386	-11,150	1,100
10	Total obligations	25,854	36,699	11,124	14,664
	Financing:				
	Receipts and reimbursements from:				
11	Federal funds	-65	-250	-50	-250
21	Unobligated balance available, start of period	-12,767	-18,315	.....	.....
24	Unobligated balance available, end of period	18,315	.....	.....	.....
40	Budget authority (appropriation)	31,337	18,134	11,074	14,414
	Relation of obligations to outlays:				
71	Obligations incurred, net	25,789	36,449	11,074	14,414
72	Obligated balance, start of period	26,303	13,577	15,726	4,867
74	Obligated balance, end of period	-13,577	-15,726	-4,867	-4,722
90	Outlays	38,515	34,300	21,933	14,559

1/ Includes capital outlay as follows: 1975, $24,966 thousand; 1976, $23,100 thousand; Transition Quarter, $15,000 thousand; 1977, $8,000 thousand.

(Mono cost: 23.18) (Mono cost: 8.5) (Mono cost: 8.9) (Mono cost: 5.9) (Mono cost: 8)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
CONSTRUCTION AND LAND ACQUISITION

A-11-34b

Type size: 12th 6&/22

STANDARD FORM 304-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.
304-103T

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 05-96-1103-0-1-302	1975 actual	1976 estimate	Transition Quarter estimate	1977 estimate
FOREST SERVICE--Direct obligations:				
Personnel compensation:				
11.1 Permanent positions	6,695	6,020	2,440	4,740
11.3 Positions other than permanent	1,746	1,735	800	1,335
11.5 Other personnel compensation	181	185	55	125
11.8 Special personal services payments				
Total personnel compensation	8,622	7,940	3,295	6,200
Personnel benefits:				
12.1 Civilian	888	810	345	620
13.0 Benefits for former personnel	3	5	.....	.....
21.0 Travel and transportation of persons	495	450	190	240
22.0 Transportation of things	326	500	215	160
23.0 Rent, communications, and utilities	641	510	100	310
24.0 Printing and reproduction	31	75	20	15
25.0 Other services	5,666	9,761	2,924	2,979
26.0 Supplies and materials	905	2,500	400	440
31.0 Equipment	958	1,850	250	470
32.0 Lands and structures	6,542	12,000	3,340	3,000
33.0 Investments and loans	3	.....	.....	.....
41.0 Grants, subsidies, and contributions	4	.....	.....	.....
42.0 Insurance claims and indemnities	6	.....	.....	.....
43.0 Interest and dividends				
44.0 Refunds				
Subtotal	25,090	36,401	11,079	14,434
95.0 Quarters and subsistence charges	-17	-20	-5	-20
99.0 Total direct obligations	25,073	36,381	11,074	14,414
	(Mono cost: 22.18)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
CONSTRUCTION AND LAND ACQUISITION

A-11-34b

Type size:
178 M4/22

STANDARD FORM 304-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised,
304-103T

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 05-96-1103-0-1-302	1975 actual	1976 estimate	Transition Quarter estimate	1977 estimate
FOREST SERVICE--Reimbursable obligations:				
Personnel compensation:				
11.1 Permanent positions				
11.3 Positions other than permanent				
11.5 Other personnel compensation				
11.8 Special personal services payments				
Total personnel compensation				
Personnel benefits:				
12.1 Civilian				
13.0 Benefits for former personnel				
21.0 Travel and transportation of persons				
22.0 Transportation of things				
23.0 Rent, communications, and utilities				
24.0 Printing and reproduction				
25.0 Other services	65	250	50	250
26.0 Supplies and materials				
31.0 Equipment				
32.0 Lands and structures				
33.0 Investments and loans				
41.0 Grants, subsidies, and contributions				
42.0 Insurance claims and indemnities				
43.0 Interest and dividends				
44.0 Refunds				
99.0 Total obligations, Forest Service	25,138	36,631	11,124	14,664
(Mono cost: 22.18)	(Mono cost: 5.8)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
CONSTRUCTION AND LAND ACQUISITION

A-11-34b

Type size:
178 M6/23

STANDARD FORM 304-T
June 1973, Office of Management and Budget
Circular No. A-11, Revised.
304-1037

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 05-96-1103-0-1-302	19 75 actual	19 76 estimate	Transition Quarter estimate	19 77 estimate
GENERAL SERVICES ADMINISTRATION				
Personnel compensation:				
11.1 Permanent positions				
11.3 Positions other than permanent				
11.5 Other personnel compensation				
11.8 Special personal services payments				
Total personnel compensation				
Personnel benefits:				
12.1 Civilian				
13.0 Benefits for former personnel				
21.0 Travel and transportation of persons	3	4	.....	.....
23.0 Transportation of things				
23.0 Rent, communications, and utilities				
24.0 Printing and reproduction				
25.0 Other services	18	31	.....	.....
26.0 Supplies and materials				
31.0 Equipment				
32.0 Lands and structures	695	33	.....	.....
33.0 Investments and loans				
41.0 Grants, subsidies, and contributions				
42.0 Insurance claims and indemnities				
43.0 Interest and dividends				
44.0 Refunds				
Total obligations, General Services Administration ...	716	68	.....	.....
99.0 Total obligations	25,854	36,699	11,124	14,664
(Memo cost: 22.1%)	(Memo cost: 5.5%)	(Memo cost: 5.6%)	(Memo cost: 5.1%)	(Memo cost: 5%)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
CONSTRUCTION AND LAND ACQUISITION

A-11-34b

STANDARD FORM 300-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised

Personnel Summary

Identification code 05-96-1103-0-1-302	19 75 actual	19 76 estimate	19 TQ estimate	19 77 estimate
Total number of permanent positions	473	528		528
Full-time equivalent of other positions	194	188		111
Average paid employment	602	552		381
Average GS grade	8.63	8.64		8.64
Average GS salary	$15,149	$15,947		$15,947
Average salary of ungraded positions	$12,261	$13,008		$13,008
(Memo cost: 35.1%)	(Memo cost: 1.5%)	(Memo cost: 1.5%)	(Memo cost: 1.5%)	(Memo cost: 1%)

FOREST ROADS AND TRAILS

	Liquidation of Contract Authority		Timber Purchaser Road Construction Authorization
		Permanent 1/ full-time positions	
Appropriation, 1975	$124,578,000	4,635	
Appropriation, 1976	112,859,000	4,434	
Appropriation, transition quarter	(- -)		
Appropriation, 1977	170,104,000	4,434	$200,000,000
Change from 1976	+57,245,000	- -	+200,000,000

PROJECT STATEMENT

The following tabulation reflects the total program for the construction and maintenance of roads and trails on the National Forests and Grasslands by combining the funds available under the appropriation "Forest roads and trails" with the permanent appropriation of 10 percent of National Forest receipts. It also includes funds that represent purchasers' costs for the roads they build under the provisions of the timber sale contract. These purchaser-constructed roads are included in the budget in 1977 for the first time pursuant to the provisions of section 9 of the Forest and Rangeland Renewable Resources Planning Act.

Project	1975	1976 estimate	Transition: quarter estimate	1977 estimate	Change from 1976
1. Construction of roads and trails (capital investment)	$111,265,908	$131,628,468	$36,130,000	$117,723,000	-$13,905,468
2. Maintenance of roads and trails (operation and maintenance)	46,405,624	43,344,000	16,200,000	52,381,000	+9,037,000
Timber purchasers: Construction of roads (capital investment)	- -	- -	- -	200,000,000	+200,000,000
Total obligations	157,671,532	174,972,468	52,330,000	370,104,000	+195,131,532
Transfer from Roads and Trails for States	-47,003,064	-35,908,943	-46,900,000	-14,250,000	+21,658,943
Program under Forest Roads and Trails: Contract Authority	110,668,468	139,063,525	5,430,000	155,854,000	+16,790,475
Timber purchasers authority	- -	- -	- -	200,000,000	+200,000,000
Obligations incurred under unfunded contract authority	13,909,532	-26,204,525	-5,430,000	14,250,000	+40,454,525
Liquidation of contract authority	124,578,000	112,859,000	- -	170,104,000	+57,245,000
Timber purchaser road construction authorization	- -	- -	- -	200,000,000	+200,000,000

1/ Excludes following positions in the Department of Transportation that receives funds from the Forest Service: 1975, 3; 1976, 3; 1977, 3.

The annual appropriation language and the Department presentation combine the appropriation for Forest roads and trails made pursuant to 23 USC 205 and the appropriation of 10 percent of forest receipts for construction and maintenance of roads and trails pursuant to 16 USC 501. This merger of funds is made in order to simplify the programing, allotment, and accounting of funds at the field level.

An increase of $57,245,000 is proposed to meet cash requirements for liquidation of contract authority. This appropriation provides for the liquidation of obligations incurred for the construction and maintenance of forest roads and trails pursuant to the authority contained in the Federal-Aid Highway Act. An appropriation of $170.1 million for 1977 is required to:

(1) Pay for obligations of the prior years which will be due for payment in fiscal year 1977.

(2) Pay the portion of the 1977 obligations of $155.9 million contract authority which will require cash payment in that year.

No change in Forest Service permanent full-time positions is proposed.

Status of Unfunded Authorizations

Unfunded contract authority beginning of 1976	$439,570,000
Appropriation, 1976	-112,859,000
Total unfunded beginning of 1977	326,711,000
1977 Budget estimate (cash requirements)	-170,104,000
Balance to remain unfunded as of September 30, 1977	156,607,000

Analysis of Cash Requirements

1.	Unliquidated obligations, June 30, 1975		47,441,019
2.	Estimated cash requirements to finance 1976 program		91,009,432
3.	Total cash requirements by June 30, 1976		138,450,451
4.	Less cash on hand 1976: Balance from 1975	25,591,451	
	Appropriation, 1976	112,859,000	138,450,451
5.	Obligations in transition quarter and prior years for which cash was not provided		45,424,000
6.	Estimated cash required to finance 1977 program a/		124,680,000
7.	Total cash required in 1977		170,104,000

a/ An estimated 80 percent of the $155,854,000 new obligations will require cash payments during the fiscal year.

Timber Purchaser Road Construction Authority ($200,000,000)

Provision is also made for budget authority to carry out item (2) of 16 USC 535. This is in accordance with section 9 of PL 93-378 (August 17, 1974) and definitions in section 3(a) of PL 93-344 (July 12, 1974). The above provisions relate to forest development road construction and reconstruction as negotiated in timber sale contracts. These roads are those required within a timber sale area specifically for the removal of the timber, but which will remain on the national forest development road system for resource management purposes after the timber sale contract is completed.

It is estimated that the value of roads to be constructed by timber purchasers in timber sale contracts awarded in fiscal year 1977 will be $200,000,000.

GOAL: Most of the uses of the National Forests require varied methods of transportation. Although most forest roads and trails fulfill many needs, specific demands require transportation facilities to meet the specific needs outlined below:

Timber	- Protection and salvage of timber susceptible to, or damaged by, fire, insects, and diseases
	- Intensive cultural treatment to increase growth, yield, and quality
	- Reforestation of suitable timber-producing lands
	- Harvesting and movement of commercial timber
Forage	- Distribution and management of livestock
	- Increase utilization of available forage
	- Rehabilitation of rangelands
Land and Water	- Development, stabilization, and maintenance of water supplies
	- Restoration of disturbed and eroded lands
	- Orderly and safe use and occupancy of public and private lands
Recreation and Wilderness	- Use of public and private recreation facilities
	- Scenic travel
	- Visiting wilderness lands and waters
	- Environmental education
	- Preservation and awareness of historical and archeological treasures
Minerals and Energy	- Exploration, development, extraction, and movement of minerals and energy fuels
Wildlife	- Habitat improvement
	- Establishing, managing, and harvesting fish and wildlife

Following is a summary of three years of road and trail construction and maintenance. A comparison is shown of the work to be undertaken (dollars in thousands)(excludes timber purchaser road construction authorization program).

	FY 1975		FY 1976		Transition quarter		FY 1977		Changes from 1976	
	Miles	Amount	Miles	Amount	Miles	Amount	Miles	Amount	Miles	Amount
Recurrent road maintenance ...	97,043	$40,817	96,630	$37,665	96,630	$12,400	193,000	$44,300	1/	+$6,635
Recurrent trail maintenance ..	82,124	5,589	61,400	5,679	30,700	3,800	81,100	8,100	1/	+2,421
Road construction	136	6,958	240	17,803	47	1,000	230	15,235	-10	-2,568
Trail construction	298	4,188	270	3,112	90	1,200	290	2,900	+20	-212
Location, surveys, plans and supervision (timber roads) ..	8,427	85,162	10,938	93,444	11,000 2/	30,000	8,805	91,069	-2,133	-2,375
Augmentation timber purchaser construction	350	8,863	430	10,044	80	2,180	459	5,500	+29	-4,544
	No.		No.		No.		No.		No.	
Bridge construction and reconstruction for timber access	188	6,095	123	7,225	29	1,750	56	3,000	-67	-4,225
Totals		157,672		174,972		52,330		170,104		-4,868

1/ Not available due to change in 1977 in reporting procedures to account for all roads and trails in the Forest Development Road and Trail System regardless of maintenance level.

2/ Field work will be initiated (to some degree) on the total number of miles to be considered over the fiscal years 1977-1978+ sale program.

The following table represents the best estimate of work to be obligated by timber purchasers under new timber sale contracts in fiscal year 1977 (dollars in thousands):

Timber Purchaser Road Construction Authorization Program

	FY 1976 Estimate for Comparability		FY 1977	
Purchaser surveys (miles)	1,731	$4,037	1,166	$2,544
Purchaser engineering (all)	- -	21,332	- -	6,876
Purchaser reconstruction (miles)	4,543	67,143	5,236	53,559
Purchaser construction (miles)	5,077	128,251	4,750	128,013
Purchaser bridge construction (No.)	- -	- -	763	9,008
Total estimate		220,763		200,000

Program Direction

The fiscal year 1977 Transportation System Development Program is funded by two methods--direct appropriation of funds and authorization of construction through the timber sale contract. The fiscal year 1977 proposal emphasizes the timber resource demand and regulated Transportation System needs. Access will be developed through timber sale purchaser construction authorization and appropriated fund support activities in preparation for fiscal year 1978 and future sale and harvest activities.

The program proposed provides for:

(1) Maintenance and operation of the existing roads and trails consistent with National Forest administration, use, and protection required by all ongoing programs and activities.

(2) Capital investments

(a) Miles of new surveys and ongoing design activities for roads for harvesting and moving commercial timber included in new timber sales for 1977, 1978, and the future.
(b) Construction engineering and augmentation of roads and bridges committed to construction by past timber sales and public work contracts.
(c) New road and bridge construction for direct support recreation developments proposed in fiscal year 1977 budget and/or included in prior year budgets.
(d) Continue repair and replacement of bridges which fall below current requirements of safety for highway loadings as identified by inspections under the National Bridge Safety program.
(e) Road construction and reconstruction to provide access to, and in advance of implementation of intensive renewable resource management activities with emphasis on timber.
(f) Road construction and reconstruction through timber sale contract requirements and timber credit allowances as provided for by PL 88-637, October 13, 1964.
(g) Construction of 290 miles of trails.

Trails are an integral part of a National Forest's transportation plan, providing public access and bearing safety requirements in similar fashion to roads described above. Increased emphasis on hiking and backpacking have expanded demand rapidly.

National Trails System development (PL 90-543) will be implemented with the proposed funding. The order of priority will be:

(1) Projects toward completion of those parts of the Appalachian and Pacific Crest National Scenic Trails within National Forests.

(2) Candidates for designation as National Recreation Trails.

(3) Other heavy-use trails not part of the National Trails System.

Maintenance and construction will assist in providing for heavy public recreation travel over previously inadequate and sometimes unsafe heavy-use trails, while protecting soil and watershed and esthetic values in scenic and recreation areas. The additional funding for trails complements and makes possible the increased emphasis in providing dispersed recreation opportunities near the user, and minimum investment to prevent irretrievable deterioration of facility and resource damage.

The following tabulation shows the current status of the Forest Roads and Trails System and project needs:

	Existing Mileage	Estimated Mileage Needing Reconstruction	Estimated Additional Mileage Needed
Forest development roads	205,182	145,000	272,000
Forest development trails ...	96,663	45,000	23,625

Construction

	By the Government				By Timber Purchasers			
	FY 1975	FY 1976	Trans. quarter	FY 1977	FY 1975	FY 1976	Trans. quarter	FY 1977
Roads (miles)	136	240	47	230	8,427	9,620	4,500	9,986
Trails (miles)	298	270	90	290	- -	- -	- -	- -

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GEOGRAPHIC BREAKDOWN OF OBLIGATIONS

Forest Roads and Trails

	FY 1975	FY 1976 estimate	Transition quarter estimate	FY 1977 estimate	Change from 1976
Alabama	$609,593	$790,000	$267,000	$1,020,000	+$230,000
Alaska	6,296,507	7,073,000	709,000	4,856,000	-2,217,000
Arizona	4,004,008	4,555,000	1,140,000	4,978,000	+423,000
Arkansas	2,106,459	2,915,000	807,000	3,765,000	+850,000
California	37,084,799	36,723,468	13,046,000	31,679,000	-5,044,468
Colorado	5,724,373	4,865,000	856,000	4,992,000	+127,000
District of Columbia	3,451,964	4,412,000	1,142,000	4,791,000	+379,000
Florida	800,141	688,000	233,000	890,000	+202,000
Georgia	819,077	989,000	335,000	1,280,000	+291,000
Idaho	14,918,509	21,135,000	6,597,000	21,156,000	+21,000
Illinois	326,497	474,000	300,000	450,000	-24,000
Indiana	133,897	51,000	37,000	50,000	-1,000
Kansas	1,261	- -	- -	- -	- -
Kentucky	1,371,250	1,047,000	337,000	1,352,000	+305,000
Louisiana	823,322	833,000	251,000	1,076,000	+243,000
Maine	33,002	48,000	16,000	45,000	-3,000
Michigan	1,639,693	1,854,000	1,440,000	1,765,000	-89,000
Minnesota	1,472,876	1,452,000	1,264,000	1,383,000	-69,000
Mississippi	800,976	1,174,000	323,000	1,516,000	+342,000
Missouri	962,386	638,000	354,000	608,000	-30,000
Montana	13,408,737	14,325,000	5,675,000	15,222,000	+897,000
Nebraska	55,173	48,000	9,000	49,000	+1,000
Nevada	640,131	862,000	245,000	795,000	-67,000
New Hampshire	669,167	713,000	301,000	680,000	-33,000
New Mexico	3,028,848	3,323,000	876,000	3,631,000	+308,000
New York	8,656	3,000	4,000	3,000	- -
North Carolina	926,445	1,428,000	448,000	1,844,000	+416,000
North Dakota	86,251	90,000	37,000	95,000	+5,000
Ohio	133,897	50,000	16,000	48,000	-2,000
Oklahoma	197,992	265,000	83,000	342,000	+77,000
Oregon	26,208,559	29,218,000	6,054,000	27,231,000	-1,987,000
Pennsylvania	1,149,159	836,000	468,000	796,000	-40,000
Puerto Rico	28,970	32,000	11,000	40,000	+8,000
South Carolina	687,230	825,000	254,000	1,065,000	+240,000
South Dakota	1,720,718	1,600,000	283,000	1,643,000	+43,000
Tennessee	627,859	785,000	231,000	1,014,000	+229,000
Texas	911,656	1,044,000	336,000	1,348,000	+304,000
Utah	2,746,482	3,563,000	1,186,000	3,290,000	-273,000
Vermont	477,682	430,000	413,000	406,000	-24,000
Virginia	1,093,051	1,240,000	388,000	1,600,000	+360,000
Washington	14,462,803	15,586,000	3,307,000	14,526,000	-1,060,000
West Virginia	1,193,158	2,064,000	554,000	1,965,000	-99,000
Wisconsin	989,132	1,693,000	1,050,000	1,612,000	-81,000
Wyoming	2,839,186	3,233,000	647,000	3,207,000	-26,000
Undistributed (Timber purchaser road construction authority)	- -	- -	- -	200,000,000	+200,000,000
Total	157,671,532	174,972,468	52,330,000	370,104,000	+195,131,532

FOREST ROADS AND TRAILS [(LIQUIDATION OF CONTRACT AUTHORITY)]

Proposed Changes in Language

Change in language is proposed as follows. New language is underscored and deleted matter is enclosed in brackets.

For expenses necessary for carrying out ..... shall be merged with and made a part of this appropriation: Provided further, That $200,000,000 is available pursuant to the provisions of section 9 of the Forest and Range-land Renewable Resources Planning Act of 1974 (16 U.S.C. 1601-1610) for the construction of roads by timber purchasers in advance of a determination of payments due pursuant to the Act of March 4, 1907 (16 U.S.C. 499) and the Acts of May 23, 1908 and March 1, 1911 (16 U.S.C. 500).

[Funds available under the Act of March 4, 1913 (16 U.S.C. 501) during the period July 1, 1976, through September 30, 1976, shall be merged with and made a part of this appropriation and shall be used for expenses necessary for carrying out the provisions of title 23, United States Code, sections 203 and 205, relating to the construction and maintenance of forest development roads and trails, to remain available until expended.]

Change 1 eliminates words which refer to the Federal-Aid Highway Act. This appropriation includes both funds provided for liquidation of contract authority authorized in the Federal-Aid Highway Act and for authority for construction of roads by timber purchasers (see change 2).

Change 2 provides for budget authority to carry out item (2) of 16 U.S.C. 535. This is in accordance with section 9 of PL 93-378 (August 17, 1974) and definitions in section 3(a) of PL 93-344 (July 12, 1974). These provisions relate to forest development road construction and reconstruction as negotiated in timber sale contracts. These roads are those required within a timber sale area specifically for the removal of the timber, but which will remain on the National Forest Development Road System for resource management purposes after the timber sale contract is completed. The value of timber purchaser road construction will be deducted from timber sale receipts before determining payments to States and counties pursuant to the Acts of May 23, 1908 and March 1, 1911 (16 U.S.C. 500).

Change 3 deletes authority needed to continue activities during the transition period July 1 through September 30, 1976.

DEPARTMENT OF AGRICULTURE
FOREST SERVICE

A-11-32a

STANDARD FORM 300-T FOREST ROADS AND TRAILS
June 1975, Office of Management and Budget
Circular No. A-11, Revised.
Program and Financing (in thousands of dollars)

Identification code 05-96-2262-0-1-302	19 75 actual	19 76 estimate	Transition Quarter estimate	19 77 estimate
Program by activities:				
Direct program				
1. Construction of roads and trails ..	111,505	115,837	63,130	326,497
2. Maintenance of roads and trails ..	49,447	43,500	16,200	52,300
Total direct program	160,952	159,337	79,330	378,797
Reimbursable program				
1. Construction of roads and trails ..	176	700	175	700
2. Maintenance of roads and trails ..	127	300	75	300
Total reimbursable program	303	1,000	250	1,000
Total program costs, funded 1/.....	161,255	160,337	79,580	379,797
Change in selected resources (undelivered orders)	-3,280	15,635	-27,000	-8,693
10 Total obligations	157,975	175,972	52,580	371,104
Financing:				
Receipts and reimbursements from:				
11 Federal funds	-47,256	-36,809	-47,050	-15,150
14 Non-Federal sources .	-50	-100	-100	-100
21.49 Unobligated balance available, start of period: Contract authority ...	-450,000	-417,720	-278,657	-273,227
24.49 Unobligated balance available, end of period: Contract authority ...	417,720	278,657	273,227	117,373
Budget authority	78,389	.....	.....	200,000
(Memo cost: 22.12)	(Memo cost: 5.8)	(Memo cost: 5.8)	(Memo cost: 5.8)	(Memo cost: 5)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
FOREST ROADS AND TRAILS

A-11-32a

STANDARD FORM 300-T
June 1970, Office of Management and Budget Circular No. A-11, Revised.

Program and Financing (in thousands of dollars)--continued

Identification code 05-96-2262-0-1-302	19 75 actual	19 76 estimate	Transition Quarter estimate	19 77 estimate
Budget authority:				
Current:				
40 Appropriation	124,578	112,859	.....	370,104
40.49 Portion applied to liquidate contract authority	-124,578	-112,859	.....	-170,104
43 Appropriation (adjusted)	.....	.....	.....	200,000
49.11 Contract authority rescinded (23 U.S.C. A104)	-61,611	.....	.....	.....
Permanent:				
69 Contract authority (23 U.S.C. 203)	140,000	.....	.....	.....
Relation of obligations to outlays:				
71 Obligations incurred, net	110,669	139,063	5,430	355,854
Obligated balance, start of period:				
72.40 Appropriation	15,558	25,591	.....	.....
72.49 Contract authority	35,759	21,850	48,054	53,484
Obligated balance, end of period:				
74.40 Appropriation	-25,591	.....	.....	-161,400
74.49 Contract authority	-21,850	-48,054	-53,484	-39,234
90 Outlays	114,545	138,450	.....	208,704

1/ Includes capital outlay as follows: 1975, $73,561 thousand; 1976, $75,000 thousand; Transition Quarter, $35,000 thousand; 1977, $265,000 thousand.

DEPARTMENT OF AGRICULTURE
FOREST SERVICE

A-11-38

STANDARD FORM 300-T FOREST ROADS AND TRAILS

June 1975, Office of Management and Budget
Circular No. A-11, Revised.

Status of Unfunded Contract Authority (in thousands of dollars)

Identification code	FY 75 actual	FY 76 estimate	Transition Quarter estimate	FY 77 estimate
Unfunded balance, start of period	485,759	439,570	326,711	326,711
Contract authority	140,000	.....	.....	.....
Unfunded balance rescinded (PL 93-529)	-61,611	.....	.....	.....
Unfunded balance, end of period	-439,570	-326,711	-326,711	-156,607
Appropriation to liquidate contract authority	124,578	112,859	.....	170,104

(Memo cost: 33.10) (Memo cost: 8.6) (Memo cost: 8.8) (Memo cost: 5.9) (Memo cost: 6)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
FOREST ROADS AND TRAILS

A-11-34b

Type size:
178 304/22

STANDARD FORM 304-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.
304-101T

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 05-96-2262-0-1-302	19 75 actual	19 76 estimate	Transition Quarter estimate	19 77 estimate
FOREST SERVICE--Direct obligations:				
Personnel compensation:				
11.1 Permanent positions	58,367	62,600	16,595	60,155
11.3 Positions other than permanent	25,292	26,975	8,225	26,565
11.5 Other personnel compensation	2,146	2,150	770	2,080
11.8 Special personal services payments	6	.....	.....	.....
Total personnel compensation	85,811	91,725	25,590	88,800
Personnel benefits:				
12.1 Civilian	9,230	9,900	2,580	9,590
13.0 Benefits for former personnel	16	5	.....	.....
21.0 Travel and transportation of persons	3,830	3,900	1,155	4,070
22.0 Transportation of things	6,660	7,850	2,170	7,080
23.0 Rent, communications, and utilities	4,976	5,800	1,175	5,300
24.0 Printing and reproduction	489	575	125	520
25.0 Other services	21,157	25,093	10,770	26,714
26.0 Supplies and materials	7,609	8,950	2,500	8,800
31.0 Equipment	2,717	3,200	775	3,000
32.0 Lands and structures	14,755	17,500	5,500	15,700
~~33.0 Investments and loans~~				
~~41.0 Grants, subsidies, and contributions~~				
42.0 Insurance claims and indemnities	76	75	25	80
~~43.0 Interest and dividends~~				
44.0 Refunds	36	40	.....	.....
Subtotal direct obligations	157,362	174,613	52,365	169,654
95.0 Quarters and subsistence charges	-277	-270	-85	-300
~~99.0~~ Total direct obligations	157,085	174,343	52,280	169,354
(Memo cost: 22.13)	(Memo cost: 5.9)	(Memo cost: 5.6)	(Memo cost: 5.9)	(Memo cost: 5)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE

A-11-34b

Type size:
178 M6/33

STANDARD FORM 304-T FOREST ROADS AND TRAILS
June 1975, Office of Management and Budget
Circular No. A-11, Revised.
304-101T

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 05-96-2262-0-1-302	19 75 actual	19 76 estimate	Transition Quarter estimate	19 77 estimate
FOREST SERVICE--Reimbursable obligations:				
Personnel compensation:				
11.1 Permanent positions	133	285	105	285
11.3 Positions other than permanent	47	105	25	105
11.5 Other personnel compensation	2	5	5	5
~~11.8 Special personal service payments~~				
Total personnel compensation	182	395	135	395
Personnel benefits:				
12.1 Civilian	17	35	15	35
~~13.0 Benefits for former personnel~~				
21.0 Travel and transportation of persons	11	25	10	25
22.0 Transportation of things	10	20	10	20
23.0 Rent, communications, and utilities	4	10	5	10
~~24.0 Printing and reproduction~~				
25.0 Other services	56	120	50	120
26.0 Supplies and materials	5	15	15	15
31.0 Equipment	18	20	10	20
32.0 Lands and structures	.....	360	.....	360
~~33.0 Investments and loans~~				
~~41.0 Grants, subsidies, and contributions~~				
~~42.0 Insurance claims and indemnities~~				
~~43.0 Interest and dividends~~				
~~44.0 Refunds~~				
.....				
.....				
reimbursable				
~~99.0~~ Total obligations	303	1,000	250	1,000
Total obligations, Forest Service	157,388	175,343	52,530	170,354
	(Mono cost: 22.15)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
FOREST ROADS AND TRAILS

A-11-34b

Type size:
178 366/22

STANDARD FORM 304-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.
304-103T

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 05-96-2262-0-1-302	1975 actual	1976 estimate	Transition Quarter estimate	1977 estimate
DEPARTMENT OF TRANSPORTATION				
Personnel compensation:				
11.1 Permanent positions	40	41	10	42
11.3 Positions other than permanent	5	6	1	6
11.5 Other personnel compensation	6	6	1	6
~~11.8 Special personal services payments~~				
Total personnel compensation	51	53	12	54
Personnel benefits:				
12.1 Civilian	1	5	1	5
~~13.0 Benefits for former personnel~~				
21.0 Travel and transportation of persons	10	12	3	12
22.0 Transportation of things	3	3	1	3
23.0 Rent, communications, and utilities	1	1	1	1
24.0 Printing and reproduction	1	1	1	1
25.0 Other services	63	72	18	72
26.0 Supplies and materials	1	1	1	1
~~31.0 Equipment~~				
32.0 Lands and structures	456	481	12	601
Total obligations, Department of Transportation	587	629	50	750
TIMBER PURCHASER CREDITS:				
25.0 Other services	.....	.....	.....	200,000
99.0 Total obligations	157,975	175,972	52,580	371,104
(Memo cost: 22.13)	(Memo cost: 5.9)	(Memo cost: 6.6)	(Memo cost: 1.9)	(Memo cost: 5)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
A-11-34b

STANDARD FORM 300-T FOREST ROADS AND TRAILS
June 1973, Office of Management and Budget
Circular No. A-11, Revised.
Personnel Summary

Identification code 05-96-2262-0-1-302	1975 actual	1976 estimate	TQ estimate	1977 estimate
FOREST SERVICE				
Direct:				
Total number of permanent positions	4,624	4,417		4,417
Full-time equivalent of other positions	2,894	3,030		3,000
Average paid employment	6,722	7,084		6,956
Average GS grade	8.63	8.64		8.64
Average GS salary	$15,149	$15,947		$15,947
Average salary of ungraded positions	$12,261	$13,008		$13,008
Reimbursable:				
Total number of permanent positions	11	17		17
Full-time equivalent of other positions	5	11		11
Average paid employment	14	26		26
Average GS grade	8.63	8.64		8.64
Average GS salary	$15,149	$15,947		$15,947
Average salary of ungraded positions	$12,261	$13,008		$13,008
DEPARTMENT OF TRANSPORTATION				
Total number of permanent positions	3	3		3
Full-time equivalent of other positions	1	1		1
Average paid employment	4	4		4
Average GS grade	8.40	8.41		8.41
Average GS salary	$14,352	$15,240		$15,464
(Above cost: 33.1d)	(Above cost: 4.0)	(Above cost: 5.0)	(Above cost: 5.0)	(Above cost: 5)

ACQUISITION OF LANDS FOR NATIONAL FORESTS, SPECIAL ACTS
(All capital investment)

Appropriation, 1975	$161,000
Estimate, 1976	161,000
Appropriation, transition quarter	(- -)
Estimate, 1977	160,000
Change from 1976	-1,000

PROJECT STATEMENT

Project	1975	1976 estimate	1977 estimate	Change from 1976
1. Cache National Forest, Utah, Act of 5/11/38, as amended	$19,979	$20,000	$20,000	- -
2. Uinta-Wasatch National Forests, Utah, Act of 8/26/35, as amended	25,720	30,000	30,000	- -
3. Toiyabe National Forest, Nevada, Act of 6/25/38, as amended	10,000	10,000	10,000	- -
4. Angeles National Forest, California, Act of 6/11/40	18,975	20,000	20,000	- -
5. San Bernardino and Cleveland National Forests, California, Act of 6/15/38	80,388	81,000	80,000	-$1,000
Unobligated balance reverted to National Forests Fund	5,938	- -	- -	- -
Appropriation or estimate	161,000	161,000	160,000	-1,000

The Congress has enacted several special laws which authorize appropriation from the receipts of specified National Forests for the purchase of lands to minimize erosion and flood damage. Amounts appropriated and laws under which authorized are shown above.

These are critical watershed lands needing soil stabilization and vegetative cover restoration to prevent serious erosion and damaging floods within these National Forests. Land treatment measures must be applied and subsequently maintained on all lands in these areas to make corrective action fully effective. To assure full program effectiveness, the intermingled private lands must be acquired by the Federal Government. The results will be reflected in improved watershed conditions, social benefits, and development of economic strength in local communities.

The counties in southern California have recognized the benefits that these acquisition programs have produced. They are very interested in having these critical watershed lands protected by being in public ownership. At the present, damages to these lands are occurring which can only result in future expenditures of public funds for rehabilitation and public safety at costs greatly exceeding current land acquisition costs.

Cache National Forest. In fiscal year 1975, funds were available from two sources for the purchase of lands within the Cache National Forest in Utah.

1. The Receipts Act of May 11, 1938, as amended - $20,000.

2. The Act of July 24, 1956 — $200,000 was appropriated under this authority in fiscal years 1957 through 1960.

These funds are used to acquire key tracts of land in the steep, rough, and highly important watershed areas lying north of the Ogden River along the Wasatch front and on Wellesville Mountain of the Cache National Forest. These are rugged mountain lands above the river valley which have been damaged and their watershed functions impaired through forest fires or overgrazing. This contributes to excessive rainfall runoff causing severe erosion. The damaged watershed lands are potential sources of floods and mudrock flows. Many tracts of land are located in the north fork of Ogden River and on the drainage of Pineview Reservoir, a Federal reclamation project. Others are within the watersheds of the city of Ogden and the other small towns along the Wasatch front. Public ownership of these lands and subsequent restoration and protection of their vegetative cover is a highly important part of a vigorous cooperative program with the local community and agencies.

The appropriation of $20,000 under the Act of May 11, 1938, is from receipts of the Cache National Forest. In the absence of this appropriation, the State of Utah would receive 25 percent of these receipts for roads and school purposes in the local counties involved. Therefore, the local counties, in effect, are contributing one-fourth of the amount of this appropriation. These appropriations are extremely important to the continuation of a vital and worthwhile program extending almost thirty years and shared in by both the local agencies and the Federal Government through the National Forests.

The 1956 Act requires that expenditures of Federal funds be matched by contributions by local agencies or people. This requirement has been met through donations of money and lands valued at $200,000.

Through fiscal year 1975, 29,396 acres have been approved for purchase pursuant to the Receipts Act of 1938, and 15,957 acres under the Special Act of 1956. The 1976 objective is to acquire 80 additional acres of these critical watershed lands. A similar acreage is expected to be acquired in 1977.

Uinta-Wasatch. In fiscal years 1963 through 1975, an appropriation of $270,000 was made under the Uinta-Wasatch Receipts Act of August 26, 1935, for acquiring critical watershed lands in the American Fork Canyon watershed. A total of 2,962 acres has been approved for purchase through fiscal year 1975, and an estimated 100 acres will be acquired each year during 1976 and 1977.

Toiyabe National Forest. $10,000 was appropriated under this Act in fiscal year 1975 and $10,000 in 1976. The 1976 and 1977 objective is to acquire 40 acres each year.

Angeles National Forest. $20,000 was appropriated in fiscal year 1975, $20,000 in 1976, and $20,000 is proposed in 1977 to purchase important watershed lands. Acquisition is needed to minimize erosion and flood damage. The 1976 objective is to acquire 80 acres. The 1977 objective is to acquire 100 acres.

San Bernardino and Cleveland National Forests. The $80,000 proposed for fiscal year 1977 is to acquire 300 acres of important watershed lands. Acquisition is needed to minimize erosion and flood damage.

No permanent full-time positions are assigned to this appropriation.

ACQUISITION OF LANDS FOR NATIONAL FORESTS, SPECIAL ACTS

Proposed Change in Language

Change in language is proposed as follows. Deleted matter is enclosed in brackets.

> For acquisition of land to facilitate the control of soil erosion and ..... Cleveland National Forests, California, Act of June 15, 1938 (52 Stat. 699), as amended, ... [:Provided, That no part of this appropriation shall be used for acquisition of any land which is not within the boundaries of the national forests and/or for the acquisition of any land without the approval of the local government concerned].

This change would eliminate the restriction of local government approval for land acquisition and authority for purchase of land which is included in applicable legislative acts. Congress eliminated this restriction in fiscal year 1967 as it applied to the Act of March 1, 1911 (Weeks Act).

The present language makes it possible for a local government or official to estop purchase of tracts of land. While the special acts do not require local government concurrence, they are closely involved. The lands being acquired are steep with highly erosive soils. Much of the impetus leading to enactment of the various acts was generated by the local governments due to repeated damaging floods and mudslides. The Forest Service works closely with the local government in these areas and makes them aware of proposed acquisitions. If they object, every effort is made to resolve their concerns before the case is consummated.

DEPARTMENT OF AGRICULTURE
FOREST SERVICE

A-11-32a

STANDARD FORM 300--T ACQUISITION OF LANDS FOR NATIONAL FORESTS, SPECIAL ACTS
June 1975, Office of Management and Budget Circular No. A-11, Revised.

Program and Financing (in thousands of dollars)

Identification code 05-96-5208-0-2-302		19 75 actual	19 76 estimate	19 TQ estimate	19 77 estimate
	Program by activities:				
	1. Cache National Forest, Utah	20	20	.....	20
	2. Uinta and Wasatch National Forests, Utah	26	30	.....	30
	3. Toiyabe National Forest, Nevada	10	10	.....	10
	4. Angeles National Forest, California	13	20	.....	20
	5. San Bernardino and Cleveland National Forests, California	88	81	.....	80
	Total program costs, funded 1/	157	161	.....	160
	Change in selected resources (undelivered orders)	-2	.....	.....	.....
10	Total obligations	155	161	.....	160
	Financing:				
25	Unobligated balance lapsing	7	.....	.....	.....
40	Budget authority (appropriation) (special fund)	161	161	.....	160
	Relation of obligations to outlays:				
71	Obligations incurred, net	155	161	.....	160
72	Obligated balance, start of period	68	68	68	.....
74	Obligated balance, end of period	-68	-68	.....	-50
77	Adjustments in expired accounts	1	.....	.....	.....
90	Outlays	155	161	68	110

1/ Includes capital outlay as follows: 1975, $151 thousand; 1976, $155 thousand; Transition Period, $0; 1977, $155 thousand.

(Memo cost: 72.18) (Memo cost: 5.0) (Memo cost: 5.0) (Memo cost: 5.0) (Memo cost: 5)

DEPARTMENT OF AGRICULTURE A-11-38

FOREST SERVICE

STANDARD FORM 300—T ACQUISITION OF LANDS FOR NATIONAL FORESTS, SPECIAL ACTS

June 1975, Office of Management and Budget
Circular No. A-11, Revised.

Amounts Available for Appropriation (in thousands of dollars)

Identification code	19 75 actual	19 76 estimate	19 TQ estimate	19 77 estimate
Receipts	154	161	.....	160
Unobligated balance returned to unappropriated receipts	7	.....	.....	.....
Total available for appropriation	161	161	.....	160
Appropriation	-161	-161	.....	-160
Unappropriated balance, end of period	.....	.....	.....	.....

(Memo cost: 22.1E) (Memo cost: 1.6) (Memo cost: 1.5) (Memo cost: 1.6) (Memo cost: 1)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE

A-11-34a

Type size:
17½ 36/22

STANDARD FORM 304-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.
304-103T

ACQUISITION OF LANDS FOR NATIONAL FORESTS, SPECIAL ACTS

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 05-96-5208-0-2-302	19 75 actual	19 76 estimate	Transition Quarter estimate	19 77 estimate
Personnel compensation:				
11.1 Permanent positions	5	.....	.....	.....
11.2 Positions other than permanent				
11.5 Other personnel compensation				
11.8 Special personal services payments				
Total personnel compensation	5	.....	.....	.....
Personnel benefits:				
12.1 Civilian	1	.....	.....	.....
13.0 Benefits for former personnel				
21.0 Travel and transportation of persons				
22.0 Transportation of things				
23.0 Rent, communications, and utilities				
24.0 Printing and reproduction				
25.0 Other services	3	.....	.....	.....
26.0 Supplies and materials				
31.0 Equipment				
32.0 Lands and structures	146	161	.....	160
33.0 Investments and loans				
41.0 Grants, subsidies, and contributions				
42.0 Insurance claims and indemnities				
43.0 Interest and dividends				
44.0 Refunds				
99.0 Total obligations	155	161	.....	160
(Memo cost: 22.18)	(Memo cost: 5.9)	(Memo cost: 5.9)	(Memo cost: 5.9)	(Memo cost: 5)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE

A-11-34a

STANDARD FORM 300-T
June 1970, Office of Management and Budget
Circular No. A-11, Revised.

ACQUISITION OF LANDS FOR NATIONAL FORESTS, SPECIAL ACTS

Personnel Summary

Identification code 05-96-5208-0-2-302	19 75 actual	19 76 estimate	19 TQ estimate	19 77 estimate
Total number of permanent positions	0	0		0
Full-time equivalent of other positions	0	0		0
Average paid employment	0	0		0
(Memo entl: 33.14)	(Memo entl: 1.5)	(Memo entl: 8.0)	(Memo entl: 1.5)	(Memo entl: 8)

169

ACQUISITION OF LANDS TO COMPLETE LAND EXCHANGES
(All capital investment)

Appropriation, 1975	$39,310
Estimate, 1976	35,000
Appropriation, transition quarter	(- -)
1977	54,000
Change from 1976	+19,000

PROJECT STATEMENT

Project	1975	1976 estimate	Transition: quarter estimate	1977 estimate	Change from 1976
Purchase of land, State of:					
California	$12,000	$33,145	- -	$45,600	+$12,455
Montana	- -	750	- -	- -	-750
Georgia	- -	16,250	- -	- -	-16,250
Oklahoma	- -	4,500	- -	- -	-4,500
South Carolina	- -	2,410	- -	- -	-2,410
Wisconsin	- -	14,590	- -	410	-14,180
Minnesota	- -	18,000	- -	- -	-18,000
Virginia	- -	- -	- -	7,785	+7,785
Unobligated balance brought forward	-27,335	-54,645	- -	- -	+54,645
Unobligated balance carried forward	54,645	- -	- -	205	+205
Appropriation or estimate	39,310	35,000	- -	54,000	+19,000

It is estimated that 130 acres of land will be acquired in fiscal year 1976, and 170 acres in fiscal year 1977.

DEPARTMENT OF AGRICULTURE
FOREST SERVICE

A-11-32a

STANDARD FORM 300-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.

ACQUISITION OF LANDS TO COMPLETE LAND EXCHANGES

Program and Financing (in thousands of dollars)

Identification code 05-96-5216-0-2-302		1975 actual	1976 estimate	TQ estimate	1977 estimate
	Program by activities:				
	Acquisition of land:				
	1. California	40	33	.....	46
	2. Georgia	.....	16	.....	.....
	3. Minnesota	.....	18	.....	.....
	4. Montana	.....	1	.....	.....
	5. Oklahoma	.....	5	.....	.....
	6. South Carolina	.....	2	.....	.....
	7. Wisconsin	.....	15	.....	.....
	8. Virginia	.....	.....	.....	8
	Total program costs, funded 1/	40	90	.....	54
	Change in selected resources (undelivered orders)	-28	.....	.....	.....
10	Total obligations (object class 32.0)	12	90	.....	54
	Financing:				
21	Unobligated balance available, start of period	-27	-55	.....	.....
24	Unobligated balance available, end of period	55	.....	.....	.....
40	Budget authority (appropriation (special fund)	39	35	.....	54
	Relation of obligations to outlays:				
71	Obligations incurred, net	12	90	.....	54
72	Obligated balance, start of period	28	.....	.....	.....
74	Obligated balance, end of period	.....	.....	.....	.....
90	Outlays	40	90	.....	54

1/ Includes capital outlay as follows: 1975, $40 thousand; 1976, $90 thousand; Transition Quarter; $0, 1977, $54 thousand.

(Memo entr: 32.12) (Memo entr: 1.0) (Memo entr: 1.0) (Memo entr: 1.0) (Memo entr: 1)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
ACQUISITION OF LANDS TO COMPLETE LAND EXCHANGES

A-11-38

STANDARD FORM 300-T
June 1973, Office of Management and Budget
Circular No. A-11, Revised.

Amounts Available for Appropriation (in thousands of dollars)

Identification code	19 75 actual	19 76 estimate	TQ estimate	19 77 estimate
Unappropriated balance, start of period	56	89	54	54
Receipts	72	.....	.....	.....
Total available for appropriation	128	89	54	54
Appropriation	-39	-35	.....	-54
Unappropriated balance, end of period	89	54	54	.....

(Memo cost: 33.1%) (Memo cost: 5.8) (Memo cost: 5.8) (Memo cost: 5.8) (Memo cost: 5)

ASSISTANCE TO STATES FOR TREE PLANTING
(All capital investment)

		Permanent full-time positions
1975	$1,355,000	19
1976	1,359,000	13
Transition quarter	(829,000)	
1977	1,373,000	13
Change from 1976	+14,000	- -

PROJECT STATEMENT

Project	1975	1976 estimate	Transition: quarter estimate	1977 estimate	Change from 1976
Assistance to States for tree planting	$1,338,489	$1,399,017	$829,000	$1,373,000	-$26,017
Unobligated balance brought forward	-23,506	-40,017	- -	- -	+40,017
Unobligated balance carried forward	40,017	- -	- -	- -	- -
Appropriation or estimate	1,355,000	1,359,000	829,000	1,373,000	+14,000

An increase of $14,000 is proposed to provide for the costs of the pay increase effective in October 1975 (Executive Order 11883).

No change in permanent full-time positions is proposed.

The program authorized under Section 401 of the Agricultural Act of 1956 (16 USC 568e) provides assistance to States in their forestation and tree improvement projects. Rehabilitation of State and county forest lands and production of improved tree seedlings has been carried out under this program.

New and expanded tree improvement projects which are partially or totally funded under this program are underway in 43 States. Nationally, the States expend three times more than they receive under this program for tree improvement.

Assistance will emphasize seed orchard establishment aimed at the production of improved genetic quality tree seed. Reforestation work will be carried out to restore low-yielding or non-productive forest lands to fuller production of commercial wood. In addition, attendant benefits include:

(1) Erosion control.
(2) Wildlife habitat improvement.
(3) Expanded recreational land use potentials.
(4) Environmental enhancement.

Examples of Recent Accomplishments

Field grafting for disease resistant orchards was continued on a large scale in 1975 in South Carolina. 507 longleaf and 878 loblolly pine grafts were made. The States' 5-acre orchard for disease resistant (fusiform rust) loblolly pine and the 5-acre orchard of the Piedmont loblolly disease resistant orchard were completed.

The Alabama Tree Improvement Program now has a total of 211 acres of pine seed orchards. At Geneva State Forest, the longleaf seed orchard was expanded by five acres to a total of 20 acres and pine seed orchards now total 65 acres.

Current plans call for a 60 acre, 100 clone loblolly seed orchard expansion. Timber was cut from the orchard site and site preparation is now in progress. Grafts for filling 20 acres of this expansion were made during the past grafting season and will be transplanted this winter.

Arkansas, loblolly seed orchards produced 90 pounds of seed, producing about one million improved seedling. Twelve more acres of loblolly pine seed orchard were established. Another 20 acres is being prepared for expansion of the loblolly pine seed orchards.

Illinois has established, thus far, a total of 165 acres of seed production areas for 5 conifers and 5 deciduous species. A test of helicopter pollination was conducted which resulted in 50 percent higher seed yield.

In Minnesota, some 4,600 acres of State and 528 acres of county forest land were reforested with about 4 million seedlings. In addition, some 800 acres were direct seeded. Species planted were pine and spruce.

In Louisiana a little more than 200 acres of loblolly and slash pine seed orchard have been established with 2,000 grafted scions. Another 60 acres are being prepared for expansion toward an ultimate goal of 300 acres of pine seed orchard.

North Carolina expanded its seed orchards with 20 acres longleaf pine. Hardwood clone banks were established for northern red oak, southern red oak, white oak, chestnut oak, green ash, sweet gum, sugar maple, and black cherry.

GEOGRAPHIC BREAKDOWN OF APPROPRIATION

Assistance to States for Tree Planting
(in thousands)

	1975 actual	1976 estimate	Transition quarter estimate	1977 estimate
Alabama	$65	$65	$18	$65
Arizona	- -	.7	- -	.7
Arkansas	15	15	5	15
California	23	23	7	23
Colorado	7	7	3	7
Connecticut	6	6	2.5	6
Florida	39	39	11	39
Georgia	53	53	15	53
Guam	4	10	3.5	10
Hawaii	38	38	9.5	38
Idaho	16	16	5	16
Illinois	10	10	3.5	10
Indiana	12	12	4	12
Iowa	8	8	3	8
Kansas	19	19	6	19
Kentucky	17	17	5.5	17
Louisiana	42	42	11.5	42
Maine	5	5	2.5	5
Maryland	20	20	6	20
Massachusetts	1	1	1	1
Michigan	25	25	8	25
Minnesota	18	18	5.5	18
Mississippi	41	41	12	41
Missouri	30	30	8.5	30
Montana	15	15	5	15
Nebraska	8	8	3.5	8
New Hampshire	8	8	3.5	8
New Jersey	10	10	3.5	10
New Mexico	- -	.7	- -	.7
New York	15	15	5	15
North Carolina	54	54	15	54
Ohio	10	10	3.5	10
Oklahoma	16	16	5	16
Oregon	46	46	12.5	46
Pennsylvania	30	30	8.5	30
South Carolina	28	28	8	28
South Dakota	- -	- -	3.5	10
Tennessee	33	30	9.5	33
Texas	56	56	15	56
Vermont	6	6	2.5	6
Virginia	57	57	16	57
Washington	50	50	13.5	50
West Virginia	5	5	2.5	5
Wisconsin	12	12	4	12
Wyoming	10	12	4	12
Special projects (Reserve)	42	- -	400	- -
Subtotal	1,025	989.4	700	1,002.4
Forest Service administration and technical assistance	330	369.6	129	370.6
Total	1,355	1,359	829	1,373

DEPARTMENT OF AGRICULTURE
FOREST SERVICE

A-11-32a

STANDARD FORM 300-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.

ASSISTANCE TO STATES FOR TREE PLANTING

Program and Financing (in thousands of dollars)

Identification code 05-96-1101-0-1-302		19 75 actual	19 76 estimate	19 TQ estimate	19 77 estimate
	Program by activities:				
	Tree planting assistance (program costs, funded) 1/	1,339	1,399	1,079	1,123
	Change in selected resources (undelivered orders)	-1	.....	-250	250
10	Total obligations	1,338	1,399	829	1,373
	Financing:				
21	Unobligated balance available, start of period	-24	-40	.....	.....
24	Unobligated balance available, end of period	40	.....	.....	.....
40	Budget authority (appropriation)	1,355	1,359	829	1,373
	Relation of obligations to outlays:				
71	Obligations incurred, net	1,338	1,399	829	1,373
72	Obligated balance, start of period	477	527	526	300
74	Obligated balance, end of period	-527	-526	-300	-457
90	Outlays	1,288	1,400	1,055	1,216

1/ Includes capital outlay as follows: 1975, $1 thousand; 1976, $5 thousand; Transition Quarter, $1 thousand, 1977, $ 5 thousand.

(Memo cost: 22.1%) (Memo cost: 1.5%) (Memo cost: 1.5%) (Memo cost: 1.5%) (Memo cost: 1.5%)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
ASSISTANCE TO STATES FOR TREE PLANTING

A-11-34a

Type size:
12 pt MS/22

STANDARD FORM 304-T
June 1973, Office of Management and Budget
Circular No. A-11, Revised.
304-103T

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 05-96-1101-0-1-302	19 75 actual	19 76 estimate	Transition Quarter estimate	19 77 estimate
Personnel compensation:				
11.1 Permanent positions	242	232	96	235
11.3 Positions other than permanent	11	18	8	20
11.5 Other personnel compensation				
11.8 Special personal services payments				
Total personnel compensation	253	250	104	255
Personnel benefits:				
12.1 Civilian	24	28	12	28
13.0 Benefits for former personnel				
21.0 Travel and transportation of persons	28	31	20	25
22.0 Transportation of things	2	2	2	5
23.0 Rent, communications, and utilities	11	11	4	15
24.0 Printing and reproduction	10	10	6	15
25.0 Other services	2	7	31	32
26.0 Supplies and materials	54	55	10	93
31.0 Equipment	4	5	.....	5
32.0 Lands and structures				
33.0 Investments and loans				
41.0 Grants, subsidies, and contributions	950	1,000	640	900
42.0 Insurance claims and indemnities				
43.0 Interest and dividends				
44.0 Refunds				
99.0 Total obligations	1,338	1,399	829	1,373
(Memo cost: 22.13)	(Memo cost: 5.8)	(Memo cost: 5.9)	(Memo cost: 5.8)	(Memo cost: 5)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
ASSISTANCE TO STATES FOR TREE PLANTING
Personnel Summary

A-11-34a

STANDARD FORM 300-T
June 1974, Office of Management and Budget
Circular No. A-11, Revised.

Identification code 05-96-1101-0-1-302	19 75 actual	19 76 estimate	19 TQ estimate	19 77 estimate
Total number of permanent positions	19	13		13
Full-time equivalent of other positions	2	3		3
Average paid employment	15	16		16
Average GS grade	8.63	8.64		8.64
Average GS salary	$15,149	$15,947		$15,947
Average salary of ungraded positions	$12,261	$13,008		$13,008
(Memo cost: 38.12)	(Memo cost: 5.8)	(Memo cost: 5.8)	(Memo cost: 1.8)	(Memo cost: 6)

CONSTRUCTION AND OPERATION OF RECREATION FACILITIES

(All operation and maintenance)

		Permanent full-time positions
Appropriation, 1975	$1,260,000	42
Estimate, 1976	3,674,000	95
Appropriation, transition quarter	(2,212,000)	
Estimate, 1977	2,475,000	95
Change from 1976	-1,199,000	- -

PROJECT STATEMENT

Project	1975	1976 estimate	Transition quarter estimate	1977 estimate	Change from 1976
Construction and operation of recreation facilities	$1,271,611	$2,937,840	$2,930,000	$2,475,000	-$462,840
Unobligated balance brought forward	-69,451	-57,840	- -	- -	+57,840
Unobligated balance carried forward	57,840	- -	- -	- -	- -
Unavailable balance in prior year brought forward	- -	- -	-794,000	-76,000	-76,000
Unavailable balance carried forward	- -	794,000	76,000	76,000	-718,000
Appropriation or estimate	1,260,000	3,674,000	2,212,000	2,475,000	-1,199,000

GOAL: Improve the operation and maintenance of National Forest System recreation facilities, particularly those near the user and those associated with nationally significant resources.

No change in permanent full-time positions is proposed for the decreased program level of $462,840.

About 1,800 of the 6,400 National Forest System sites will be under the charge program.

These are a relatively small portion of the total funds available for recreation programs. In other parts of the budget there are proposals for increases that substantially offset this decrease.

These are funds proposed for appropriation from admission and user fees collected under the Land and Water Conservation Fund Act of 1965, as amended (78 Stat. 897; 16 USC 4601-5; PL 93-81, 8/1/73). They will be used to operate and maintain recreation facilities on the National Forest System, including law and regulation enforcement to assure visitor safety and reduce vandalism. These funds allow operation and maintenance standards to be sustained.

A-11-32a

DEPARTMENT OF AGRICULTURE
FOREST SERVICE

STANDARD FORM 300-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.

CONSTRUCTION AND OPERATION OF RECREATION FACILITIES

Program and Financing (in thousands of dollars)

Identification code 05-96-5009-0-2-302		19 75 actual	19 76 estimate	19 TQ estimate	19 77 estimate
	Program by activities:				
	Construction, reconstruction, administration, operation, and maintenance of recreation facilities (program costs, funded) 1/	1,603	2,888	2,930	2,475
	Change in selected resources (undelivered orders) ..	-331	50	.....	.....
10	Total obligations	1,272	2,938	2,930	2,475
	Financing:				
21	Unobligated balance available, start of period .	-69	-58	-794	-76
24	Unobligated balance available, end of period ...	58	794	76	76
40	Budget authority (appropriation) (indefinite special fund)	1,260	3,674	2,212	2,475
	Relation of obligations to outlays:				
71	Obligations incurred, net	1,272	2,938	2,930	2,475
72	Obligated balance, start of period	828	249	402	402
74	Obligated balance, end of period	-249	-402	-402	-377
90	Outlays	1,851	2,785	2,930	2,500

1/ Includes capital outlay as follows: 1975, $311 thousand; 1976, $575 thousand; Transition Quarter, $575 thousand; 1977, $500 thousand.

(Mono cost: 32.18) (Mono cost: 5.8) (Mono cost: 5.8) (Mono cost: 5.8) (Mono cost: 5)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE

A-11-38

STANDARD FORM 300-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised

CONSTRUCTION AND OPERATION OF RECREATION FACILITIES

Amounts Available for Appropriation (in thousands of dollars)

Identification code	75 actual	76 estimate	TQ estimate	77 estimate
Unappropriated balance, start of period	10	95	-794	-76
Revenue	1,345	2,785	2,930	2,475
Total available for estimated appropriation	1,355	2,880	2,136	2,399
Appropriation	-1,260	-3,674	-2,212	-2,475
Unappropriated balance, end of period	95	-794	-76	-76
(Memo cost: 23.12)	(Memo cost: 2.5)	(Memo cost: 2.5)	(Memo cost: 2.5)	(Memo cost: 2)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
A-11-34a

Type size:
178 M6/22

STANDARD FORM 304-T CONSTRUCTION AND OPERATION OF RECREATION FACILITIES
June 1978, Office of Management and Budget
Circular No. A-11, Revised.
304-10.1T

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 05-96-5009-0-2-302	19 75 actual	19 76 estimate	Transition Quarter estimate	19 77 estimate
Personnel compensation:				
11.1 Permanent positions	451	1,125	655	1,075
11.3 Positions other than permanent	306	700	560	645
11.5 Other personnel compensation	17	35	35	30
~~11.8 Special personal services payments~~				
Total personnel compensation	774	1,860	1,250	1,750
Personnel benefits:				
12.1 Civilian	76	180	120	175
13.0 Benefits for former personnel	1	1	.....	.....
21.0 Travel and transportation of persons	17	55	40	30
22.0 Transportation of things	53	175	100	70
23.0 Rent, communications, and utilities	57	60	50	75
24.0 Printing and reproduction				
25.0 Other services	113	119	450	140
26.0 Supplies and materials	130	400	825	170
31.0 Equipment	19	25	25	25
32.0 Lands and structures	38	75	75	50
~~33.0 Investments and loans~~				
~~41.0 Grants, subsidies, and contributions~~				
~~42.0 Insurance claims and indemnities~~				
~~43.0 Interest and dividends~~				
~~44.0 Refunds~~				
Subtotal	1,278	2,950	2,935	2,485
95.0 Quarters and subsistence charges	-6	-12	-5	-10
99.0 Total obligations	1,272	2,938	2,930	2,475
(Memo cost: 23.13)	(Memo cost: 5.9)	(Memo cost: 5.9)	(Memo cost: 5.9)	(Memo cost: 5)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
CONSTRUCTION AND OPERATION OF RECREATION FACILITIES

A-11-34a

STANDARD FORM 300-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.

Personnel Summary

Identification code 05-96-5009-0-2-302	19 75 actual	19 76 estimate	19 TQ estimate	19 77 estimate
Total number of permanent positions	42	95		95
Full-time equivalent of other positions	41	83		64
Average paid employment	75	165		135
Average GS grade	8.63	8.64		8.64
Average GS salary	$15,149	$15,947		$15,947
Average salary of ungraded positions	$12,261	$13,008		$13,008
(Memo cost: 19.1%)	(Memo cost: 8.0%)	(Memo cost: 8.3%)	(Memo cost: 8.3%)	(Memo cost: 8%)

YOUTH CONSERVATION CORPS

For budgetary purposes, the entire appropriation is shown under the Forest Service. However, that portion of the appropriation allocated for the State grant program and one-half of the appropriation allocated for the Federal program is transferred to the Department of the Interior.

		1/ Permanent full-time positions
Appropriation, 1975	$10,392,000	44
Appropriation, 1976	35,000,000	53
Appropriation, transition quarter	(- -)	
Estimate, 1977	- -	53
Change from 1976	-35,000,000	- -

PROJECT STATEMENT

Project	1975	1976 estimate	Transition quarter estimate	1977 estimate	Change from 1976
Youth Conservation Corps	$10,295,552	$15,727,950	$7,680,000	$16,000,000	+$272,050
Unobligated balance brought forward	-4,329,690	-4,407,950	-23,680,000	-16,000,000	-11,592,050
Unobligated balance carried forward	4,407,950	23,680,000	16,000,000	- -	-23,680,000
Unobligated balance lapsing	18,188	- -	- -	- -	- -
Total appropriation or estimate 1/	10,392,000	35,000,000	- -	- -	-35,000,000

A decrease of $35 million in appropriation (new budget authority) is proposed due to budget constraints. However, of the $35 million appropriated in fiscal year 1976, $3 million was spent in the summer of calendar year 1975 and the programs proposed are as follows:

Summer of CY 1975 (FY 1975 and continuing resolution)	$13.4 million
Summer of CY 1976 (FY 1976 and transition quarter)	16 million
Summer of CY 1977 (FY 1977)	16 million

No change in permanent full-time positions is proposed.

GOAL: To provide gainful summer employment for young men and women in conservation work and offer a broad variety of educational experiences to them as they learn ways to improve the quality and productivity of land, air, and water.

The Act of August 13, 1970 (84 Stat. 794), as amended, authorizes the Youth Conservation Corps Program on Federal lands and a grant program to assist States in establishing YCC projects on non-Federal public lands. The Departments of the Interior and Agriculture jointly administer the program.

The primary purposes of the program are to:

(1) Provide gainful employment to 15 through 18 year old youths representing all segments of society.

(2) Further development and maintenance of the natural resources of the United States by the youth, upon whom will fall the ultimate responsibility for maintaining and managing these resources for the American people.

1/ Includes allocation to Department of the Interior: 1975, $6,586,000; 1976, $8,094,000; transition quarter, $3,840,000; 1977, $10,350,000. Excludes following positions in Interior: 1975, 8; 1976, 51; 1977, 51.

(3) Develop an understanding and appreciation in Corps participants of the Nation's natural environment and heritage.

This integrated conservation work, learn, and employment program is designed to accomplish needed conservation work, provide employment and income to youth, teach proper work habits, encourage greater appreciation of the management of natural resources, and increase individual pride and dignity. Conservation work-learn projects on public lands include recreation facilities maintenance and construction, range and wildlife habitat improvement, timber stand improvement, trail improvement and construction, and visitor information services. Recruiting guidelines have been established to meet the mandate of the Congress that there be a representative mix of youth from all economic, social, and racial backgrounds. We have been able to enroll approximately three percent of the young people who apply.

Evaluation of the Federal YCC programs in 1971, 1972, 1973, and 1974 by Department personnel and the University of Michigan's Institute for Social Research indicates that the purposes of the Act were achieved. With $13 million provided for the 1975 summer program, the approximately 12,000 young men and women employed accomplished conservation work appraised at a value of over $10.4 million. They also found significant gains in environmental education.

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DEPARTMENT OF AGRICULTURE
FOREST SERVICE
YOUTH CONSERVATION CORPS

A-11-32a

STANDARD FORM 300-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.

Program and Financing (in thousands of dollars)

Identification code 05-96-1125-0-1-302		FY 75 actual	FY 76 estimate	FY TQ estimate	FY 77 estimate
	Program by activities:				
	Program development (program costs, funded) 1/	9,958	14,471	12,180	16,000
	Change in selected resources (undelivered orders).....	338	1,257	-4,500	.....
10	Total obligations	10,296	15,728	7,680	16,000
	Financing:				
21	Unobligated balance available, start of period ...	-4,330	-4,408	-23,680	-16,000
24	Unobligated balance available, end of period	4,408	23,680	16,000	.....
25	Unobligated balance lapsing	18	.....	.....	.....
	Budget authority (appropriation)	10,392	35,000	.....	.....
	Relation of obligations to outlays:				
71	Obligations incurred, net	10,296	15,728	7,680	16,000
72	Obligated balance, start of period	3,706	4,142	4,370	1,050
74	Obligated balance, end of period	-4,142	-4,370	-1,050	-1,050
90	Outlays	9,859	15,500	11,000	16,000
		.....			

1/ Includes capital outlay as follows: 1975, $30 thousand; 1976, $50 thousand; Transition Quarter, $5 thousand; 1977, $50 thousand.

(Memo cost: 23,128) (Memo cost: 8,8) (Memo cost: 8,8) (Memo cost: 8,8) (Memo cost: 8)

A-11-34b

Type size:
17th M&2

STANDARD FORM 304-T
June 1973, Office of Management and Budget Circular No. A-11, Revised. 304-103T

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
YOUTH CONSERVATION CORPS

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 05-96-1125-0-1-302	1975 actual	1976 estimate	Transition Quarter estimate	1977 estimate
FOREST SERVICE				
Personnel compensation:				
11.1 Permanent positions	618	535	435	545
11.3 Positions other than permanent	700	570	505	585
11.5 Other personnel compensation	43	30	20	30
11.8 Special personal services payments	944	1,890	1,215	1,940
Total personnel compensation	2,305	3,025	2,175	3,100
Personnel benefits:				
12.1 Civilian	179	130	110	135
~~13.0 Benefits for former personnel~~				
21.0 Travel and transportation of persons	91	80	60	80
22.0 Transportation of things	127	90	45	90
23.0 Rent, communications, and utilities	112	80	45	85
24.0 Printing and reproduction	23	10	10	10
25.0 Other services	627	1,377	953	1,408
26.0 Supplies and materials	344	660	395	680
31.0 Equipment	52	40	30	40
32.0 Lands and structures	3	2	2	2
33.0 Investments and loans	23	30	25	30
41.0 Grants, subsidies, and contributions	-4	.....	.....	.....
~~42.0 Insurance claims and indemnities~~				
~~43.0 Interest and dividends~~				
~~44.0 Refunds~~				
Subtotal	3,882	5,524	3,850	5,660
95.0 Quarters and subsistence charges	-19	-10	-10	-10
99.0 Total obligations, Forest Service	3,863	5,514	3,840	5,650
(Memo cost: 22.1)	(Memo cost: 5.8)	(Memo cost: 5.8)	(Memo cost: 5.9)	(Memo cost: 5)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
YOUTH CONSERVATION CORPS

A-11-34b

Type size:
17½ M4/22

STANDARD FORM 304-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.
304-103T

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 05-96-1125-0-1-302	1975 actual	1976 estimate	Transition Quarter estimate	1977 estimate
DEPARTMENT OF THE INTERIOR				
Personnel compensation:				
11.1 Permanent positions	72	600	420	615
11.3 Positions other than permanent	548	860	600	885
~~11.5 Other personnel compensation~~				
~~11.8 Special personal services payments~~				
Total personnel compensation	620	1,460	1,020	1,500
Personnel benefits:				
12.1 Civilian	40	145	100	150
~~13.0 Benefits for former personnel~~				
21.0 Travel and transportation of persons	197	215	150	220
22.0 Transportation of things	37	40	30	40
23.0 Rent, communications, and utilities	22	25	20	25
24.0 Printing and reproduction	8	10	10	10
25.0 Other services	2,525	3,229	2,250	3,310
26.0 Supplies and materials	275	300	200	305
31.0 Equipment	83	90	60	90
~~32.0 Lands and structures~~				
~~33.0 Investments and loans~~				
41.0 Grants, subsidies, and contributions	2,626	4,700	.....	4,700
~~42.0 Insurance claims and indemnities~~				
~~43.0 Interest and dividends~~				
~~44.0 Refunds~~				
Total obligations, Department of the Interior	6,433	10,214	3,840	10,350
99.0 Total obligations	10,296	15,728	7,680	16,000
(Mono cost: 22.13)	(Mono cost: 5.3)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5)

STANDARD FORM 300-T
June 1979, Office of Management and Budget
Circular No. A-11, Revised.

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
YOUTH CONSERVATION CORPS
Personnel Summary

A-11-34b

Identification code 05-96-1125-0-1-302	19 75 actual	19 76 estimate	19 TQ estimate	19 77 estimate
FOREST SERVICE				
Total number of permanent positions	44	53		53
Full-time equivalent of other positions	92	69		69
Average paid employment	132	103		103
Average GS grade	8.63	8.64		8.64
Average GS salary	$15,149	$15,947		$15,947
Average salary of ungraded positions	$12,261	$13,008		$13,008
DEPARTMENT OF THE INTERIOR				
Total number of permanent positions	8	51		51
Full-time equivalent of other positions	90	176		176
Average paid employment	98	210		210
Average GS grade	8.3	10.0		10.0
Average GS salary	$16,000	$18,300		$18,300
Average salary of ungraded positions	$9,000	$9,000		$9,000
(Memo cost: 23.18)	(Memo cost: 1.5)	(Memo cost: 1.5)	(Memo cost: 1.5)	(Memo cost: 1)

ACQUISITION OF LANDS FOR UINTA NATIONAL FOREST
(All capital investment)

PROJECT STATEMENT

Project	1975	1976 estimate	Transition quarter estimate	1977 estimate
Acquisition of lands for Uinta National Forest	$71	$67,514	- -	- -
Unobligated balance brought forward	-67,585	-67,514	- -	- -
Unobligated balance carried forward	67,514	- -	- -	- -
Appropriation or estimate	- -	- -	- -	- -

Public Law 89-226 authorized the purchase of approximately 10,000 acres of non-Federally owned land within a described part of the Uinta National Forest in Utah for the purpose of promoting the control of floods and the reduction of soil erosion through restoration of adequate vegetative cover. $300,000 were appropriated in fiscal year 1967.

As of June 30, 1975, 9,395 acres have been acquired at a cost of $232,486.

ACQUISITION OF LANDS FOR WASATCH NATIONAL FOREST
(All capital investment)

PROJECT STATEMENT

Project	1975	1976 estimate	Transition: quarter estimate	1977 estimate
Acquisition of lands for Wasatch National Forest	$1,810	$215,255	- -	- -
Unobligated balance brought forward	-217,065	-215,255	- -	- -
Unobligated balance carried forward	215,255	- -	- -	- -
Appropriation or estimate	- -	- -	- -	- -

The Act of September 14, 1962 (PL 87-661) provided authorization for the appropriation of $400,000 for purchase of privately owned lands within the Wasatch National Forest in Utah to aid in control of floods and to reduce soil erosion. The full amount of this authorization has been appropriated with the funds remaining available until expended.

As of June 30, 1975, approximately 12,900 acres had been approved for purchase under this authority.

ACQUISITION OF LANDS FOR SUPERIOR NATIONAL FOREST
(All capital investment)

PROJECT STATEMENT

Project	1975	1976 estimate	Transition quarter estimate	1977 estimate
Acquisition of lands for Superior National Forest	$16,970	- -	- -	- -
Unobligated balance brought forward	-253	$16,717	- -	- -
Unobligated balance carried forward	-16,717	- -	- -	- -
Appropriation or estimate	- -	1/ 16,717	- -	- -

The Act of June 22, 1948 (PL 80-733) as amended, provided authorization for the appropriation of $4.5 million for the purchase of lands and improvements thereon in the Boundary Waters Canoe Area, Superior National Forest, Minnesota. The full amount of this authorization has been appropriated.

1/ This is the amount due for land acquisition in the Boundary Waters Canoe area. The condemnation award occurred at the time when obligations under the Act were close to the limit of appropriations. The award exceeded the amount reserved for payment and the funds remaining within the authorization limit by $16,717.33. On August 11, 1975, the Department of Agriculture recommended to the Congress that legislation be introduced to authorize use of Land and Water Conservation funds to carry out the Act of June 22, 1948, including payment of court judgments in condemnation action.

Explanation of this unfinanced obligation was sent to the President, the Speaker of the House of Representatives, and the President of the Senate on November 7, 1975, as required by Section 3679 of the Revised Statutes.

ACQUISITION OF LANDS FOR CACHE NATIONAL FOREST
(All capital investment)

PROJECT STATEMENT

Project	1975	1976 estimate	Transition: quarter estimate	1977 estimate
Acquisition of lands for Cache National Forest	- -	- -	- -	- -
Unobligated balance brought forward	-$10,649	-$10,649	- -	- -
Unobligated balance carried forward	10,649	- -	- -	- -
Unobligated balance lapsing	- -	10,649	- -	- -
Appropriation or estimate	- -	- -	- -	- -

The 1956 Appropriation Act provided $200,000 for the acquisition of lands in the Cache National Forest pursuant to the Act of July 24, 1956 (70 Stat. 632). Obligations under this fund are in addition to the appropriation from National Forest receipts authorized by the Act of May 11, 1938, and provided in the appropriation, Acquisition of Lands for National Forests, Special Acts. Under the 1956 Act, funds appropriated must be matched by contribution of funds or land by local agencies or persons. Explanation of this program and the accomplishments thereunder are included under the appropriation, Acquisition of lands for national forests, special acts.

ACQUISITION OF LANDS, KLAMATH INDIANS
(All capital investment)

Appropriation, 1975	$49,000,000
Appropriation, 1976	- -
Appropriation, transition quarter	(- -)
Estimate, 1977	- -

PROJECT STATEMENT

Project	1975	1976 estimate	Transition quarter estimate	1977 estimate
Purchase of lands, Klamath Indians	$49,000,000	- -	- -	- -
Appropriation or estimate	49,000,000	- -	- -	- -

In fiscal year 1961, $68,717,000 was appropriated for the purchase of 525,679 acres of Klamath Indian forest lands which were offered for sale to private parties before the Secretary of Agriculture took title. The remaining members of the Tribe entered into a trust management agreement with the United States National Bank of Oregon which provided for management of the remaining Klamath Indian forest lands. In May 1969 these members elected to terminate the trust.

Funds were appropriated in fiscal year 1975 to carry out the directive in PL 93-102 of August 16, 1973, that the Secretary of Agriculture acquire by condemnation all of the Klamath Indian forest lands the trustee is required to sell. On October 31, 1974, a Declaration of Taking was signed involving 134,961 acres and the estimated compensation of $49,000,000 was deposited in Federal Court.

STANDARD FORM 300-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
OTHER GENERAL FUNDS

A-11-32a

Program and Financing (in thousands of dollars)

Identification code 05-96-9998-0-1-302	19 75 actual	19 76 estimate	Transition Quarter estimate	19 77 estimate
Program by activities:				
1. Acquisition of lands for Uinta National Forest, Utah	7	68	.....	.....
2. Acquisition of lands for Wasatch National Forest, Utah	2	215	.....	.....
3. Acquisition of lands for Superior National Forest, Minnesota	17	-17	.....	.....
4. Acquisition of lands, Klamath Indians .	49,000	.....	.....	.....
Total program costs, funded 1/	49,026	266	.....	.....
Change in selected resources (undelivered orders)	-7	.....	.....	.....
10 Total obligations .	49,019	266	.....	.....
Financing:				
21 Unobligated balance available, start of period	-296	-277	.....	.....
24 Unobligated balance available, end of period	277	.....	.....	.....
25 Unobligated balance lapsing	.....	11	.....	.....
40 Budget authority (appropriation) ..	49,000	.....	.....	.....
(Memo cont: 55.12)	(Memo cont: 5.0)	(Memo cont: 5.0)	(Memo cont: 5.0)	(Memo cont: 5)

DEPARTMENT OF AGRICULTURE A-11-32a
FOREST SERVICE
OTHER GENERAL FUNDS

STANDARD FORM 300-T
June 1974, Office of Management and Budget
Circular No. A-11, Revised

Program and Financing (in thousands of dollars)--continued

Identification code 05-96-9998-0-1-302	1975 actual	1976 estimate	Transition Quarter estimate	1977 estimate
Relation of obligations to outlays:				
71 Obligations incurred, net	49,019	266	.....	.....
72 Obligated balance, start of period	7	18	.....	.....
74 Obligated balance, end of period	-18	.....	.....	.....
90 Outlays	49,008	284	.....	.....
Distribution of outlays by account:				
Acquisition of lands for Uinta National Forest	7	68	.....	.....
Acquisition of lands for Wasatch National Forest	1	216	.....	.....
Acquisition of lands, Klamath Indians	49,000	.....	.....	.....

1/ Includes capital outlay as follows: 1975, $49,025 thousand; 1976, $265 thousand; Transition Quarter, $0; 1977, $0.

(More cont: 23.12) (More cont: 1.5) (More cont: 1.5) (More cont: 1.5) (More cont: 1)

Type size:
17½ M6/22

STANDARD FORM 304-T
June 1978, Office of Management and Budget
Circular No. A-11, Revised.
304-103T

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
OTHER GENERAL FUNDS

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code: 05-96-9998-0-1-302	1975 actual	1976 estimate	Transition Quarter estimate	1977 estimate
Personnel compensation:				
11.1 Permanent positions	2	.....	.....	.....
11.3 Positions other than permanent				
11.5 Other personnel compensation				
11.8 Special personal services payments				
Total personnel compensation	2	.....	.....	.....
Personnel benefits:				
12.1 Civilian	.....	.....	.....	.....
13.0 Benefits for former personnel				
21.0 Travel and transportation of persons				
22.0 Transportation of things				
23.0 Rent, communications, and utilities				
24.0 Printing and reproduction				
25.0 Other services				
26.0 Supplies and materials				
31.0 Equipment				
32.0 Lands and structures	49,017	266	.....	.....
33.0 Investments and loans				
41.0 Grants, subsidies, and contributions				
42.0 Insurance claims and indemnities				
43.0 Interest and dividends				
44.0 Refunds				
99.0 Total obligations	49,019	266	.....	.....
(Memo cost: 22.12)	(Memo cost: 3.0)	(Memo cost: 1.0)	(Memo cost: 1.0)	(Memo cost: 3)

STANDARD FORM 300-T
Item 1074, Office of Management and Budget
Circular No. A-11, Revised

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
OTHER GENERAL FUNDS
Personnel Summary

A-11-34a

Identification code 05-96-9998-0-1-302	1975 actual	1976 estimate	Transition Quarter estimate	1977 estimate
Total number of permanent positions	0	0		0
Full-time equivalent of other positions	0	0		0
Average paid employment	0	0		0
(Above cents: 28-32)	(Above cents: 4-8)	(Above cents: 4-8)	(Above cents: 4-8)	(Above cents: 4)

STANDARD FORM 300-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
CONSOLIDATED WORKING FUND

A-11-32a

Program and Financing (in thousands of dollars)

Identification code 05-96-3911-0-4-302	19 75 actual	19 76 estimate	Transition Quarter estimate	19 77 estimate
Program by activities:				
1. Services for other Federal agencies .	1,913	3,652	325	1,300
2. Forest research at experimental forests . and ranges and for foreign countries	19	264	10	.....
3. Older Americans Community Service (Department of Labor)	635	4,644	1,040	3,960
4. National Operation Mainstream program (Department of Labor)	2,346	121	.....	.....
5. Job Opportunity program (Department of Commerce)	.....	32,886	.....	.....
Total program costs, funded 1/	4,913	41,567	1,375	5,260
Change in selected resources (undelivered orders)	-513	-463	-50	40
10 Total obligations .	4,400	41,104	1,325	5,300
Financing:				
Receipts and reimbursements from:				
11 Federal funds	-18,712	-24,709	-1,325	-5,300
21 Unobligated balance available, start of period	-2,082	-16,395	.....	.....
24 Unobligated balance available, end of period	16,395	.....	.....	.....
Budget authority ..	.....	.....	.....	.....
(Memo cost: 23.1%)	(Memo cost: 5.0)	(Memo cost: 5.0)	(Memo cost: 5.0)	(Memo cost: 5)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
CONSOLIDATED WORKING FUND

A-11-32a

STANDARD FORM 300--T
Form 1076, Office of Management and Budget
Circular No. A-11, Revised.

Program and Financing (in thousands of dollars)--continued

Identification code 05-96-3911-0-4-302		19 75 actual	19 76 estimate	Transition Quarter estimate	19 77 estimate
	Relation of obligations to outlays:				
71	Obligations incurred, net	-14,312	16,395	.....	.....
72	Obligated balance, start of period	1,716	1,192	1,725	200
74	Obligated balance, end of period	-1,192	-1,725	-200	-200
90	Outlays	-13,789	15,862	1,525	.....

1/ Includes capital outlay as follows: 1975, $3 thousand; 1976, $25 thousand; Transition Quarter, $5 thousand; 1977, $10 thousand.

(Memo entr: 33.1E) (Memo entr: 2.E) (Memo entr: 8.E) (Memo entr: 2.E) (Memo entr: E)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
CONSOLIDATED WORKING FUND

A-11-34a

Type size:
178 M6/33

STANDARD FORM 304-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.
304-103T

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 05-96-3911-0-4-302	1975 actual	19 76 estimate	Transition Quarter estimate	1977 estimate
Personnel compensation:				
11.1 Permanent positions	248	1,595	20	175
11.3 Positions other than permanent	2,428	24,150	850	1,435
11.5 Other personnel compensation	2	15	.....	.....
11.8 Special personal services payments	5	25	.....	5
Total personnel compensation	2,683	25,785	870	1,615
Personnel benefits:				
12.1 Civilian	173	1,730	50	110
13.0 Benefits for former personnel	36	35	5	.....
21.0 Travel and transportation of persons	65	500	20	30
22.0 Transportation of things	44	700	15	35
23.0 Rent, communications, and utilities	16	100	5	10
24.0 Printing and reproduction	.....	5	.....	.....
25.0 Other services	-534	3,834	205	65
26.0 Supplies and materials	29	2,000	130	25
31.0 Equipment	13	350	15	10
32.0 Lands and structures	.....	65	.....	.....
~~33.0 Investments and loans~~				
41.0 Grants, subsidies, and contributions	1,876	6,000	10	3,400
~~42.0 Insurance claims and indemnities~~				
~~43.0 Interest and dividends~~				
~~44.0 Refunds~~				
Subtotal	4,401	41,104	1,325	5,300
95.0 Quarters and subsistence charges	-1	.....	.....	.....
99.0 Total obligations	4,400	41,104	1,325	5,300
(Mono cost: 22.13)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5)

65-300 O - 76 - 22

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
CONSOLIDATED WORKING FUND
Personnel Summary

A-11-34a

STANDARD FORM 300-T
June 1973, Office of Management and Budget
Circular No. A-11, Revised.

Identification code 05-96-3911-0-4-302	19 75 actual	19 76 estimate	19 TQ estimate	19 77 estimate
Total number of permanent positions	23	217		217
Full-time equivalent of other positions	534	3,959		2,505
Average paid employment	551	4,069		2,581
Average GS grade	8.63	8.64		8.64
Average GS salary	$15,149	$15,947		$15,947
Average salary of ungraded positions	$12,261	$13,008		$13,008
(Memo cost: 22.10)	(Memo cost: 1.8)	(Memo cost: 2.0)	(Memo cost: 0.2)	(Memo cost: 2)

ADMINISTRATIVE PROVISIONS, FOREST SERVICE

Proposed Changes in Language

Changes in language are proposed as follows. New language is underscored and deleted matter is enclosed in brackets.

Appropriations to the Forest Service for the current fiscal year [and for the period July 1, 1976, through September 30, 1976,] shall be available for:

(a) purchase of not to exceed two hundred [eighty-one] thirty-two passenger motor vehicles of which [two] one hundred [twenty-five] fifty-seven shall be for replacement only, ... not to exceed $100,000 [for fiscal year 1976, and $100,000 for the period July 1, 1976, through September 30, 1976,] for employment under 5 U.S.C. 3109; ..... for administrative and not to exceed $75,000 [for fiscal year 1976, and $75,000 for the period July 1, 1976, through September 30, 1976,] for research purposes, ... in land or waters, pursuant to the Act of August 3, 1956 (7 U.S.C. 428a), including expenses as may be necessary to complete an exchange of the Blythe Arena and approximately 5.3 acres of National Forest land upon which it is situated in the north half of the northwest quarter, section 32, township 16 north, range 16 east, Mount Diablo Meridian, California, together with such additional National Forest land as the Forest Service may consider available for exchange: Provided, That such appropriation shall not be available for expenses incident to donations ..... not to exceed $100,000 [for fiscal year 1976, and $100,000 for the period July 1, 1976, through September 30, 1976,] for expenses pursuant to the Volunteers .....

Funds appropriated under this Act shall not be used for acquisition of forest lands under the provisions of the Act approved March 1, 1911, as amended (16 U.S.C. 513-519, 521)[, where such land is not within the boundaries of an established national forest or purchase unit].

[None of the funds made available under this Act shall be obligated or expended to change the boundaries of any region, to abolish any region, to move or close any regional office for research, State and private forestry, and National Forest System administration of the Forest Service, Department of Agriculture, without the consent of the House and Senate Committees on Appropriations and the Committee on Agriculture and Forestry in the U.S. Senate and the Committee on Agriculture in the U.S. House of Representatives.]

[The period July 1, 1976, through September 30, 1976, inclusive, shall be treated as a fiscal year for the purpose of computing and making payments provided under provisions of the Acts of May 23, 1908, as amended, March 1, 1911, as amended (16 U.S.C. 500); March 4, 1913, as amended (16 U.S.C. 501); June 20, 1910 (36 Stat. 562, 573); and June 22, 1948, as amended (16 U.S.C. 577c-577h), except the percent used shall be one-quarter of the three-fourths of 1 percent specified in this Act and the period July 1 through September 30, 1976, shall not be counted as a year in computing the ten-year interval between determination of the fair appraised value of the National Forest lands involved.]

Change 1 deletes authority needed to continue various activities during the transition period of July 1 through September 30, 1976.

Changes 2 and 3 would provide authority to purchase 232 passenger motor vehicles of which 157 will be replacements.

PASSENGER CARRYING VEHICLES

Replacements

During fiscal year 1977, it is proposed that the Forest Service replace 157 passenger carrying vehicles. Of these, 152 will meet replacement standards and five will require replacement because of accidents or excessive maintenance costs.

Dependability of passenger carrying vehicles is an important factor in keeping work programs on schedule and in meeting emergencies. Vehicle breakdowns while on field travel cause disruptions and delays in field work as well as loss of effective work time of employees. The continued use of over-aged equipment is undesirable from a safety standpoint since most of it is operated over rough, narrow, winding roads in mountainous country under adverse conditions. This use generally results in excessive operating and repair expenses when vehicles reach or exceed replacement standards.

In order to maintain passenger carrying vehicles in a safe and satisfactory operating condition, it is the policy of the Forest Service to schedule periodic preventive maintenance inspections, services, and tune-ups to reduce the necessity for costly repairs and major overhauls, and to minimize lost time resulting from field breakdowns.

It is desirable to maintain a reasonable balance in the age class of the passenger vehicle inventory. The age class distribution is based upon conforming with replacement standards which recognize that some units will be retired under the age standards and others under the use standard. Prescribed replacement standards, although applicable, are not always appropriate for all Forest Service vehicles because of the wide range of operating conditions and the comparatively short field season in many of the National Forests at higher elevations. Decision on replacement of passenger-carrying vehicles which reach replacement age is based on an appraisal of each unit. This involves a review of the history record combined with a mechanical inspection of the vehicle's condition and repair liability. When such appraisal indicates that the vehicle is satisfactory for further service without unreasonable repair expenditures, it is retained and assigned to lighter work, even though such action tends to upset the age standards for the fleet inventory.

The vehicles selected for replacement are those which cannot be operated another season without excessive repair expense. They are unsatisfactory for further use both as to safety and mechanical condition. The replacement authorization requested is within the normal annual replacement standards prescribed by the General Services Administration.

Essentially all passenger-carrying vehicles are pooled for use by all activities with replacement of pooled units financed from a Working Capital Fund. All appropriations reimburse this fund in ratio to use of vehicles on activities financed by the respective appropriations.

None of the replacements requested will be assigned to areas served or scheduled to be served by Interagency pools.

Additions

It is proposed that the Forest Service purchase 75 additional passenger-carrying vehicles to replace pickups, carryalls and sedan deliveries. Since sedans and station wagons are better suited to the needs and are less costly to operate, we prefer replacement with passenger-carrying vehicles.

Sedans or station wagons cost less to operate and maintain than a truck. During fiscal year 1976, the Forest Service is replacing 66 light trucks, such as carryalls, pickups, panels, and sedan delivery trucks, with sedans and station wagons. The total estimated cost savings is $11,200 per year. The substitution of 75 passenger-carrying vehicles for light trucks in fiscal year 1977 would result in an additional savings of about $15,000 each year.

The Forest Service analyzes current work plans and program in determining its overall passenger-carrying vehicle requirements. This analysis includes a careful study of the number of vehicles needed at each field station using as a guiding principle the ownership of only the minimum number of dependable units required to serve programs for which funds are budgeted. Also, it is Forest Service policy to utilize Interagency Motor Pools or commercial car rental services to the fullest practicable extent. Passenger car use is restricted and is integrated with various activities so as to attain good utilization of all vehicles.

Additions are financed from program funds in direct relationship to the anticipated use of the equipment. Distribution of costs to appropriations is based on analysis of use of the equipment fleet for the past three years and the estimated use for the budget year.

Number of Vehicles

The Forest Service had a fleet of 1,027 passenger-carrying vehicles at the start of the fiscal year 1976. It is planned to add 56 units during the year, making a total of 1,083 units available at the start of fiscal year 1977, excluding possible transfers to other agencies. It is proposed that the total number of passenger-carrying vehicles be increased to 1,158 by the end of fiscal year 1977.

As of June 30, 1975, the age and mileage classes of the passenger-carrying vehicles on hand, exclusive of 29 buses, were:

Age Data

Year	Number of Vehicles
1970 and older	244
1971	82
1972	64
1973	260
1974	241
1975	107
Total	998

Mileage Data

Miles	Number of Vehicles
60,000 and over	215
50,000 to 59,999	84
40,000 to 49,999	102
30,000 to 39,999	122
20,000 to 29,999	158
10,000 to 19,999	185
0 to 9,999	132
Total	998

Use of Vehicles

Passenger-carrying vehicles are used by:

(1) Forest officers in the protection, utilization, management, and development of the National Forests and land utilization projects and in the program for control of forest pests.

(2) Research technicians on experimental forests, and ranges, on field research projects and forest surveys.

(3) Foresters engaged in carrying out the laws providing for State and private forestry cooperation.

(4) Regional office field-going administrative personnel in performing, directing, and inspecting field work.

The Forest Service is essentially a field organization and its passenger-carrying vehicles are located mainly at regional, National Forest, and ranger district headquarters, and experimental forests and ranges. There are over 225 million acres within the exterior boundaries of the National Forest.

About 631 million acres of State and private forest land are included within the areas which benefit from Federal participation in the cooperative forest program. Much of this area is without common carrier service, and most forest areas and research centers are remote from commercial travel routes, requiring extensive use of motor vehicles as a means of transportation. The major portion of transportation needs, particularly at regional and forest supervisor levels and at other larger headquarters, involves multiple passenger use and can be more expeditiously and economically met by use of sedans and station wagons than by other types of vehicles.

AIRCRAFT

Replacement of Aircraft

The Forest Service is currently authorized 57 aircraft in accordance with 31 USC 638a(b) which establishes control over size of agency fleet. There will be no need for an increase in authorization for fiscal year 1977. The authorization includes both government-owned and leased aircraft that is operated by the government.

Current Forest Service fleet composition is as follows:

6	Single engine reconnaissance and transport aircraft
18	Light twin-engine reconnaissance and transport aircraft
12	Medium and heavy cargo and transport aircraft (6 medium, 6 heavy)
1	Multi-engine aircraft converted to an air tanker
37	Government-owned aircraft
20	Dry leased aircraft (leased but operated by Forest Service during critical periods)
57	

The replacement by purchase will be primarily light twin-engine aircraft suitable for leadplane work in directing air tanker retardant dropping attack on forest fires.

One large helicopter is on call from the U.S. Army for use in some equipment development and testing. Such testing may include additional night helicopter operation and fire retardant spray systems.

One light twin-engine airplane is modified, equipped, and used primarily for fire mapping with infrared equipment in low visibility of smoke and at night. Two medium twin-engine airplanes are modified, equipped and used primarily for high altitude fire detection usually at night with infrared equipment.

The multi-engine airplane obtained from the military was converted to air tanker configuration for test and evaluation project to determine if suitable for dropping retardants. It is now being used in a research project on optimum size and shape of tanks for retardant dropping.

The multipurpose reconnaissance and transport airplanes are used primarily to transport smokejumpers, firefighters, administrative personnel, equipment and supplies to remote and inaccessible areas where commercial services are inadequate or not available for protection and suppression of forest fires. Other use is to locate and survey timber stand and vegetation conditions such as insect infestations, blowdown, diseased areas, undesirable species, and to appraise resources and damage and evaluate effectiveness of control.

The services of suitable airplanes to perform specific Forest Service missions are becoming increasingly more difficult to obtain from commercial sources. In some locations only the Forest Service needs certain type of flights and the are insufficient in number to warrant operators furnishing the service. Aviation operators must therefore give first consideration to furnishing services for best revenue. In many instances the aircraft available is not suitable for Forest Service work.

Four heavy twin-engine transport aircraft are leased and operated for dual purpose in transporting firefighting crews or dropping smokejumpers. Seven leased light twins fill additional requirements for leadplanes in directing air tanker retardant attack on fires until the replacement aircraft are available. Three leased helicopters are used for specialized roles in firefighting.

Two single-engine T-28's are on temporary loan from the Navy for evaluation as air tanker leadplanes, especially where faster speed is needed. One OV-10 is borrowed from the Navy for leadplane evaluation. Other military aircraft may be borrowed for similar evaluations for our mission requirements.

Aircraft purchases are financed from either appropriated funds or the Forest Service Working Capital Fund, or a combination of both. Replacement costs of aircraft partially or completely destroyed in an accident are financed from program funds in relationship to anticipated use.

When contract tanker aircraft are used to drop retardant on forest fires, these tankers are directed in the fire vicinity and actually preceded on drop runs by Forest Service pilots flying the leadplanes. The tanker fleet has been evolving into faster and larger aircraft. This further necessitates a change to faster lead aircraft to assure adequate clearance from the tanker while leading them in over the drop area on the fire. A study is presently underway to determine the optimum replacement schedule.

Change 4 would authorize the exchange of National Forest land at Squaw Valley, California, on which the Blythe Arena was constructed with funds appropriated by the Act of May 14, 1958.

The addition of the language underscored to section (g) would authorize the exchange of 5.3 acres of National Forest land at Squaw Valley, California, on which the Blythe Arena was constructed with funds appropriated by the Act of May 14, 1958 (72 Stat. 108). The arena was needed for the 1960 Winter Olympics. No additional funds are requested since funds are included for exchanges under the Act of August 3, 1956 (7 U.S.C. 428a).

It was the intent of the Congress in 1958 that the Federal Government be reimbursed for the money expended in construction of the arena from income derived from the use of the improved lands by the State of California. The Office of General Counsel rendered an opinion on March 31, 1964, concerning a proposed land-for-land exchange under the provisions of the General Exchange Act of March 20, 1922 (42 Stat. 465, 16 U.S.C. 485, 486), and advised the Forest Service that the exchange of the improved site of the arena was not authorized because Congress intended that the United States be reimbursed for the expenditure of the appropriated funds by rentals of the facility by the State of California. The State of California has leased the site since that time and the United States has derived no income because operating costs have exceeded income.

Private owners have acquired nearby State of California lands and are interested in exchanging other lands suitable for National Forest purposes in exchange for the arena site. The proposal to exchange the improved site for other lands more suitable for National Forest purposes will have the effect of reimbursing the United States with land rather than income.

Change 5 would eliminate restriction on location of lands to be acquired.

This language is redundant to what actually occurs under the policies and procedures of the National Forest Reservation Commission. Acquisitions are made only (1) in areas previously approved by the Commission which have been subsequently designated National Forests, (2) in purchase units approved but without National Forest status, or (3) in individual tracts at which time a purchase unit boundary around the tract is concurrently approved along with the acquisition.

Change 6 would eliminate the language to assure that the present Forest Service regional system is maintained and that the Congress has a role in any further regional reorganization plans.

If the Appropriations Committees were to continue to include language in appropriations bills requiring congressional approval of reorganization proposals, our ability to implement needed reorganizations would be considerably slowed.

The Forest Service has made many changes in organization through the years to obtain the most efficient economic operation. These changes came as a result of extensive study and considered improved transportation, technology and methods of doing business. The administration of the National Forest System has been improved as a result of these changes.

This language might limit the ability of Forest Service management to take advantage of opportunities to improve efficiency and effectiveness by shifting Regional boundaries.

It is proposed that this language not be included in future appropriation bills.

The Forest Service plans to obtain the views of the Appropriations Subcommittees and the Agriculture and Forestry Committees in the House and Senate and members of Congress who would be affected before implementing regional reorganization plans even without this language.

ROADS AND TRAILS FOR STATES, NATIONAL FORESTS FUND
(Permanent appropriation)

Appropriation, 1975	$47,003,064
Appropriation, 1976	35,908,943
Transition quarter	(46,900,000)
Estimate, 1977	14,250,000
Change (due to an estimated decrease in National Forest receipts in transition quarter)	-21,658,943

The permanent appropriation of 10 percent of National Forest receipts pursuant to the Act of March 4, 1913 (16 USC 501) is transferred to and merged with the annual appropriation for Forest Roads and Trails. The explanation of the use of these funds is included in the justification for that appropriation item.

The Department of the Interior and Related Agencies Appropriation Act making funds available for the fiscal year ending June 30, 1976 and for the period ending September 30, 1976 (PL 94-165) provided that the period July 1 through September 30, 1976, shall be treated as a fiscal year for the purposes of computing amounts available under the provisions of this Act. Therefore, the funds available during the transition quarter (July 1-September 30, 1976) are based on National Forest receipts for the fiscal year ending June 30, 1976; and the funds available in fiscal year 1977 (October 1, 1976-September 30, 1977) are based on National Forest receipts for the transition quarter.

EXPENSES, BRUSH DISPOSAL
(Permanent appropriation)
(All operation and maintenance)

		Permanent full-time positions
Appropriation, 1975	$24,183,923	501
Estimate, 1976	33,000,000	569
Transition quarter	(9,000,000)	
Estimate, 1977	33,000,000	569

PROJECT STATEMENT

Project	1975	1976 estimate	Transition quarter estimate	1977 estimate	Change from 1976
Brush disposal	$25,860,838	$32,028,000	$10,000,000	$29,394,000	-$2,634,000
Unobligated balance brought forward	-25,778,027	-24,101,112	-25,073,112	-24,073,112	+28,000
Unobligated balance carried forward	24,101,112	25,073,112	24,073,112	27,679,112	+2,606,000
Appropriation or estimate	24,183,923	33,000,000	9,000,000	33,000,000	- -

GOAL: To increase the productivity of forest lands.

A decrease of $2,634,000 is planned.

No change in permanent full-time positions is proposed.

Timber cutting usually increases the fire hazard because of dry fuel increase in the form of logging slash. This slash may also:

(1) Impair reforestation.
(2) Contribute to the buildup of insect populations.
(3) Cause damage to stream channels.
(4) Degrade esthetics of the forest environment.

When disposal of brush and other debris is necessary, National Forest timber sale contracts require treatment or deposit of funds for treatment of debris resulting from timber sale operations. When economical and expedient the work is performed by the timber purchaser. When not done by the purchaser, it is done by the Government, using deposits to cover costs of the work as authorized under Section 6 of the Act of April 24, 1950 (16 USC 490).

The effect of timber cutting and the manner of treating slash varies widely among regions. Brush disposal may be accomplished in several ways such as crushing, chipping, burning, or extra fire protection through the critical phase of natural disposal. Combinations of these are often used.

In the Eastern Regions, low volume cut per acre, high utilization, and rapid decomposition reduce the slash disposal work necessary. Exceptions occur in sales where a heavy cut per acre is made, such as the jack pine stands of some Lake States. In such areas, slash is crushed and mixed with mineral soil by disking with heavy equipment or disposed of by burning under prescription. This reduces the hazard and provides a good seedbed to aid regeneration. Treatment of slash to prevent insect epidemics is sometimes necessary in these areas.

In contrast, more slash disposal is required on most sale areas of the West. High volume per acre generally produces heavy slash. Long dry periods with lightning and man-caused fire risk result in extremely hazardous fire potential. The warm, humid conditions necessary for rapid slash deterioration seldom occur. Treatment varies

greatly with different methods of cutting, but generally requires some burning to reduce volumes of slash fuels. Slash may be burned in place or piled and burned under varied weather conditions. Fuel arrangements are planned which allow burning at times when smoke dispersal is favorable and will not influence air quality in population areas. The emphasis on more complete timber utilization will reduce the volumes of slash fuels that will be disposed of by burning.

Within regions, slash disposal follows general prescriptions. Individual needs of each sale are planned and appraised prior to advertisement of the sale. The appropriate specific requirements are incorporated into each timber sale contract. In each instance, the method used will require adequate ecological, environmental, and resource protection at the least expense.

LICENSEE PROGRAMS
(Permanent appropriation)
(All operation and maintenance)

		Permanent full-time positions
Appropriation, 1975	$223,351	4
Estimate, 1976	250,000	3
Estimate, transition quarter	(63,000)	(- -)
Estimate, 1977	280,000	3
Change from 1976	+30,000	- -

PROJECT STATEMENT

Project	1975	1976 estimate	Transition quarter estimate	1977 estimate	Change from 1976
Licensee Programs:					
Smokey Bear	$187,687	$278,000	$60,000	$225,000	-$53,000
Woodsy Owl	22,498	50,000	15,000	50,000	- -
Unobligated balance brought forward	-217,499	-230,665	-152,665	-140,665	90,000
Unobligated balance carried forward	230,665	152,665	140,665	145,665	-7,000
Appropriation or estimate	223,351	250,000	63,000	280,000	+30,000

Fees for the use of characters by private enterprises are collected under regulations promulgated by the Secretary and are available as follows:

(1) Smokey Bear--for furthering the nationwide forest fire prevention campaign (18 USC 711 and 31 USC 488a).

(2) Woodsy Owl--for promoting wise use of the environment and programs which foster maintenance and improvement of environmental quality (31 USC 488b-3--6).

Examples of Recent Accomplishments

Smokey Bear. National publicity occurred with the changing of the guard ceremonies when the old Smokey Bear retired and passed on his hat and shovel to a new, young, vigorous bear.

Smokey received the Stewart H. Holbrook award presented by the Keep Washington Green Association, Inc., for distinguished service.

Woodsy Owl. Launched a cooperative project with the General Federation of Women's Clubs Juniors to promote Woodsy Owl Bicentennial Birthday Parties. A "birthday party sheet" with party hints and gift ideas, was printed and distributed. The objective is to encourage actions to improve the environment and make the "community and country a nicer place to live."

Printed and distributed a brochure titled, "Woodsy Owl on Hiking and Backpacking." This gives tips on safety and comfort for hikers and backpackers; also tells how to protect and to preserve the environment.

Promoted Woodsy Owl participation in "Romper Room" television shows. Personal appearances by Woodsy Owl on these shows will increase his recognition by young children and will help initiate their environmental education process.

RESTORATION OF FOREST LANDS AND IMPROVEMENTS
(Permanent appropriation)
(All operation and maintenance)

		Permanent Full-Time Positions
Appropriation, 1975	$36,609	1
Estimate, 1976	50,000	1
Estimate, transition quarter	(15,000)	
Estimate, 1977	50,000	1

PROJECT STATEMENT

Project	1975	1976 estimate	Transition: quarter estimate	1977 estimate	Change from 1976
Restoration of forest lands and improvements	$50,714	$50,000	$15,000	$50,000	- -
Unobligated balance brought forward	-62,777	-48,672	-48,672	-48,672	- -
Unobligated balance carried forward	48,672	48,672	48,672	48,672	- -
Appropriation or estimate	36,609	50,000	15,000	50,000	- -

Recoveries from cash bonds or forfeitures under surety bonds by permittees or timber purchasers, who fail to complete performance of improvement, protection, or rehabilitation work required under the permit or timber sale contract, are used to cover the cost to the United States of completing such work on lands under Forest Service administration. Funds received as settlement of a claim are used for improvement, protection, or rehabilitation made necessary by the action which led to the cash settlement (Act of June 20, 1958, 16 USC 579c).

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
PERMANENT APPROPRIATIONS

A-11-32a

STANDARD FORM 300-T
June 1973, Office of Management and Budget
Circular No. A-11, Revised.

Program and Financing (in thousands of dollars)

Identification code 05-96-9999-0-2-302		19 75 actual	19 76 estimate	19 TQ estimate	19 77 estimate
	Program by activities:				
	Direct program:				
	1. Roads and trails for States, national forests fund	47,003	35,909	46,900	14,250
	2. Brush disposal ...	26,382	31,029	12,079	27,494
	3. Licensee programs, Forest Service ..	92	327	175	200
	4. Restoration of forest lands and improvements	51	50	15	50
	Total program costs, funded 1/	73,528	67,315	59,169	41,994
	Change in selected resources (undelivered orders)	-403	1,000	-2,179	1,975
10	Total obligations ..	73,125	68,315	56,990	43,969
	Financing:				
21	Unobligated balance available, start of period .	-26,058	-24,380	-25,274	-24,262
24	Unobligated balance available, end of period ...	24,380	25,274	24,262	27,873
60	Budget authority (appropriation) (permanent, indefinite, special funds)	71,447	69,209	55,978	47,580

(Memo cost: 38.18) (Memo cost: 4.8) (Memo cost: 5.9) (Memo cost: 4.6) (Memo cost: 4.6)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
PERMANENT APPROPRIATIONS

A-11-32a

STANDARD FORM 300-T
June 1973, Office of Management and Budget
Circular No. A-11, Revised.

Program and Financing (in thousands of dollars)--continued

Identification code 05-96-9999-0-2-302		1975 actual	1976 estimate	TQ estimate	1977 estimate
	Distribution of budget authority by account:				
	Roads and trails for States, national forests fund	47,003	35,909	46,900	14,250
	Brush disposal	24,184	33,000	9,000	33,000
	Licensee programs, Forest Service	223	250	63	280
	Restoration of forest lands and improvements	37	50	15	50
	Relation of obligations to outlays:				
71	Obligations incurred, net	73,125	68,315	56,990	43,969
72	Obligated balance, start of period	4,739	3,968	4,959	1,537
74	Obligated balance, end of period	-3,968	-4,959	-1,537	-4,028
90	Outlays	73,895	67,324	60,412	41,478
	Distribution of outlays by account:				
	Roads and trails for States, national forests fund	47,003	35,909	46,900	14,250
	Brush disposal	26,708	31,070	13,300	27,000
	Licensee programs, Forest Service	134	295	195	178
	Restoration of forest lands and improvements	50	50	17	50

1/ Includes capital outlay as follows: 1975, $718 thousand; 1976, $650 thousand; Transition Quarter, $550 thousand; 1977, $400 thousand.

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
PERMANENT APPROPRIATIONS

A-11-34a

Type size:
178 M4/72

STANDARD FORM 304-T
June 1978, Office of Management and Budget
Circular No. A-11, Revised.
304-103T

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 05-96-9999-0-2-302	19 75 actual	19 76 estimate	Transition Quarter estimate	19 77 estimate
Personnel compensation:				
11.1 Permanent positions	6,703	7,862	1,810	7,650
11.3 Positions other than permanent	7,588	8,758	2,330	8,370
11.5 Other personnel compensation	1,448	1,653	395	1,600
11.8 Special personal services payments	9	10	5	10
Total personnel compensation	15,748	18,283	4,540	17,630
Personnel benefits:				
12.1 Civilian	1,406	1,637	430	1,590
13.0 Benefits for former personnel	7	8	2	.....
21.0 Travel and transportation of persons	358	415	105	415
22.0 Transportation of things	1,441	1,650	450	1,675
23.0 Rent, communications, and utilities	957	1,110	175	1,110
24.0 Printing and reproduction	132	100	25	155
25.0 Other services	50,556	42,202	50,828	18,449
26.0 Supplies and materials	1,473	1,695	285	1,715
31.0 Equipment	831	950	150	965
32.0 Lands and structures	302	360	55	350
~~33.0 Investments and loans~~				
~~41.0 Grants, subsidies, and contributions~~				
42.0 Insurance claims and indemnities	15	15	5	15
~~43.0 Interest and dividends~~				
44.0 Refunds ~~44.0 Refunds~~	45	55	.....	.....
Subtotal	73,271	68,480	57,050	44,069
95.0 Quarters and subsistence charges	-146	-165	-60	-100
99.0 Total obligations	73,125	68,315	56,990	43,969
	(Mono cost: 22.18)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5)

STANDARD FORM 300-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
PERMANENT APPROPRIATIONS
Personnel Summary

A-11-34a

Identification code 05-96-9999-0-2-302	19 75 actual	19 76 estimate	19 TQ estimate	19 77 estimate
Total number of permanent positions	506	573		573
Full-time equivalent of other positions	952	1,093		1,046
Average paid employment	1,392	1,605		1,543
Average GS grade	8.63	8.64		8.64
Average GS salary	$15,149	$15,947		$15,947
Average salary of ungraded positions	$12,261	$13,008		$13,008
(Memo cost: 22.12)	(Memo cost: 2.8)	(Memo cost: 2.9)	(Memo cost: 2.1)	(Memo cost: 2)

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PAYMENT TO MINNESOTA (COOK, LAKE, AND ST. LOUIS COUNTIES)
FROM THE NATIONAL FORESTS FUND
(Permanent appropriation)
(All operation and maintenance)

Appropriation, 1975	$259,038
Appropriation, 1976	259,038
Transition quarter	(259,038)
Estimate, 1977	65,000
Change from 1976	-194,038

PROJECT STATEMENT

Project	1975	1976 estimate	Transition quarter estimate	1977 estimate	Change from 1976
Payment to Minnesota from the National Forests Fund (appropriation or estimate)	$259,038	$259,038	$259,038	$65,000	-$194,038

The Act of June 22, 1948, as amended (16 USC 577c-577h) provides that the Secretary of the Treasury, upon certification of the Secretary of Agriculture, shall pay to the State of Minnesota at the close of each fiscal year from any National Forest receipts not otherwise appropriated an amount equivalent to three-fourths of one percent of the fair appraised value of certain National Forest lands in the counties of Cook, Lake, and St. Louis situated within the Superior National Forest. The Act further provides that payment to the State shall be distributed to each of these counties in conformity with the fair appraised value of such National Forest lands in each county.

The Department of the Interior and Related Agencies Appropriation Act making funds available for the fiscal year ending June 30, 1976 and for the period ending September 30, 1976 (PL 94-165) provided that the period July 1 through September 30, 1976, shall be treated as a fiscal year for the purposes of computing and making payments under the provisions of this Act. Therefore, the payments to be made during the transition quarter (July 1-September 30, 1976) are based on National Forest receipts for the fiscal year ending June 30, 1976; and the payments to be made in fiscal year 1977 (October 1, 1976-September 30, 1977) are based on National Forest receipts for the transition quarter.

PAYMENTS TO COUNTIES, NATIONAL GRASSLANDS

(Permanent appropriation)
(All operation and maintenance)

Appropriation, 1975	$831,226
Estimate, 1976	875,000
Estimate, transition quarter	(- -)
Estimate, 1977	950,000
Change from 1976	+75,000

PROJECT STATEMENT

Project	1975	1976 estimate	Transition quarter estimate	1977 estimate	Change from 1976
Payment to counties (appropriation or estimate)	$831,226	$875,000	- -	$950,000	+$75,000

At the end of each calendar year, 25 percent of the revenues from use of submarginal lands are paid to counties under the provisions of Title III of the Bankhead-Jones Farm Tenant Act, approved July 22, 1937 (7 USC 1012). Payments are made on the provision that they are used for school or road purposes, or both.

PAYMENTS TO SCHOOL FUNDS, ARIZONA AND NEW MEXICO
(Permanent appropriation)
(All operation and maintenance)

Appropriation, 1975	$190,862
Estimate, 1976	76,827
Transition quarter	(100,000)
Estimate, 1977	25,000
Change from 1976	-51,827

PROJECT STATEMENT

Project	1975	1976 estimate	Transition quarter estimate	1977 estimate	Change from 1976
Payments to school funds (appropriation or estimate)	$190,862	$76,827	$100,000	$25,000	-$51,827

Under provisions of the Act of June 20, 1910 (36 Stat. 562, 573) certain areas within National Forests were granted to the States for school purposes. The percentage that these lands are of the total National Forest area within the State is used in determining payments to the States. The receipts from all National Forest land within the State are used as the basis for applying the percentage. For example, if total receipts for the State are $100,000 and if 10 percent of lands are in the "granted for school purposes" category, the payment to the State would be $10,000. The amounts so paid are deducted from the net receipts before computing the 25 percent payments to States.

As soon after the close of the fiscal year as the receipts from National Forests and the area of school lands in the States of Arizona and New Mexico are determined, the payments are made to the States. Payments in fiscal year 1975 to Arizona were $189,494 and to New Mexico $1,368.

The Department of the Interior and Related Agencies Appropriation Act making funds available for the fiscal year ending June 30, 1976 and for the period ending September 30, 1976 (PL 94-165) provided that the period July 1 through September 30, 1976, shall be treated as a fiscal year for the purposes of computing and making payments under the provisions of this Act. Therefore, the payments to be made during the transition quarter (July 1-September 30, 1976) are based on National Forest receipts for the fiscal year ending June 30, 1976; and the payments to be made in fiscal year 1977 (October 1, 1976-September 30, 1977) are based on National Forest receipts for the transition quarter.

PAYMENTS TO STATES, NATIONAL FORESTS FUND

(Permanent appropriation)
(All operation and maintenance)

Appropriation, 1975	$119,482,282
Estimate, 1976	89,770,055
Transition quarter	(117,250,000)
Estimate, 1977	35,600,000
Change from 1976	-54,170,055

PROJECT STATEMENT

Project	1975	1976 estimate	Transition quarter estimate	1977 estimate	Change from 1976
Payments to States (appropriation or estimate)	$119,482,282	$89,770,055	$117,250,000	$35,600,000	-$54,170,055

The Act of May 23, 1908, as amended (16 USC 500) requires, with a few exceptions, that 25 percent of all money received from the National Forests during any fiscal year be paid to the States in which the forests are located, for the benefit of public schools and public roads of the county or counties in which such National Forests are situated. The amount of this appropriation varies each year in direct proportion to National Forest receipts during the previous fiscal year.

The Department of the Interior and Related Agencies Appropriation Act making funds available for the fiscal year ending June 30, 1976 and for the period ending September 30, 1976 (PL 94-165) provided that the period July 1 through September 30, 1976, shall be treated as a fiscal year for the purposes of computing and making payments under the provisions of this Act. Therefore, the payments to be made during the transition quarter (July 1-September 30, 1976) are based on National Forest receipts for the fiscal year ending June 30, 1976; and the payments to be made in fiscal year 1977 (October 1, 1976-September 30, 1977) are based on National Forest receipts for the transition quarter.

The amounts set aside from receipts collected from the sale of National Forest timber, grazing, special use permits, power mineral leases, and admission and user fees, before the 25 percent is applied are listed below:

(1) Payment to the State of Minnesota covering certain National Forest lands in Counties of Cook, Lake, and St. Louis situated within the Superior National Forest is made under the terms of the Act of June 22, 1948, as amended (16 USC 577c-577h). Receipts collected from the areas covered by this Act are excluded when the 25 percent payment to the State of Minnesota is computed.

(2) For lands in certain counties in Utah, Nevada, and California, the States receive 25 percent of receipts only after funds, if made available by Congress, have been set aside for the acquisition of National Forest lands within the specified National Forests under the terms of special acts authorizing appropriations from forest receipts for this purpose.

(3) Payments to the States of Arizona and New Mexico under the provisions of the Act of June 20, 1910 (36 Stat. 562, 573), of shares of the gross receipts from the National Forests in those States which are proportionate to the areas of land granted to the States for school purposes within the National Forests.

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
PERMANENT APPROPRIATIONS

A-11-32a

STANDARD FORM 300-T
June 1978, Office of Management and Budget
Circular No. A-11, Revised.

Program and Financing (in thousands of dollars)

Identification code 05-96-9997-0-2-852	1975 actual	1976 estimate	TQ estimate	1977 estimate
Program by activities:				
Direct program:				
1. Payment to Minnesota	259	259	259	65
2. Payments to counties, National Grasslands	831	875	.....	950
3. Payments to school funds, Arizona and New Mexico	191	77	100	25
4. Payments to States, national forests fund	119,482	89,770	117,250	35,600
10 Total program (costs--obligations) (object class 41.0)	120,763	90,981	117,609	36,640
Financing:				
60 Budget authority (appropriation) (permanent, indefinite, special funds)	120,763	90,981	117,609	36,640
Relation of obligations to outlays:				
71 Obligations incurred, net	120,763	90,981	117,609	36,640
90 Outlays	120,763	90,981	117,609	36,640
(Memo cost: 23.1%)	(Memo cost: 1.6)	(Memo cost: 1.5)	(Memo cost: 1.5)	(Memo cost: 1)

WORKING CAPITAL FUND
(All capital investment)

The Working Capital Fund was established by the Act of August 3, 1956 (16 USC 579b), as amended by the Act of October 23, 1962 (16 USC 579b). It is a self-sustaining revolving fund which provides services to National Forests, Experiment Stations, and when necessary, to other Federal agencies, and as provided by law, to State and private agencies and persons who cooperate with the Forest Service in fire control and other authorized programs.

	1975	1976	1977	Change
Permanent full-time positions	691	691	725	+34

An increase of $8,613,000 in program level is proposed in fiscal year 1977, together with an increase of 34 permanent full-time positions. Total 1977 program level proposed is $57.9 million.

The forestry related supply and support services provided by the Working Capital Fund in fiscal year 1975 included:

Equipment service which owns, operates, maintains, replaces and repairs common use motor driven and similar equipment. This equipment is rented to administrative units, i.e., National Forests, Experiment Stations and other units, and in some cases to other agencies, at rates which recover the cost of operation, repair and maintenance, management, and depreciation. The rates also include an increment which provides additional cash which, when added to depreciation earnings and the residual value of equipment, provides sufficient funds to replace the equipment.

Aircraft service which operates, maintains, and repairs Forest Service owned aircraft used in fire surveillance and suppression and in other Forest Service programs. The aircraft are rented to National Forests, Experiment Stations, and in some cases to other agencies, at rates which recover the cost of depreciation, operation, maintenance, repair, and improvements in the airworthiness of the aircraft. Aircraft replacement costs are financed from either appropriated funds or the Forest Service Working Capital Fund, or a combination of both.

Supply service which operates the following common services:

Central Supply which procures, stores, and issues grass seed to National Forests, Experiment Stations, and others at prices which recover costs.

Photo reproduction laboratories which store, reproduce, and supply aerial photographs, aerial maps, and other photographs of National Forest lands. The photographic reproductions are sold to National Forests, Experiment Stations, and others at cost.

Sign shops which manufacture and supply special signs for the National Forests for use in regulating traffic and as information to the public and other users of the National Forests. The signs are sold to National Forests and Experiment Stations at cost.

Subsistence which prepares and serves meals to Forest Service crews working in areas where adequate public restaurant facilities are not available.

Cribbing which manufactures special concrete structural material used in embankments for erosion control purposes along access roads in the National Forests. This material is sold to National Forests at prices which recover costs.

Nurseries which operate forest tree nurseries and cold storage facilities for storage of tree and seed stock and a seed extractory. Tree seed is procured, cleaned, bagged, and stored in refrigerated facilities. Tree and seed stock is sold to National Forests, States, and other Federal agencies at cost.

Volume of Business for the Various Major Activities of the Working Capital Fund
(In thousands of dollars)

	1975 Actual	1976 Estimate	Transition Quarter Estimate	1977 Estimate
Equipment service	32,322	41,867	13,235	45,029
Aircraft service	1,512	1,712	726	1,879
Supply service	2,382	2,262	850	3,683
Nursery service	4,143	4,602	31	4,974
Total	40,359	50,443	14,842	55,565

The Working Capital Fund requires no cash appropriation. Initially, its assets were purchased by regular Forest Service appropriations and were donated to the fund.

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
WORKING CAPITAL FUND

A-11-32f

STANDARD FORM 300-T
Prior 1975, Office of Management and Budget
Circular No. A-11, Revised

Program and Financing (in thousands of dollars)

Identification code 05-96-4605-0-4-302	1975 actual	1976 estimate	Transition Quarter estimate	1977 estimate
Program by activities:				
Forestry related supply and support:				
Operating costs, funded ..	33,282	36,409	11,429	40,593
Capital outlay, funded ...	11,860	12,850	6,304	16,927
Total program costs, funded	45,142	49,259	17,733	57,520
Change in selected resources	370	48	3,605	400
10 Total obligations	45,512	49,307	21,338	57,920
Financing:				
Receipts and reimbursements from:				
11 Federal funds:				
Revenue	-37,553	-45,695	-13,408	-50,400
Income provision for increased cost of equipment replacement	-2,404	-4,972	-1,440	-5,413
Unfilled customer's orders	-767	-185	-185	-185
14 Non-Federal sources:				
Proceeds from sale of equipment and other assets	-1,773	-1,673	-247	-1,922
21 Unobligated balance available, start of period	-5,855	-2,840	-6,058	.....
24 Unobligated balance available, end of period	2,840	6,058	.....	.....
Budget authority ..	.....	.....	.....	.....
(Memo cost: 35.12)	(Memo cost: 4.8)	(Memo cost: 5.8)	(Memo cost: 5.8)	(Memo cost: 5)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
WORKING CAPITAL FUND

A-11-32f

STANDARD FORM 300-T
Prescribed by Office of Management and Budget
Circular No. A-11, Revised.

Program and Financing (in thousands of dollars)--continued

Identification code 05-96-4605-0-4-302		FY 75 actual	FY 76 estimate	Transition Quarter estimate	FY 77 estimate
	Relation of obligations to outlays:				
71	Obligations incurred, net	3,015	-3,218	6,058	.....
72	Obligated balance, start of period	7,656	2,375	9,096	12,192
74	Obligated balance, end of period	-2,375	-9,096	-12,192	-13,692
90	Outlays	8,297	-9,939	2,962	-1,500

(None cent: 33.1E) (None cent: 6.0) (None cent: 5.0) (None cent: 5.0) (None cent: 0)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
WORKING CAPITAL FUND

A-11-34a

Type size:
178 366/22

STANDARD FORM 304-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.
304-103T

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 05-96-4605-0-4-302	1975 actual	1976 estimate	Transition Quarter estimate	1977 estimate
Personnel compensation:				
11.1 Permanent positions	7,838	8,605	2,120	9,135
11.3 Positions other than permanent	4,203	4,645	1,225	5,050
11.5 Other personnel compensation	456	505	135	565
11.8 Special personal services payments	6	5	60	10
Total personnel compensation	12,503	13,760	3,540	**14,760**
Personnel benefits:				
12.1 Civilian	1,172	1,305	315	1,405
13.0 Benefits for former personnel				
21.0 Travel and transportation of persons	233	295	70	300
22.0 Transportation of things	183	215	200	240
23.0 Rent, communications, and utilities	837	935	200	1,100
24.0 Printing and reproduction	32	40	10	50
25.0 Other services	5,791	4,300	4,147	7,585
26.0 Supplies and materials	13,644	15,870	6,160	17,900
31.0 Equipment	11,143	12,615	6,700	14,600
32.0 Lands and structures	14	15	5	20
33.0 Investments and loans				
41.0 Grants, subsidies, and contributions	2	3	.....	5
42.0 Insurance claims and indemnities	3	3	1	5
43.0 Interest and dividends				
44.0 Refunds	1	1	.....	.....
Subtotal	45,558	49,357	21,348	57,970
95.0 Quarters and subsistence charges	-46	-50	-10	-50
99.0 Total obligations	45,512	49,307	21,338	57,920
(Memo cost: 23.1)	(Memo cost: 5.8)	(Memo cost: 5.8)	(Memo cost: 1.9)	(Memo cost: 5)

A-11-34a

STANDARD FORM 300-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
WORKING CAPITAL FUND
Personnel Summary

Identification code 05-96-4605-0-4-302	19 75 actual	19 76 estimate	19 TQ estimate	19 77 estimate
Total number of permanent positions	691	691		725
Full-time equivalent of other positions	451	462		505
Average paid employment	1,007	1,037		1,114
Average GS grade	8.63	8.64		8.64
Average GS salary	$15,149	$15,947		$15,947
Average salary of ungraded positions	$12,261	$13,008		$13,008
(Memo cost: 22.1d)	(Memo cost: 5.8)	(Memo cost: 6.0)	(Memo cost: 6.0)	(Memo cost: 5)

COOPERATIVE WORK, FOREST SERVICE (TRUST FUND)

Contributions are received from cooperators, including counties, States, timber sale operators, individuals, and associations, and are expended by the Forest Service in accordance with the terms of the applicable cooperative agreements. The work consists of protection and improvement of the National Forests, work performed for National Forest users, and forest investigations and protection, reforestation, and administration of private forest lands.

The major programs conducted under this account are described below in terms of the projects reflected in the statement at the end of this section.

(1) Construction and Maintenance of Roads and Trails, and

(2) Construction and Maintenance of Other Improvements.

Under the Acts of June 30, 1914 (16 USC 498) and March 3, 1925, April 24, 1950 (16 USC 572) and October 13, 1964 (16 USC 537) deposits for cooperative work are accepted from State and local government agencies, associations, Federal timber purchasers, users of roads, and others for the construction and maintenance of roads, trails, and other improvements and for performing work which is the National Forest users' responsibility, this method of performance of the work being of mutual benefit or of benefit to the public at large. Cooperative deposits received for wildlife habitat improvement for States from their hunting and fishing fees are included in this activity.

(3) Protection of National Forest and Adjacent Non-Federal Lands. The Act of June 30, 1914 (16 USC 498) authorizes the acceptance of contributions for the protection of the National Forests and the Act of March 3, 1925, as amended by Section 5, Act of April 24, 1950 (16 USC 572), authorizes the acceptance of deposits for the protection of non-Federal lands in or near the National Forests. The arrangement for the protection of private lands from fire helps both parties since there are millions of acres of non-Federal forest land intermingled with Federal ownership on the National Forests. The lands in non-Federal ownership are usually in small tracts. It would be uneconomical for the owner to set up a fire control organization for the protection of his land. The advantage to the Government is that in many cases it would be necessary to suppress the fires on the non-Federal land without reimbursement in order to protect the adjoining Federal land.

(4) Sale Area Betterment (including reforestation). Section 3 of the Act of June 9, 1930 (16 USC 576b) provides for deposits of funds by timber sale purchasers to cover the cost of reforestation and special cultural measures to improve the future stand of timber on the areas cutover by the purchaser. Accomplishments under this program are reported under the Forest land management subappropriation along with accomplishments for reforestation and stand improvement for that subappropriation.

(5) Scaling. Under provisions of the Act of April 24, 1950 (16 USC 572) and of Section 210 of the Act of September 21, 1944 (16 USC 572a) acceptance of deposits from timber purchasers for cooperative scaling service is authorized. Such arrangements are established only when requested by the operator and when the operator pays the extra cost of such services, either in advance or through reimbursement under appropriate payment guarantees.

(6) Research Investigations. The Acts of June 30, 1914 (16 USC 498) and May 22, 1928 (16 USC 581i-1) authorize the acceptance of deposits for forestry research. Deposits are received from State and other public agencies, and from industrial, association, and other private agencies to finance research projects of mutual interest and benefit to both parties. The deposits may be made either in a single sum or on a continuing basis, and may either partially or wholly cover the cost of the research. The cooperative research projects may involve any aspect of forestry and vary widely as to scope and duration.

A very common example of such cooperation is for a State to make a deposit to the Cooperative work fund in order to intensify or to speed up completion of a comprehensive survey of the forest resources of the State. Other examples are State contributions toward forest fire research. The results of such cooperative investigations are made available to the general public as well as to the depositor.

(7) Administration of Non-Federal Lands. The Act of March 3, 1925, as amended by Section 5, Act of April 24, 1950 (16 USC 572) authorizes the acceptance of deposits for the administration of non-Federal lands. These deposits are made by non-Federal owners having land intermingled with or adjacent to National Forests who wish these lands managed in accordance with good forest management practices. Their holdings are usually too small to warrant the employment of professional foresters to administer such tracts. The advantages to the Government include the avoidance of possible high fire hazard areas resulting from improper cutting practices, the elimination of the necessity of precisely marking the boundaries of the private land, and additional private forest land handled under proper forest practices.

(8) Reforestation (private lands). The Act of March 3, 1925, as amended by Section 5, Act of April 24, 1950 (16 USC 572) authorizes the acceptance of deposits for reforestation of non-Federal lands situated within or near a National Forest. This work is limited to areas of non-Federal land within a planting project on the National Forests or to areas in which certain civic and other public-spirited organizations have taken an interest.

(9) Statement on Utilization of Funds. Following is a statement of funds received and obligated and balances available by major activities:

COOPERATIVE WORK, FOREST SERVICE--Trust Fund

Project	Balance Available June 30, 1974	Actual Fiscal Year 1975			Estimate Fiscal Year 1976			Estimate Transition Quarter			Estimate Fiscal Year 1977		
		Funds Received	Obligations	Balance	Funds Received	Obligations	Balance	Funds Received	Obligations	Balance	Funds Received	Obligations	Balance
1. Construction and maintenance of roads and trails	$10,180,733	$10,351,170	$9,491,384	$11,040,519	$12,515,000	$14,100,000	$9,455,519	$2,800,000	$2,800,000	$9,455,519	$12,515,000	$11,100,000	$10,870,519
2. Construction and maintenance of other improvements	1,096,930	1,265,632	1,232,396	1,110,166	1,300,000	2,061,000	349,166	300,000	300,000	349,166	1,300,000	1,600,000	49,166
3. Protection on National Forests and adjacent land:													
(a) Fire	676,666	2,998,659	2,992,436	682,889	2,500,000	2,890,000	292,889	600,000	600,000	292,889	2,500,000	2,765,000	27,889
(b) Other	3,406,423	2,740,788	2,983,651	3,163,560	2,800,000	3,615,000	2,348,560	630,000	630,000	2,348,560	2,800,000	3,400,000	1,748,560
4. Sale area betterment on National Forest lands (including reforestation)	76,451,928	39,225,174	41,718,346	73,958,756	51,500,000	63,244,000	62,214,756	11,300,000	11,300,000	62,214,756	51,300,000	52,237,000	61,277,756
5. Scaling of timber	265,959	1,240,172	1,229,359	276,772	1,500,000	1,550,000	226,772	200,000	200,000	226,772	1,500,000	1,300,000	426,772
6. Research investigations	732,289	1,044,519	967,822	808,986	700,000	1,032,782	476,204	150,000	150,000	476,204	700,000	1,000,000	176,204
7. Administration of private lands	23,156	62,854	54,308	31,702	75,000	80,000	26,702	20,000	20,000	26,702	75,000	50,000	51,702
8. Reforestation (private lands)	56,007	41,733	13,771	83,969	10,000	62,000	31,969	- -	- -	31,969	10,000	15,000	26,969
9. Service for foreign governments	- -	2,320	102	2,218	- -	2,218	- -	- -	- -	- -	- -	- -	- -
Total	92,890,091	58,953,021	60,683,575	91,159,537	72,900,000	88,637,000	75,422,537	16,000,000	16,000,000	75,422,537	72,900,000	73,467,000	74,855,537

NOTE: Balances carried forward are due primarily to necessity of deferring work for which funds are deposited until the most practicable time for accomplishment. For instance, funds for sale area betterment are received in advance of timber cutting, but work cannot be started until cutting operations are completed. The time lag sometimes extends for several years, depending on the amount of preparatory work required in the sale area and weather conditions.

Above obligations for 1975 include refunds to cooperators in the amount of $430,786.

	1975	1976	1977	Change
Permanent full-time positions	1,429	1,554	1,554	- -

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
COOPERATIVE WORK (TRUST FUND)

A-11-32a

STANDARD FORM 300-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.

Program and Financing (in thousands of dollars)

Identification code 05-96-8028-0-7-302	1975 actual	1976 estimate	TQ estimate	1977 estimate
Program by activities:				
1. Construction and maintenance of roads and trails	10,898	14,650	3,860	10,000
2. Construction and maintenance of other improvements	1,422	2,000	500	1,500
3. Protection of national forest and adjacent private land	6,025	6,790	2,400	6,015
4. Sale area betterment and scaling	43,230	61,046	17,900	48,837
5. Research investigations	970	1,000	200	950
6. Administration	30	75	20	50
7. Reforestation	13	60	20	15
Total program costs, funded 1/.....	62,588	85,621	24,900	67,367
Change in selected resources (undelivered orders) ..	-1,904	3,016	-8,900	6,100
10 Total obligations	60,684	88,637	16,000	73,467
Financing:				
21 Unobligated balance available, start of period .	-92,890	-91,160	-75,423	-75,423
24 Unobligated balance available, end of period ...	91,160	75,423	75,423	74,856
60 Budget authority (appropriation) (permanent, indefinite)	58,953	72,900	16,000	72,900

(Mono cont: 23.1E) (Mono cont: 1.9) (Mono cont: 8.0) (Mono cont: 8.0) (Mono cont: 0)

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
COOPERATIVE WORK (TRUST FUND)

A-11-32a

STANDARD FORM 300-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.

Program and Financing (in thousands of dollars)--continued

Identification code 05-96-8028-0-7-302		1975 actual	1976 estimate	TQ estimate	1977 estimate
	Relation of obligations to outlays:				
71	Obligations incurred, net	60,684	88,637	16,000	73,467
72	Obligated balance, start of period	2,440	2,890	5,527	1,527
74	Obligated balance, end of period	-2,890	-5,527	-1,527	-3,694
90	Outlays	60,234	86,000	20,000	71,300

1/ Includes capital outlay as follows: 1975, $2,351 thousand; 1976, $3,200 thousand, Transition Quarter, $950 thousand; 1977, $2,800 thousand.

(Memo cost: 23.18) (Memo cost: 3.8) (Memo cost: 3.8) (Memo cost: 3.4) (Memo cost: 3)

65-300 O - 76 - 24

A-11-34a

DEPARTMENT OF AGRICULTURE
FOREST SERVICE

Type size:
178 M&/22

STANDARD FORM 304-T COOPERATIVE WORK (TRUST FUND)
June 1975, Office of Management and Budget
Circular No. A-11, Revised.
304-103T

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 05-96-8028-0-7-302		19 75 actual	19 76 estimate	Transition Quarter estimate	19 77 estimate
	Personnel compensation:				
11.1	Permanent positions	17,938	20,290	4,020	18,750
11.3	Positions other than permanent	13,046	15,070	3,645	13,500
11.5	Other personnel compensation	1,089	1,295	250	1,250
11.8	Special personal services payments	1	5	.....	5
	Total personnel compensation	32,074	36,660	7,915	33,505
	Personnel benefits:				
12.1	Civilian	3,055	3,450	755	3,150
13.0	Benefits for former personnel	5	5	1	.....
21.0	Travel and transportation of persons	622	790	160	850
22.0	Transportation of things	2,287	2,845	635	3,300
23.0	Rent, communications, and utilities	1,637	1,990	350	2,350
24.0	Printing and reproduction	40	60	10	60
25.0	Other services	10,117	28,617	3,219	14,527
26.0	Supplies and materials	5,769	7,900	1,370	8,300
31.0	Equipment	892	1,035	195	1,300
32.0	Lands and structures	3,934	5,100	1,400	5,700
~~33.0~~	~~Investments and loans~~				
41.0	Grants, subsidies, and contributions	6	.....	.....	10
42.0	Insurance claims and indemnities	12	10	2	15
~~43.0~~	~~Interest and dividends~~				
44.0	Refunds	441	400	43	625
	Subtotal	60,891	88,862	16,055	73,692
95.0	Quarters and subsistence charges	-207	-225	-55	-225
99.0	Total obligations	60,684	88,637	16,000	73,467
	(Mono cost: 22.13)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5)

STANDARD FORM 300-T
June 1973, Office of Management and Budget
Circular No. A-11, Revised.

DEPARTMENT OF AGRICULTURE
FOREST SERVICE
COOPERATIVE WORK (TRUST FUND)
Personnel Summary

A-11-34a

Identification code 05-96-8028-0-7-302	19 75 actual	19 76 estimate	19 TQ estimate	19 77 estimate
Total number of permanent positions	1,429	1,554		1,554
Full-time equivalent of other positions	1,569	1,795		1,607
Average paid employment	2,816	3,174		2,874
Average GS grade	8.63	8.64		8.64
Average GS salary	$15,149	$15,947		$15,947
Average salary of ungraded positions	$12,261	$13,008		$13,008

(More sect. 32.18) (More sect. 1.8) (More sect. 1.8) (More sect. 1.8) (More sect. 8)

U.S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION

FISCAL YEAR 1977 BUDGET ESTIMATES

BUDGET HEARING BOOK

FOSSIL FUEL AND RELATED PROGRAMS

JAN 21 1976

U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
FY 1977 Budget Estimates
GENERAL STATEMENT FOR OPERATING EXPENSES
FOSSIL FUEL AND RELATED PROGRAMS
(Dollars in thousands, except whole dollars in narrative material)

Estimate of Appropriation

The budget estimates for Direct Program Operating Expenses for FY 1977 provide for total obligations of $493,230,000 to be funded by a new appropriation.

Estimates of Costs and Obligations

The budget estimates for this appropriation are stated in terms of accrued costs for each of the direct operating programs. "Accrued costs" denotes the actual application of labor, materials and services to the program during the year, but excludes depreciation of facilities used in the operations. The ERDA does, however, maintain accounts for depreciation for the purpose of determining total costs of production and for use in establishing prices for services rendered or products sold to others.

The costs of operation are reconciled to the total obligations to be incurred during the year by estimating the buildup or decrease during the year of the resources that are to be applied to future years' operations. These estimates are included in the following summaries entitled "Change in Selected Resources" and include goods and services on order.

This section also includes a statement of the Reimbursable Program. It should be noted that the costs and obligations related to the Reimbursable Program are not financed by ERDA's appropriated funds, but solely through reimbursable agreements with other Federal agencies.

The following tables summarize the accrued costs and total obligations for Direct and Reimbursable Programs for fiscal years 1975, 1976, the Transition Quarter and 1977.

U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
OPERATING EXPENSES
FOSSIL FUEL AND RELATED PROGRAMS
Program and Financing (In Thousands of Dollars)

Identification code: 19-00-0100-0-1-999	FY 1975 Actual	FY 1976 Estimate	Transition Quarter Estimate	FY 1977 Estimate
Program by activities:				
Direct program:				
1. Fossil energy development:				
(a) Coal	$ 119,864	$ 271,118	$ 46,556	$ 358,194
(b) Petroleum and natural gas	10,662	34,441	9,500	32,205
(c) In situ technology	7,132	18,507	4,087	20,131
2. Conservation research and development:				
(b) End-use conservation and technologies to improve efficiency	8,972	27,040	6,950	52,160
Total direct program costs	$ 146,630	$ 351,106	$ 67,093	$ 462,690
Reimbursable program:				
1. Fossil energy research and development	208	1,338	370	1,750
Total program costs, funded	146,838	352,444	67,463	464,440
Change in selected resources (undelivered orders)	127,782	174,894	39,476	30,540
10. Total obligations	274,620	527,338	106,939	494,980

U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
OPERATING EXPENSES
(Continued)
FOSSIL FUEL AND RELATED PROGRAMS
Program and Financing (In Thousands of Dollars)

Identification Code: 19-00-0100-0-1-999	FY 1975 Actual	FY 1976 Estimate	Transition Quarter Estimate	FY 1977 Estimate
Financing:				
Receipts and reimbursements from:				
11. Federal funds	$ -290	$ -1,265	$ -370	$ -1,750
21. Unobligated balance available, start of period	-52,114	-110,779	0	0
22. Unobligated balance transferred from other accounts	-3,374	0	0	0
24. Unobligated balance available, end of period	110,779	0	0	0
25. Unobligated balance lapsing	1,315	0	0	0
Budget authority	330,936	415,294	106,569	493,230
Budget authority:				
40. Appropriation	330,936	426,994	108,956	493,230
41. Transferred to other accounts	0	-12,500	-2,580	0
42. Transferred from other accounts	0	250	0	0
43. Appropriation adjusted	330,936	414,744	106,376	493,230
44.20 Proposed supplemental for civilian pay raises	0	550	193	0

U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
OPERATING EXPENSES
(Continued)
FOSSIL FUEL AND RELATED PROGRAMS
Program and Financing (In Thousands of Dollars)

Identification code: 19-00-0100-0-1-999	FY 1975 Actual	FY 1976 Estimate	Transition Quarter Estimate	FY 1977 Estimate
Relation of obligations to outlays:				
71. Obligations incurred, net	$ 274,330	$ 526,073	$ 106,569	$ 493,230
72. Obligated balance, start of period	67,036	193,008	367,975	407,451
73. Obligated balance transferred, net	-1,728	0	0	0
74. Obligated balance, end of period	-193,008	-367,975	-407,451	-437,991
90. Outlays, excluding pay raise supplemental	146,630	350,556	66,900	462,690
91.20 Outlays from civilian pay raise supplemental	0	550	193	0

U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION

PROPOSED APPROPRIATION LANGUAGE CHANGES - OPERATING EXPENSES

(Dollars in thousands, except whole dollars in narrative material)

The proposed changes in language are indicated as follows: language enclosed in brackets [ ] indicates proposed deletions, and underscoring _____ indicates proposed insertion of new language.

OPERATING EXPENSES, FOSSIL FUELS

For necessary operating expenses of the Administration in carrying out the purposes of the Energy Reorganization Act of 1974; hire, maintenance, and operation of aircraft; publication and dissemination of atomic and other energy information; purchase, repair, and cleaning of uniforms; reimbursement of the General Services Administration for security guard services; hire of passenger motor vehicles; [$426,994,000] $493,230,000 and any moneys (except sums received from the Strategic and Critical Materials Stockpiling Act, as amended, and fees received for tests or investigations under the Act of May 16, 1910, as amended (50 U.S.C. 98h; 30 U.S.C. 7)) received by the Energy Research and Development Administration notwithstanding the provisions of section 3617 of the Revised Statutes (31 U.S.C. 484), to remain available until expended: Provided, That from this appropriation transfers of sums may be made to other agencies of the Government for the performance of the work for which this appropriation is made, and in such cases the sums so transferred may be merged with the appropriation to which transferred: Provided further, That the amount appropriated in any other appropriation act for "Operating expenses" for the Energy Research and Development Administration for the fiscal year ending [June 30, 1976] September 30, 1977, shall be merged, [without limitation,] with this appropriation: Provided further, That no part of the sum herein appropriated shall be used for the field testing of nuclear explosives in the recovery of oil and gas.

[For "Operating expenses, fossil fuels" for the period July 1, 1976, through September 30, 1976, $108,956,000, to remain available until expended: Provided, That the amount appropriated, in any other appropriation act for "Operating expenses" for the Energy Research and Development Administration for the period July 1, 1976, through September 30, 1976, shall be merged, without limitation, with this appropriation.] (42 U.S.C. 5801, 5875; Department of the Interior and Related Agencies Appropriation Act, 1976; additional authorizing legislation to be proposed.)

U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
PLANT AND CAPITAL EQUIPMENT
FOSSIL FUEL AND RELATED PROGRAMS

Program and Financing (In Thousands of dollars)

Identification code 19-00-0103-0-1-999	FY 1975 Actual	FY 1976 Estimate	Transition Quarter Estimate	FY 1977 Estimate
Program by activities:				
Capital Outlay (facilities and equipment) for:				
1. Fossil energy development				
(a) Coal	$ 4,750	$ 28,250	$ 8,000	$ 54,450
(b) Petroleum and natural gas	35	100	100	270
(c) In situ technology	225	325	100	500
2. Conservation research and development:				
(b) End-use conservation and technology	0	600	40	2,000
10. Total obligations 1/	5,010	29,275	8,240	57,220
Financing:				
21. Unobligated balance available, start of period (-)	0	-8,250	0	0
24. Unobligated balance, available, end of period	8,250	0	0	
40. Budget authority (appropriation)	13,260	21,025	8,240	57,220

1/ Includes obligations for equipment not related to construction, as follows: FY 1975, $260 thousand; FY 1976, $425 thousand; $200 thousand for the Transition Quarter; and $1,020 thousand for FY 1977.

U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
PLANT AND CAPITAL EQUIPMENT
FOSSIL FUEL AND RELATED PROGRAMS

Program and Financing (In Thousands of dollars)

Identification code 19-00-0103-0-1-999	FY 1975 Actual	FY 1976 Estimate	Transition Quarter Estimate	FY 1977 Estimate
Relation of obligations to outlays:				
71. Obligations incurred, net	$ 5,010	$ 29,275	$ 8,240	$ 57,220
72. Obligated balance, start of period	0	4,187	23,523	28,073
74. Obligated balance, end of period (-)	-4,187	-23,523	-28,073	-53,253
90. Outlays	823	9,939	3,690	32,040

U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION

PROPOSED APPROPRIATION LANGUAGE CHANGES - PLANT AND CAPITAL EQUIPMENT

(Dollars in thousands, except whole dollars in narrative material)

The proposed changes in language are indicated as follows: language enclosed in brackets [ ] indicates proposed deletions, and underscoring _____ indicates proposed insertion of new language.

PLANT AND CAPITAL EQUIPMENT, FOSSIL FUELS

For expenses of the Administration, as authorized by law, in connection with the purchase and construction of plant and the acquisition of capital equipment and other expenses incidental thereto necessary in carrying out the purposes of the Energy Reorganization Act of 1974, including the acquisition or condemnation of any real property or any facility or for plant or facility acquisition, construction, or expansion; [$21,025,000] $57,220,000, to remain available until expended: Provided, That the amount appropriated in any other appropriation act for "Plant and capital equipment" for the Energy Research and Development Administration for the fiscal year ending [June 30, 1976] September 30, 1977, shall be merged [, without limitation,] with this appropriation.

[For "Plant and capital equipment, fossil fuels" for the period July 1, 1976, through September 30, 1976, $8,240,000, to remain available until expended: Provided, That the amount appropriated in any other appropriation act for "Plant and capital equipment" for the Energy Research and Development Administration for the period July 1, 1976, through September 30, 1976, shall be merged, without limitation, with this appropriation.] (42 U.S.C. 5801, 5875; Department of the Interior and Related Agencies Appropriation Act, 1976, and the period ending September 30, 1976; additional authorizing legislation required.)

U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION

PROPOSED APPROPRIATION LANGUAGE CHANGES - GENERAL PROVISIONS

(Dollars in thousands, except whole dollars in narrative material)

The proposed changes in language are indicated as follows: language enclosed in brackets [ ] indicates proposed deletions, and underscoring _____ indicates proposed insertion of new language.

GENERAL PROVISIONS

SEC. 101. Not to exceed 5 per centum of appropriations made available for the current fiscal year for "Operating expenses" and "Plant and capital equipment" may be transferred between such appropriation, but neither such appropriation, except as otherwise provided therein, shall be increased by more than 5 per centum by any such transfers, and any such transfers shall be reported promptly to the Appropriations Committees of the House and Senate.

GS-9 END

U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
FY 1977 Budget Estimates

(Dollars in Thousands)

SUMMARY TABLE BY SUBPROGRAM

Fossil Energy Development

Operating Expenses	FY 1975 Actual			FY 1976 Estimate			Transition Quarter Estimate		FY 1977 Estimate	
	B/A	Obs.	B/O	B/A	Obs.	B/O	B/A & Obs.	B/O	B/A & Obs.	B/O
Coal										
1. Liquefaction	$ 94,745	$ 71,293	$ 35,162	$ 89,912	$129,465	$ 92,937	$ 26,443	$ 15,693	$ 73,946	$ 79,546
2. High-Btu Gasification	59,805	57,868	35,979	53,364	57,320	37,338	9,250	7,450	45,054	59,254
3. Low-Btu Gasification	49,993	38,245	23,333	24,552	49,215	36,026	6,720	4,113	33,052	39,952
4. Advanced Power Systems	4,097	4,045	1,718	10,001	10,423	7,461	3,500	1,700	22,500	12,800
5. Direct Combustion	35,887	15,753	10,557	38,096	65,302	32,645	13,500	5,100	52,416	52,116
6. Advanced Research and Supporting Technology	23,325	26,056	7,849	35,393	40,087	32,061	8,850	4,600	37,085	36,585
7. Demonstration Plants	0	0	1,280	31,900	32,650	14,250	7,750	3,700	53,000	50,600
8. Magnetohydrodynamics	14,295	15,393	3,986	29,544	32,593	18,400	7,800	4,200	37,441	27,341
Total Coal Program	282,147	228,653	119,864	312,762	417,055	271,118	83,813	46,556	354,494	358,194
Petroleum and Natural Gas										
1. Gas and Oil Extraction	26,369	24,246	8,647	41,423	43,546	32,859	8,426	9,000	35,074	30,374
2. Supporting Research	1,789	1,789	2,015	1,797	1,797	1,582	450	500	1,831	1,831
Total Petroleum and Natural Gas Program	28,158	26,035	10,662	43,220	45,343	34,441	8,876	9,500	36,905	32,205
In Situ Technology										
1. Oil Shale	3,762	3,761	3,884	13,720	13,721	9,834	1,950	2,000	21,085	12,085
2. In Situ Coal Gasification	6,487	5,114	2,283	6,137	7,510	7,560	1,680	1,787	8,236	6,736
3. Supporting Research	962	962	965	1,265	1,265	1,113	300	300	1,310	1,310
Total In Situ Technology Program	11,211	9,837	7,132	21,122	22,496	18,507	3,930	4,087	30,631	20,131
Total Operating Expenses	$321,516	$264,525	$137,658	$377,104	$484,894	$324,066	$ 96,619	$ 60,143	$422,030	$410,530

(Dollars in Thousands)

SUMMARY TABLE BY SUBPROGRAM - continued

Fossil Energy Development - continued

Plant and Capital Equipment	FY 1975 Actual			FY 1976 Estimate			Transition Quarter Estimate		FY 1977 Estimate	
	B/A	Obs.	B/O	B/A	Obs.	B/O	B/A & Obs.	B/O	B/A & Obs.	B/O
Coal										
Capital Equipment										
High-Btu Gasification	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 100	$ 50
Other Capital Equipment ...	0	0	0	0	0	0	0	0	150	100
Total Capital Equipment	0	0	0	0	0	0	0	0	250	150
Construction Projects - Total	13,000	4,750	625	20,000	28,250	9,000	8,000	3,500	54,200	30,300
Total Coal Program	13,000	4,750	625	20,000	28,250	9,000	8,000	3,500	54,450	30,450
Petroleum and Natural Gas										
Capital Equipment										
Gas and Oil Extraction ...	35	35	28	100	100	75	100	75	100	80
Other Capital Equipment ..	0	0	0	0	0	0	0	0	170	120
Total Capital Equipment	35	35	28	100	100	75	100	75	270	200
Construction Projects - Total	0	0	0	0	0	0	0	0	0	0
Total Petroleum and Natural Gas	35	35	28	100	100	75	100	75	270	200
In Situ Technology										
Capital Equipment										
Oil Shale	75	75	60	325	325	264	100	75	450	440
In Situ Coal Gasification.	150	150	110	0	0	0	0	0	0	0
Other Capital Equipment ..	0	0	0	0	0	0	0	0	50	50
Total Capital Equipment ...	225	225	170	325	325	264	100	75	500	490
Construction Projects - Total	0	0	0	0	0	0	0	0	0	0
Total In Situ Technology .	225	225	170	325	325	264	100	75	500	490
Fossil Energy Development Totals										
Operating Expenses	321,516	264,525	137,658	377,104	484,894	324,066	96,619	60,143	422,030	410,530
Capital Equipment	260	260	198	425	425	339	200	150	1,020	840
Construction Projects	13,000	4,750	625	20,000	28,250	9,000	8,000	3,500	54,200	30,300
TOTAL	$334,776	$269,535	$138,481	$397,529	$513,569	$333,405	$104,819	$ 63,793	$ 477,250	$441,670

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U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
FOSSIL ENERGY DEVELOPMENT
FY 1977 Budget Estimates
(Dollars in Thousands)

SUMMARY TABLE BY TECHNOLOGIES: BUDGET AUTHORITY

Coal Program Operating Expenses	Actual FY 1975	Estimate FY 1976	Estimate Transition Quarter	Estimate FY 1977
Liquefaction				
a. Direct Hydrogenation				
1. Ebullated-bed (H-Coal) pilot plant	$ 12,400	$ 27,096	$ 11,530	$ 21,000
2. Fixed-bed hydrogenation (Synthoil) pilot plant	10,600	7,573	3,250	8,000
3. Zinc chloride catalyst PDU	2,250	2,000	860	2,500
4. Disposable catalyst hydrogenation	2,800	516	150	500
Total Direct Hydrogenation	28,050	37,185	15,790	32,000
b. Solvent Extraction				
1. Solvent refined coal (SRC) pilot plant operation	12,700	12,570	3,145	19,635
2. Solvent refined coal utilization	0	2,020	517	1,120
3. Solvent extraction of lignite	1,500	500	0	1,000
4. Costeam process	787	1,000	250	400
5. Chemicals from coal	1,500	300	125	450
6. Donor solvent liquefaction	0	2,000	500	2,000
Total Solvent Extraction	16,487	18,390	4,537	24,605
c. Pyrolysis				
1. Clean metal coke/liquids	4,000	3,400	200	2,500
2. Entrained pyrolysis	0	200	50	600
3. Flash liquefaction	0	500	50	1,000
4. Hydrocarbonization	3,600	800	100	1,000
5. Fluid coke	0	600	100	600
Total Pyrolysis	7,600	5,500	500	5,700
d. Indirect Liquefaction	4,800	1,700	750	1,300
e. Support Studies and Engineering Evaluations	37,808	27,137	4,866	10,341
Total Liquefaction	$ 94,745	$ 89,912	$ 26,443	$ 73,946

(Dollars in Thousands)

Summary Table - Technology Budget Authority - continued

Coal Program - continued

	Actual FY 1975	Estimate FY 1976	Estimate Transition Quarter	Estimate FY 1977
High-Btu Gasification				
a. Development of New Second Generation Gasification Techniques				
1. HYGAS process	$ 3,150	$ 6,370	$ 670	$ 3,000
2. Carbon dioxide acceptor process	2,000	5,640	710	2,333
3. Bi-Gas process	13,200	12,000	1,200	10,000
4. Self-agglomerating fluidized bed, two-stage process	3,700	3,340	807	2,227
5. Synthane process	8,600	9,000	1,400	10,500
6. Hydrane process	1,039	2,981	705	1,800
7. Steam-iron process	6,400	7,190	2,047	4,800
Total Development of New Second Generation Techniques	38,089	46,521	7,539	34,660
b. Support Studies and Engineering Evaluations	21,716	6,843	1,711	10,394
Total High-Btu Gasification	59,805	53,364	9,250	45,054
Low-Btu Gasification				
a. Low-Btu Gasification Processes				
1. Fixed-bed PDU, atmospheric	5,200	2,350	588	2,700
2. Fluid-bed PDU, pressurized	8,000	8,300	750	1,700
3. Entrained-bed PDU, atmospheric	3,000	0	0	500
4. Combined cycle pilot plant	11,000	6,550	2,000	16,500
5. Molten salt PDU, pressurized	4,000	500	0	1,000
6. Hydrogen production	0	0	0	5,000
Total Low-Btu Gasification Processes	31,200	17,700	3,338	27,400
b. Support Studies and Engineering Evaluations	18,793	6,852	3,382	5,652
Total Low-Btu Gasification	49,993	24,552	6,720	33,052
Advanced Power Systems	4,097	10,001	3,500	22,500
Direct Combustion				
a. Fluidized-bed boilers, atmospheric				
1. Fluidized-bed boiler, 30 MW	2,500	8,600		3,000
2. Industrial application	0	1,000		10,000
3. Modular integrated utilities system (MIUS)	0	2,400		1,700

(Dollars in Thousands)

Summary Table by Technologies: Budget Authority - continued

Coal Program - continued

Direct Combustion - continued	Actual FY 1975	Estimate FY 1976	Estimate Transition Quarter	Estimate FY 1977
4. Component test and integration facility (CTIF)	$ 0	$ 4,000	$	$ 9,000
5. Plant conversion	0	0		1,100
Total Fluidized-Bed Boilers, Atmospheric	2,500	16,000	6,000*	24,800
b. Pressurized Systems				
1. Fluid-bed combined cycle plant, 13 MW	10,500	1,000	0	6,500
2. Pressurized fluid-bed CTIF	6,800	4,896	2,300	8,000
3. Granular bed filter	0	2,200	1,200	1,500
Total Pressurized Systems	17,300	8,096	3,500	16,000
c. Support Studies and Engineering Evaluations	16,087	14,000	4,000	11,616
Total Direct Combustion	35,887	38,096	13,500	52,416
Advanced Research and Supporting Technology				
a. Processes	12,637	14,000	4,000	15,200
b. Materials and Components	5,188	8,493	1,850	8,585
c. Direct Utilization	3,000	5,000	1,000	5,550
d. Systems Studies	2,500	7,900	2,000	7,750
Total Advanced Research and Supporting Technology	23,325	35,393	8,850	37,085
Demonstration Plants				
a. Clean Boiler Fuel Demonstration Plant	0	10,000	2,000	0
b. High-Btu Synthetic Pipeline Gas Demonstration Plant	0	8,000	2,000	10,000
d. Low-Btu Gas Demonstration Plant	0	8,000	2,000	12,000
d. Design and Technical Support	0	5,900	1,750	31,000
Total Demonstration Plants	0	31,900	7,750	53,000
Magnetohydrodynamics				
a. Open Cycle Systems	14,295	28,594	7,600	36,000
b. Closed Cycle Systems	0	950	200	1,441
Total Magnetohydrodynamics	14,295	29,544	7,800	37,441
Total Coal Program	$ 282,147	$ 312,762	$ 83,813	$ 354,494

* Detail not available.

(Dollars in Thousands)

Summary Table by Technologies: Budget Authority - continued

Operating Expenses Petroleum and Natural Gas Program	Actual FY 1975	Estimate FY 1976	Estimate Transition Quarter	Estimate FY 1977
Oil and Gas Extraction	$ 26,369	$ 41,423	$ 8,426	$ 35,074
Supporting Research	1,789	1,797	450	1,831
Total Petroleum and Natural Gas Program	28,158	43,220	8,876	36,905
In Situ Technology Program				
Oil Shale	3,762	13,720	1,950	21,085
In Situ Coal Gasification	6,487	6,137	1,680	8,236
Supporting Research	962	1,265	300	1,310
Total In Situ Technology Program	11,211	21,122	3,930	30,631
Total Operating Expenses	$ 321,516	$ 377,104	$ 96,619	$ 422,030

U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
FY 1977 Budget Estimates
Appropriation - Operating Expenses
(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
FOSSIL ENERGY DEVELOPMENT
COAL PROGRAM: OPERATING COSTS

PROGRAM STATEMENT

Estimate FY 1977	$ 358,194
Estimate FY 1976	271,118
Increase	$ 87,076

The principal objectives of the Coal Program are to accelerate the development of the environmentally acceptable technology for converting coal to liquid and gaseous fuels, to stimulate improved methods for the direct combustion of coal, and to foster the rapid advancement of advanced power conversion systems for generating electricity from coal.

The requested FY 1977 amount of $358,194,000 for operating costs, an increase of $87,076,000 over the amount included in the FY 1976 estimated budget, provides for the continuation of a balanced and integrated Coal Program.

Several significant adjustments in the FY 1977 budget program structure are reflected in this request. The coal MHD projects, previously included under the Solar, Geothermal, and Advanced Energy Systems budget activity for FY 1976, are now presented as a part of the Fossil Energy Coal Program. In situ coal gasification projects, previously a component of the Low-Btu Gasification subprogram, are now included under a newly established In Situ Technology budget program. This latter adjustment brings together efforts related to oil shale and in situ gasification of coal to permit a more coordinated programmatic review of related technology.

Research and development will continue on coal liquefaction concepts to advance the technology needed for converting coal to low-sulfur, low-ash fuel oil for power generation and for upgrading to transportation fuels. The FY 1977 request of $79,546,000 will be directed primarily at several pilot plant projects that are underway and to continue other projects including a number of process development units and supporting research and development.

The coal gasification subprograms will include research and development efforts directed toward high-Btu and low-Btu gasification processes. The requested FY 1977 amount for the High-Btu Gasification subprogram is $21,916,000 more than in FY 1976 on a cost basis. However, measured in budget authority this subprogram decreases by $8,310,000 as compared to FY 1976. This decrease results from completion of relatively high cost construction phases of several pilot plants and funding in FY 1977 is primarily to be used for plant operations. The Low-Btu Gasification subprogram request for FY 1977 of $39,952,000

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
FOSSIL ENERGY DEVELOPMENT
COAL PROGRAM: OPERATING COSTS - continued

represents an increase in costs of $3,926,000 over FY 1976. This increase is primarily to permit the final design and to initiate the construction phases for the Combined Cycle pilot plant, and start construction of the Entrained Bed Atmospheric process development unit.

Research and development will also continue on advanced power conversion systems to establish the technology base for more efficient generation of electricity from coal. The FY 1977 increase of $5,339,000 in operating costs is to be used mainly for necessary efforts in connection with the open cycle gas turbine systems.

Efforts will continue under the Direct Combustion subprogram to develop boiler systems capable of burning higher sulfur coals of varying quality in an environmentally acceptable manner, achieve higher combustion efficiency, minimize harmful emissions, and foster adoption of improved processes by powerplants. The FY 1977 requested increase of $19,471,000 over FY 1976 will be devoted primarily to the initial fabrication of several prototype systems in industrial and institutional fluidized-bed combustion applications.

The Advanced Research and Supporting Technology subprogram will continue to provide research support for all Fossil Energy programs. Included under this subprogram are systems studies efforts essential to the formulation of fossil energy plans and policy. The FY 1977 request of $36,585,000 will be used primarily to continue essential efforts which were initiated in FY 1976.

The Demonstration Plants subprogram will expand significantly during FY 1977. The request for $50,600,000 for operating costs in FY 1977 provides primarily for continuation of activities associated with the demonstration plant efforts initiated during FY 1976 and to permit the start of conceptual design activities for possible additional plants. In addition to the amounts provided for operating costs, $47,300,000 is included for obligation in FY 1977 under the Plant and Capital Equipment appropriation. This amount, which is to be discussed in detail later in the justification, is to provide for the preliminary and final design phases of selected plants, initiate site selection efforts, as well as to start procurement actions for long-lead equipment items.

The Magnetohydrodynamics (MHD) subprogram will continue efforts to demonstrate the generation of electricity from coal utilizing MHD processes. The FY 1977 request of $27,341,000, an increase of $8,941,000 over FY 1976, will be used mainly for projects connected with open cycle systems. Efforts on closed cycle systems will continue the work initiated in FY 1976 and prior years.

In addition to the direct Federal funds the Administration anticipates significant cost sharing in many of the program areas. The present standard for cooperative joint funding anticipates one-third private and two-thirds Federal for pilot plants, and

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50-50 sharing for demonstration plants. The following table, presented on an obligations basis, displays the estimated cost sharing anticipated in FY 1977 for the Coal Program.

Subprogram	Estimates for FY 1977 Obligations	
	Federal Funds	Cost-Sharing
1. Liquefaction	$ 73,946	$ 15,950
2. High-Btu Gasification	45,054	10,000
3. Low-Btu Gasification	33,052	9,249
4. Advanced Power Systems	22,500	0
5. Direct Combustion	52,416	5,250
6. Advanced Research and Supporting Technology	37,085	0
7. Demonstration Plants	53,000	0*
8. Magnetohydrodynamics	37,441	0
Total Coal Program	$ 354,494	$ 40,449

* Cost sharing for the Demonstration Plants subprogram is 50% for construction and operation.

SUMMARY OF ESTIMATES BY SUBPROGRAM

Page No.	Subprogram	Actual FY 1975	Estimate FY 1976	Estimate Transition Quarter	Estimate FY 1977
FE/C-4	1. Liquefaction	$ 35,162	$ 92,937	$ 15,693	$ 79,546
FE/C-11	2. High-Btu Gasification	35,979	37,338	7,450	59,254
FE/C-18	3. Low-Btu Gasification	23,333	36,026	4,113	39,952
FE/C-21	4. Advanced Power Systems	1,718	7,461	1,700	12,800
FE/C-23	5. Direct Combustion	10,557	32,645	5,100	52,116
FE/C-28	6. Advanced Research and Supporting Technology	7,849	32,061	4,600	36,585
FE/C-33	7. Demonstration Plants	1,280	14,250	3,700	50,600
FE/C-36	8. Magnetohydrodynamics	3,986	18,400	4,200	27,341
	Total Coal Program	$ 119,864	$ 271,118	$ 46,556	$ 358,194

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JUSTIFICATION OF SUBPROGRAMS

		FY 1976 Estimate	FY 1977 Estimate	Increase Or Decrease
1. Liquefaction	B/A	$ 89,912	$ 73,946	- $ 15,966
	B/O	92,937	79,546	- 13,391

Objectives

The general objective of the Liquefaction subprogram is to provide technology which is economically feasible and environmentally satisfactory to convert coal to a clean liquid for electric power generation, and industrial and residential heating. Simultaneously, technology will also be developed for converting this synthetic oil into transportation fuels and chemicals.

The near-term objectives of this subprogram are to develop to industrial scale the conversion of coal into low-sulfur, low-ash fuel oil suitable for electric power generators, and to develop to industrial scale synthetic fuels into higher grade products such as gasoline, heating oil and fuel oil.

Accomplishments:

In FY 1976, research and development efforts in direct hydrogenation processes have been considerably accelerated with two projects moving toward construction of pilot plants. The design of the ebullated bed (H-Coal) process pilot plant that was started in FY 1975 will be completed early in FY 1977. This design will be validated by means of an extended process development unit (PDU) program during FY 1976, and an independent economic feasibility study will be completed. Construction of the plant, which will be located in Cattletsburg, Kentucky, will begin late in FY 1976. Procurement of long-lead-time items of equipment will also be initiated in FY 1976. In addition, construction of a 10-ton-per-day (TPD) Synthoil PDU will be largely completed in early FY 1977 to gather additional data to support a pilot plant effort.

The operation of the 50 TPD solvent refined coal (SRC) Fort Lewis pilot plant in Tacoma, Washington, which was completed late in FY 1974, will be continued with attendant evaluation of operational data. Engineering effort is being directed toward design modification of the pilot plant to recycle unconverted coal, thereby improving the quality (more fluid, lower sulfur) of the solvent refined coal product. The improved mode will be used for operation in FY 1976 and production of sufficient SRC for large-scale boiler tests to confirm the required retrofitting will be carried out. In FY 1976, ERDA will begin partial support of the operation of a small (6 TPD) operating SRC pilot plant at Wilsonville, Alabama. Work in this plant supports and accelerates the process improvement activities in the larger SRC pilot plant at Tacoma, Washington.

Budget Request:

The FY 1977 request for $73,946,000 in budget authority is a decrease of $15,966,000 from the FY 1976 level. Operating costs of $79,546,000 requested for FY 1977 is a decrease of $13,391,000 from FY 1976. The major areas of decrease include lessening requirements for the H-Coal pilot plant and the Cresap test center projects, as well as reduced needs for support projects.

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Major categories in the coal Liquefaction subprogram include research and development in each of the four methods of converting coal to liquids, namely: (a) direct hydrogenation, (b) solvent extraction, (c) pyrolysis, and (d) indirect liquefaction. The products produced by each process differ and because data are insufficient to make sound economic comparisons at this time, a parallel approach is desirable. Selected process options are being investigated in laboratory and bench-scale units, in order to build a broad technological base. From this base, an efficient process, or a combination of processes can be developed. A number of such studies are currently underway or are proposed. These studies include two using direct catalytic hydrogenation, one based on solvent extraction, and two based on pyrolysis methods. As described under the Demonstration Plant subprogram, engineering and long lead procurement efforts for one demonstration coal-to-liquid plant is underway in FY 1976.

a. Direct Hydrogenation. Direct hydrogenation processes differ in the reactor design and the type of catalyst used. These processes are similar in catalytically adding hydrogen to coal to liquefy it to fuel oil and to remove the sulfur as gaseous hydrogen sulfide, which is then convertible to sulfur for sale or storage. The FY 1977 request consists of a decrease of $5,185,000 in budget authority and a decrease of $3,144,000 in operating costs, primarily associated with a reduction in requirements for the H-Coal pilot plant as the major purchasing activity on this project will be covered by FY 1976 funding. As the Synthoil PDU project matures in FY 1977, an increase in funds will be required; increased funding will also be required for the Zinc Chloride Catalyst PDU project. However, this is more than offset by the decrease in H-Coal funding requirements. Specific objective of these efforts is to determine operational reliability and economics of the several processes.

	Budget Authority		
	FY 1976 Estimate	FY 1977 Estimate	Increase Or Decrease
(1) Ebullated-Bed Pilot Plant (H-Coal)	$ 27,096	$ 21,000	- $ 6,096

This H-Coal process utilizes an ebullated bed of catalyst to hydroliquefy the coal to clean fuel oil and/or a synthetic crude oil at choice. In FY 1976, the engineering design for construction of the pilot plant and design supportive experimental work on the existing PDU will be carried out. Long-lead-time equipment will be ordered and much of the normal delivery equipment will be selected to facilitate detailed plant design. In FY 1977, the construction of the 200/600 ton per day pilot plant will be underway for completion in FY 1978. This project is funded in part by a consortium of industrial firms, comprised of Amoco Oil Co., Shell Oil Co., Ashland Oil Co., Sun Oil Co., and the Electric Power Research Institute (EPRI).

(2) Fixed-Bed Hydrogenation (Synthoil)	$ 7,573	$ 8,000	+ $ 427

In the fixed-bed hydrogenation, or Synthoil process, pulverized coal is slurried with some of its own product oil and then pumped into the reactor with hydrogen at high velocity to create turbulence. The reactor is filled with immobilized catalyst pellets. The combined effect of the hydrogen turbulence and catalyst is to liquefy and desulfurize the coal at high yields and high throughput. The raw oil is centrifuged to remove ash, providing an immediately useable low-sulfur, low-ash fuel oil.

Construction of a larger PDU, which will treat approximately 10 tons of coal per day, will begin in FY 1976. Operations will begin in FY 1977 and extend through FY 1978. Operation of the PDU will involve participation by the Bethlehem Steel Co. The laboratory Synthoil reactor will continue to be operated to provide additional data for scale-up.

	Budget Authority FY 1976 Estimate	FY 1977 Estimate	Increase Or Decrease
(3) Zinc Chloride Catalyst PDU	$ 2,000	$ 2,500	+ $ 500

This project is designed to produce fuel oil rather than gasoline from coal. Basic tests show that through the use of zinc chloride as a hydrocracking catalyst, the objective can be achieved. This process has been satisfactorily demonstrated at a smaller scale. Major problems to be resolved are the recovery of the catalyst and evaluation of desulfurization. A 100 pounds-per-hour PDU will be assembled in FY 1976. Operation of the process development unit is scheduled for FY 1977. This project is jointly funded by ERDA and the Continental Oil Co. and Shell Oil Co.

(4) Disposable Catalyst Hydrogenation	$ 516	$ 500	- $ 16

This process uses very cheap catalysts that avoid the expense of its recovery or reuse after a single pass with coal through a hydrogenation reactor that converts the coal to sulfur-free oil. The catalyst is discarded with residual ash. Operations of improved disposable catalyst systems, involving improved reactor design or other means of increased catalytic activity, are being sought in FY 1976. These operations will be at the PDU scale, and to the extent that successful results are being obtained, will be continued in FY 1977. Based on the PDU results, commercial economics will be projected to define the potential for this approach to coal liquefaction.

b. Solvent Extraction. These processes involve a hydroaromatic solvent to extract a solid or liquid product from coal; the solvent acts as the agent that transfers hydrogen to the coal to extend the degree of liquefaction. The FY 1977 requested increases of $6,215,000 in budget authority and $4,442,000 in operating costs, reflect an expanded solvent refined coal (SRC) pilot plant program, which will supplement the 50 TPD pilot plant in Tacoma, Washington.

(1) Solvent Refined Coal (SRC) Pilot Plant Operation	$ 12,570	$ 19,635	+ $ 7,065

In FY 1974, construction of the 50 TPD pilot plant at Fort Lewis (Tacoma, Washington) was completed. Mechanical startup problems were corrected and successful operation attained by the plant. Feed rates exceeding design have been satisfactorily attained. Operations to produce 3,000 to 4,000 tons of solid product for full-scale combustion are scheduled during FY 1976. Pilot plant modifications are nearing completion which will permit recycle of unconverted coal. This will produce a solvent refined coal product of improved quality having increased fluidity and lower sulfur content. Operation of the 6 TPD SRC pilot plant at Wilsonville, Alabama, which has been industry financed through EPRI, will be supported by ERDA

to supplement the 50 TPD pilot plant at Fort Lewis, Washington. This will provide a flexible test unit for screening additional coals and testing various process options with selection of the more promising for testing at Fort Lewis. This will be of significant assistance in scaling this technology most rapidly to a viable commercial status.

	Budget Authority FY 1976 Estimate	FY 1977 Estimate	Increase Or Decrease
(2) Solvent Refined Coal (SRC) Utilization	$ 2,020	$ 1,120	- $ 900

This project consists of three parts and includes solid combustion, liquid combustion and residue gasification. A full-scale boiler test (22.5 megawatt boiler) requiring 3,000 to 4,000 tons of solid SRC is scheduled for FY 1976 and should be completed within the fiscal year. The Georgia Power Co. is providing the boiler and operating personnel for the test. Bench-scale tests on combustion of liquid SRC will be initiated in FY 1976 with extrapolation to a PDU scale in FY 1977. The conversion of residues from the SRC pilot plant by gasification to provide a source of hydrogen for the SRC process will also be initiated in FY 1976, with continuation during FY 1977. This program will utilize existing facilities and should provide data for future extrapolation to an industrial scale.

(3) Solvent Extraction of Lignite	$ 500	$ 1,000	+ $ 500

A process similar to the SRC process is under development specifically for application to Western lignite materials. Because of the reactivity and high-moisture content of the lignite, effective solvent extraction and liquefaction can be carried out using synthesis gas which is cheaper than high-purity hydrogen. In FY 1976, a 1.2 ton-per-day PDU will be operated to provide data on this process and these operations are scheduled for extension in FY 1977 to determine the merit of this solvent refining approach.

(4) Costeam Process	$ 1,000	$ 400	- $ 600

Most processes for the conversion of coal to oil use hydrogen under conditions of high temperature and pressure in the presence of a catalyst. In the Costeam process, however, coal is reacted with synthesis gas (carbon monoxide and hydrogen), and steam. The advantage of this process is that it does not require a catalyst to convert low-rank coals, such as lignite, into low-sulfur fuel oil. In addition to savings in catalyst cost, low-purity synthesis gas for this process costs less than the usual hydrogen. Laboratory support studies of this process are being made at the Pittsburgh Energy Center (PERC) and the Grand Forks Energy Research Center (GFERC).

(5) Chemicals from Coal	$ 300	$ 450	+ $ 150

Laboratory studies of the feasibility of using coal liquefaction products as a source of chemical intermediates are underway which will provide a basis for design and cost estimates for a commercial chemicals plant. This work will continue into FY 1977 to define the technology needed for use of coal liquefaction products for the production of useful aliphatic

and aromatic compounds. Product samples from several liquefaction processes will be subjected to upgrading processes, analytical inspections, and otherwise subjected to laboratory evaluations for characterization. A decision regarding scale-up activities is scheduled for late 1977.

	Budget Authority FY 1976 Estimate	FY 1977 Estimate	Increase Or Decrease
(6) Donor Solvent Liquefaction	$ 2,000	$ 2,000	$0

Two projects on the donor solvent liquefaction process which represent advanced conversion technologies currently being operated on PDU scale will be supported during FY 1977. The first project involves production of a distillate syncrude in the primary liquefaction step using a carefully tailored donor solvent. The syncrude product is recovered by distillation, negating the need for mechanical solids-liquid separation equipment. Recycled solvent free of solids is reprocessed in conventional fixed-bed reactors, using commercial catalysts.

The second donor solvent liquefaction project represents an improved version of an existing petroleum residuum conversion technology applied to coal. In addition, an improved catalyst has been developed for reducing organic nitrogen in the recovered syncrude. Organic nitrogen levels in most primary coal liquids are substantially higher than encountered in petroleum feeds, and minimizing this nitrogen is important in meeting current nitrogen oxide emission standards when these fuels are burned.

c. Pyrolysis. These projects involve some form of coal pyrolysis or carbonization which amounts to destructive distillation, yielding a liquid product and a char. The projects are aimed at maximizing liquid yield and utilizing the byproduct char. The advantages of the pyrolysis process lie in economy of relatively lower pressure operations. Operations of the Char-Oil-Energy-Development (COED) process have been completed with a resulting decreased funding requirement for this project in FY 1976, and no funding for FY 1977. Budget authority requested for the Pyrolysis projects for FY 1977 is an increase of $200,000 from the FY 1976 funding level, and a decrease of $2,441,000 in operating costs.

(1) Clean Metallurgical Coke/Liquids	$ 3,400	$ 2,500	- $ 900

The objective of this project is to enable the use of high-sulfur coals for metallurgical coke production, without pollution, and with a simultaneous production of liquids (tar) and gases. The clean coke process combines pyrolysis and hydrogenation of coal. Three PDU systems are in continuous operation producing products for testing and generating design data for future pilot plant design. During FY 1977, complete demonstration of the process on a PDU scale should be completed, including testing of several additional coals and preliminary design of a pilot plant facility.

(2) Entrained Pyrolysis	$ 200	$ 600	+ $ 400

One of the major problems in processing caking coal at elevated temperatures for producing liquids and gases is the tendency of coal particles to become sticky and agglomerate. Several techniques will be evaluated and tested on a PDU scale

for eliminating this tendency, and the conceptual design of the pilot plant will be initiated in FY 1977. Among the most promising is the use of rapidly moving char particles in an entrained state to dilute hot coal particles and prevent agglomerations.

	Budget Authority FY 1976 Estimate	FY 1977 Estimate	Increase Or Decrease
(3) Flash Liquefaction	$ 500	$ 1,000	+ $ 500

The use of short reaction times for pyrolysis and hydrocarbonization of coal appears to favor increased yield of liquid products. Hydrodynamic tests of a rocket feed system are planned for FY 1976. If these are successful, high-temperature reaction tests using coal and hydrogen are planned in FY 1977. In these tests, coal will be reacted with hot hydrogen in a rocket nozzle at very short reaction times. This system offers the potential of a reactor with very high feed rates resulting in appreciably lower costs. The short-term bench-scale tests planned for FY 1977 should provide data for extrapolation to larger units.

(4) Hydrocarbonization	$ 800	$ 1,000	+ $ 200

The concept of this process is to perform the pyrolysis of coal in the presence of appreciable pressures of hydrogen. During FY 1976, a bench-scale unit will start operations at the Oak Ridge National Laboratory. This unit will be utilized to scan process variables and establish temperatures. An important byproduct activity will be the testing of various coal-derived residual liquids for their amenability to pyrolysis. During FY 1977, these tests of residual fluids and coals will be continued to provide data to other hydroliquefaction projects.

(5) Fluid Coke	$ 600	$ 600	$0

The treatment of residual, solids-containing liquids produced in various coal liquefaction processes is necessary to their eventual economical operations. This project, to be initiated in FY 1976 and continuing during FY 1977, will study the potential of converting these liquids to a particulate char and recovering contained distillable liquids. The char will be produced in a form suitable for gasification and production of the hydrogen required for liquefaction processes.

d. Indirect Liquefaction	$ 1,700	$ 1,300	- $ 400

Indirect Liquefaction involves gasification of coal into carbon monoxide and hydrogen (synthesis gas) followed by conversion of this gas mixture to liquid fuels by reaction over appropriate catalysts. This process is in commercial operation in South Africa, but not currently economically suitable for use in the United States. The liquid products currently yielded by this process contain too large a fraction of oxygenated compounds and heavy waxes. The gasification of coal to synthesis gas is being actively researched under the High-Btu Gasification subprogram. The primary efforts under the Liquefaction subprogram, to be implemented in FY 1976 and continued in FY 1977, include catalyst development and study of reactor design and heat transfer mechanisms. Preliminary data indicate that the products obtained with these new catalysts will consist almost entirely of aromatic, high octane gasoline.

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	Budget Authority FY 1976 Estimate	FY 1977 Estimate	Increase Or Decrease
e. Support Studies and Engineering Evaluations	$ 27,137	$ 10,341	- $ 16,796

Support projects are necessary to facilitate development of the various liquefaction processes toward commercialization. Components of this supporting program include engineering evaluation, cost estimates, design services, equipment support of projects on hydrogen generation, the characterization of liquid fuels from coal and refining synthetic fuels, as well as support in the area of program planning and reporting. The FY 1977 request provides a reduced level of costs primarily because the major renovation of the Cresap test center will be completed. Budget authority requested for the project is $5,000,000 during FY 1977, a decrease of $12,514,000 from the FY 1976 funding level.

(1) Engineering Support. Experienced engineering firms are retained to conduct preliminary reviews of projects and to help appraise the technical status, commercial feasibility, and economic impact of the various processes. Cost estimates of alternative pilot plants are also evaluated for information on the economic viability of alternative processes. The cost engineering and process economic studies will expedite selection of the most promising processes to meet the variety of liquid fuel needs of the nation. Research and engineering efforts to assure successful and timely development of conversion processes and the equipment and unit operations necessary for these processes will be continued. Specific problems to be attacked in the laboratories include: improved reactor designs for contacting coal and hydrogen, increased catalyst activity, catalyst deactivation mechanisms, improved solid-liquids separation methods, and upgrading of crude synthetic coal-derived liquids to refined products. The Pittsburgh Energy Research Center, Morgantown Energy Research Center, Grand Forks Energy Research Center, Argonne National Laboratory and Sandia Laboratory are all involved in these efforts.

The Government's Cresap, West Virginia, facility will, in FY 1976, be restored to operational status, and in FY 1977, begin operations to evaluate various critical components, such as reactor systems and liquid-solid separators. The facility will also be used to determine the reliability of conventional equipment such as valves, pumps, etc., all of which are equipment common to most liquefaction processes. An integrated coal liquefaction process designed to produce low-sulfur fuel oil will also be tested at the Cresap facility. The integrated process will consist of the optimum combination of the proven reliable components as demonstrated at the initial testing. This facility has a unique capability and value for test programs at the pilot scale under realistic process conditions. The American Electric Power Service Corporation and the Allegheny Power System are cost-sharing this effort.

(2) Other Support - Two Stage Liquefaction. The reaction of coal with hydrogen may be more conveniently performed in two stages - the first of which would liquefy the coal so that unreacted coal and inorganic ash may be removed by some solids separations technique; the second stage would further react the ash-free product from the first stage with hydrogen over

a suitable catalyst. The two-stage procedure will avoid deterioration of catalysts by inorganic and organometallic impurities. The use of a selective catalyst in the second stage should minimize hydrogen consumption by directing its addition for producing maximum liquid yields.

Bench-scale tests of this two-stage system will be initiated in FY 1976 to provide definitive data on product yields. Solvent refined coal (SRC) will be utilized as a simulated first-stage product. The second stage will consist of an ebullated catalyst bed. The objective is to perform a full-scale test with SRC at an existing refinery unit during FY 1976 and FY 1977.

Refining. Laboratory and bench-scale studies are being conducted to evaluate schemes for converting coal-derived crude oils to specification commercial products. These tests will concentrate on methods for using existing refinery technology with necessary adaptations for the production of gasoline and fuel oils. These products will be evaluated and tested in end-use applications during FY 1977 in preparation for larger scale production and testing as pilot plants come on stream during FY 1977 and FY 1978. The design requirements for preparing larger quantities of refined products will be established in FY 1977. These will be utilized for specifying use of existing industrial facilities or supplementing these facilities with new refining installations.

		FY 1976 Estimate	FY 1977 Estimate	Increase Or Decrease
2. High-Btu Gasification	B/A	$ 53,364	$ 45,054	- $ 8,310
	B/O	37,338	59,254	+ 21,916

Objectives:

The objective of the High-Btu Gasification subprogram is the investigation and advancement of technology required in the development of improved second generation processes for the production of high-Btu gas from coal. These new improved processes capable of converting coal to substitute natural gas at greater efficiencies could decrease the cost of the product gas by 20 percent as compared to that produced by current state-of-the-art processes.

The data generated in all phases of the program will be correlated, evaluated, and used in preliminary conceptual commercial process designs for each gasification concept under development. These designs will assist materially in economic and technical comparisons as well as early commercialization of these second generation coal gasification processes. The overall subprogram goal is to provide the technology for construction of full commercial scale plants in the early 1980s.

Accomplishments:

Five high-Btu gasification pilot plants will be in operation by the end of FY 1976. The HYGAS plant in Chicago, Ill., and the Carbon Dioxide Acceptor plant in Rapid City, South Dakota, have been in operation for approximately three years. The Synthane plant in Bruceton, Pa., was completed in late FY 1975 and is presently undergoing shakedown operations. The Self-Agglomerating Ash plant in Columbus, Ohio, is nearing completion and the BI-GAS plant in Homer City, Pa., is still in the construction phase. In addition

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to the gasification pilot plants, a major auxiliary process project initiated in FY 1973 is now in the construction stage. This pilot plant for the steam-iron auxiliary process, which will produce hydrogen for the hydrogasification of coal in the HYGAS process, is being constructed adjacent to the HYGAS plant in Chicago and will be completed late in FY 1976 and begin operation in FY 1977.

In 1971, the American Gas Association (A.G.A.) and the Government joined together in a cooperative effort to establish a viable coal gasification industry by means of a joint accelerated research and development program. An agreement was reached to provide funds jointly beginning in 1972 on a basis of two-thirds by Government and one-third by industry. As part of the joint ERDA/A.G.A. High-Btu Gasification program, development efforts will be continued on each of three different but technically feasible processes for the conversion of coal to high-Btu gas (HYGAS, Carbon Dioxide Acceptor, and BI-GAS), and for the development of the Steam-Iron and Liquid Phase Methanation auxiliary processes.

Through the Government's efforts and as a result of the continued work of the joint ERDA/A.G.A. program, six pilot plant efforts representing the further development of five different processes for the gasification of coal and a steam-iron auxiliary process have been initiated. The HYGAS and Carbon Dioxide Acceptor pilot plants are constructed and have been operated over periods of time long enough to demonstrate that each process is technically feasible. The HYGAS reactor as modified with a steam-oxygen system for the generation of process heat and hydrogen has been operated successfully. The test program with lignite has been completed and the processing of bituminous coal initiated. At the Carbon Dioxide Acceptor facility the complex exothermic chemical reactions that occur in the gasifier between the dolomite acceptor and carbon dioxide have been demonstrated and sufficient heat generated to support self-sustained gasification without the addition of any auxiliary air or oxygen. The cyclic circulation of dolomite at an acceptable regenerated activity level is performed routinely and the pilot plant is being operated at design conditions.

The construction of three other pilot plants for continued development of the Synthane, BI-GAS, and Self-Agglomerating Ash gasification processes will be completed in FY 1976 and the respective experimental programs initiated. These experimental programs will be continued in FY 1977. The construction of a Steam-Iron plant on a site adjacent to the HYGAS pilot plant will be completed in FY 1976. The work required to develop this concept as an auxiliary process for the manufacture of hydrogen will be continued through FY 1977.

Fabrication of the skid-mounted Liquid Phase Methanation system will be completed in FY 1976 and operated in conjunction with the HYGAS pilot plant. The unit will then be moved to the Carbon Dioxide Acceptor facility and operated as part of that system during the latter part of FY 1976 and the first part of FY 1977.

The High-Btu Gasification subprogram is successfully proceeding through the pilot plant stage of development. Concurrent with the investigation and the development of process technology, data generated during continued engineering evaluations of pilot plant performance will be used in preliminary conceptual designs for each of the competing gasification processes. The preliminary conceptual design effort initiated in FY 1975 will be continued in FY 1976 and FY 1977. The data generated are also proving valuable in demonstrating where additional development effort is required to make available to any coal gasification process the materials, equipment, and auxiliary processes essential to commercialization. From this work comparative technical and economic evaluations of candidate processes will be prepared.

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Budget Request:

In FY 1977 the funds requested for this subprogram are $8,310,000 less than the amount included in the FY 1976 budget on a budget authority basis. However, costs will increase by $21,916,000 in FY 1977 due to large uncosted obligations for construction phases of this subprogram which will be costed in the budget year. The FY 1977 request is essentially to be used for operations of the six pilot plants.

a. Development of New Second Generation Coal Gasification Techniques

	Budget Authority FY 1976 Estimate	FY 1977 Estimate	Increase Or Decrease
(1) HYGAS Process	$ 6,370	$ 3,000	- $ 3,370

The HYGAS concept attempts to maximize the yield of methane obtained within the hydrogasifier by operation at high pressures. Construction of the pilot plant was completed in 1971. In 1974, a steam-oxygen system for the generation of heat and hydrogen required in the hydrogasification of coal was installed. During FY 1975, the system was tested repeatedly and by the end of the period the hydrogasifier was operated successfully in a long-duration run at design conditions on lignite. In FY 1976, the experimental program will include the processing of bituminous and sub-bituminous coals. Operation will continue into FY 1977. The experimental program should be completed in FY 1977 and provide all data required to establish technical feasibility and process scale-up for lignite, sub-bituminous and bituminous coals.

(2) Carbon Dioxide Acceptor Process	$ 5,640	$ 2,333	- $ 3,307

This process, which uses the exothermic heat of reaction of calcium oxide and carbon dioxide to provide a substantial amount of the necessary heat for the gasification reaction, was developed by Consolidation Coal Company. Construction of the pilot plant was completed in late 1971. After solving a number of operational problems associated with numerous inter-related solids transfer systems and fluidized-beds containing two materials of different densities, a number of completely integrated runs were completed. A synthesis gas containing component compositions better than that anticipated in the design of the facility was produced.

During FY 1975, the construction of a methanation unit next to the gasification facility was completed. This system permits the investigation of all processing steps required to convert either lignite or sub-bituminous coal to a substitute natural gas by means of the Carbon Dioxide Acceptor process. This unit will be phased into the operation of the pilot plant during FY 1976. The experimental program will continue through FY 1977. Successful completion of the experimental program will produce all data essential to the evaluation of this technique of coal conversion.

(3) BI-GAS Process	$ 12,000	$ 10,000	- $ 2,000

As the only slagging-type gasifier now being developed in the High-Btu Gasification subprogram, this process offers the opportunity to determine those operational parameters that will permit maximum utilization of the carbon in the coal and minimization of the volume of waste products discharged. The conceptual process developed successfully by Bituminous Coal

Research, Inc., through bench-scale stage, has demonstrated that by operating at high pressures, one-third of the coal added to the primary reactor vessel can be converted to methane directly as it passes through the reactor. The last stage of the reactor is maintained at temperatures high enough to melt the coal ash prior to discharge, insuring maximum conversion of the carbon in the coal feed to the reactor.

The design of a large scale, fully integrated 5 tons-per-hour pilot plant was completed in FY 1975. Construction will be completed in FY 1976. Startup and shakedown activities will be in progress during most of the current fiscal year. The experimental program will be initiated in FY 1976 and continued during FY 1977.

	Budget Authority FY 1976 Estimate	Budget Authority FY 1977 Estimate	Increase Or Decrease
(4) Self-Agglomerating Fluidized Bed, Two-Stage Process	$ 3,340	$ 2,227	- $ 1,113

The Columbus Laboratory of the Battelle Memorial Institute is conducting a project for the development of a two-stage fluidized bed process for gasification of coal. This process applies the self-agglomerating fluidized-bed technique for burning coal with simultaneous pelletization of the ash formed during combustion and offers two significant advantages. First, the agglomerating action that takes place within the burner serves to collect the ash and allow the gas to be expanded in a turbine for recovery and reuse of the energy. Second, the use of the agglomerated ash spherical particles to supply heat in the gasifier eliminates the need for partial oxidation and, thus, the need for oxygen.

Construction was started in FY 1974 and is scheduled to be completed in early FY 1976. The rest of FY 1976 will be used for plant shakedown and startup activities. The test program will be initiated and continue through FY 1977. This experimental program includes the installation and operation of a turbine power recovery unit on the burner off-gas system. The unit will be operated to study techniques that can be used to increase overall plant performance efficiency.

(5) Synthane Process	$ 9,000	$ 10,500	+ $ 1,500

Development of the Synthane process is wholly sponsored by the Government. This gasification process has several advantages. It can handle any rank of coal, including highly caking bituminous coal. The simplicity of the process also results in good operability and reliability characteristics. Finally, about 60 percent of the total methane is formed in the gasifier, reducing both the quantity of oxygen needed and the capital requirements for methanation equipment.

The pilot plant being constructed at the Pittsburgh Energy Research Center was completed in FY 1975. The associated plant startup activities underway at the beginning of FY 1976 will be continued and completed before the end of that period. The experimental program that follows plant startup will be continued during FY 1977.

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
FOSSIL ENERGY DEVELOPMENT
COAL PROGRAM: OPERATING COSTS - continued

	Budget Authority FY 1976 Estimate	FY 1977 Estimate	Increase Or Decrease
(6) Hydrane Process	$ 2,981	$ 1,800	- $ 1,181

This process, currently at the bench-scale level of development, is a promising coal gasification technique in which almost all of the methane is produced in the gasifier by hydrogasification. In the overall process, 50 percent of the coal is converted and the residual char is subsequently used to generate hydrogen required for the process. About 95 percent of the methane product is made in the hydrogasification reactor from the raw coal by treatment directly with hydrogen. This results in a high thermal efficiency and makes the Hydrane process potentially one of the least expensive ways to convert coal to substitute natural gas.

The decision whether to proceed with the next step in the development of this concept, the construction of a 10 tons per day process development unit, will be made during FY 1976, after an in-depth engineering analysis of all aspects of this process is completed and the results are available. If a decision is made to proceed with the work, a preliminary process design will be completed in FY 1976, followed by a detailed design effort and the ordering of long lead-time construction materials and equipment in FY 1977.

(7) Steam-Iron Process	$ 7,190	$ 4,800	- $ 2,390

One of the essential raw materials required in the development of the HYGAS process is the adequate and economic supply of hydrogen. Although several techniques suitable for the production of hydrogen are under investigation, the Steam-Iron process, if suitably developed, appears to offer the greatest potential for the generation of this raw material. Construction of the pilot plant at a site next to the HYGAS facility was started in FY 1974 and is scheduled for completion in FY 1976. Shakedown and startup activities will follow and the test program will be underway in FY 1977.

b. Support Studies and Engineering Evaluation	$ 6,843	$ 10,394	+ $ 3,551

(1) Engineering Evaluation. The High-Btu subprogram contains numerous coal gasification pilot plants and auxiliary systems with a large number of complex processing systems embodying all phases of engineering expertise. Diverse types of engineering talents are required to technically support such a program. Highly qualified engineering firms have been contracted to assist in the conduct of the program. The firms are assisting in gathering the essential data necessary to delineate the advantages and disadvantages of each competing process, and to determine which process and/or combination of component processing steps appear to offer the greatest economic potential when constructed as a commercial facility. The evaluations are also attempting to determine those areas of development required to make available all the technical data, materials, and equipment necessary in the construction of a commercial high-Btu gasification facility.

The effort, which started in FY 1975 on a preliminary conceptual design of a commercial gasification facility for each of the gasification concepts in the combined program, will be continued in FY 1977. Engineering evaluations will center on the operational performance record of materials, equipment, sub-processes, and gasification systems. These evaluations will provide essential information needed for effective decisions relating to the continued operation of these facilities, and assist in the selection of equipment and materials for use in the demonstration high-Btu gasification plants.

(2) Hydrogen Generation. An economic source of hydrogen is essential to the success of both hydrogasification and hydroliquefaction processes. One of the most suitable sources of hydrogen in any coal hydrogenation process appears to be the gasification of residual chars produced during operation of the gasifier. A number of studies are underway to evaluate the operational parameters that can be adjusted to optimize the generation of hydrogen through the steam gasification of residual char. These include variations in bed depth, geometric ratios, steam/oxygen ratios, temperature, and pressure. Comparative evaluations are underway also to establish the comparative economics associated with the generation of hydrogen as accomplished by various candidate processes.

During the budget year, this project will be expanded to include experimentation in larger size equipment and cross correlation of data with an analytic model of the generation system.

(3) Liquid Phase Methanation Auxiliary Process. The key feature of this process is the use of an inert hydrocarbon-derivative liquid phase as a combined fluidizing medium for the reaction catalyst and a heat removal system. The inert liquid removes the exothermic heat of the methanation reaction through its increase in sensible heat as it is circulated through the reactor and through the latent heat of vaporization of the liquid that is vaporized. A PDU was constructed and operated during FY 1974 and the first part of FY 1975. With the successful operation of the process development unit, a larger unit is being built as a self-contained system mounted on skids for ease of mobility. It is planned to move this unit to the HYGAS and Carbon Dioxide Acceptor coal gasification pilot plants respectively for testing on the synthesis gases generated at these facilities. Testing will commence in FY 1976 and continue in FY 1977.

(4) Equipment Development. The production of high-Btu gas from coal will involve feeding of exceptionally large amounts of coal (16,000 to 100,000 tons per day). The coal must be reduced to closely graded particle sizes and must be added to reactors operating at elevated pressures (150-1500 pounds per square inch) and temperatures (1500^{o} - 3000^{o} F). Particulate matter and impurities must be separated from product gases and char. Ash material must be discharged from the reactor. The equipment required for many of these tasks such as grinders, pumps, valves, filters, separators, instruments, power recovery turbines, etc., do not exist. New concepts must be generated, the most suitable commercial equipment must be modified, new equipment must be designed and all the resulting new items of equipment must be tested to demonstrate reliable performance before they can be considered for use in the commercial facility.

During FY 1976, studies were initiated of pilot plant operational data as well as the preliminary design efforts underway on conceptual commercial high-Btu gasification plants. The studies are being performed to establish exactly what new equipment is required in order to perform at the capacities and conditions anticipated in commercial facilities. These

studies will be continued in FY 1977 and design efforts will be initiated on some selected equipment items. Effort will concentrate initially on key problem areas encountered during pilot plant operations (e.g., expansion joints, ceramic-lined transfer lines, ceramic valves, lock hopper valves, fluidized-bed level indicators), and identified through consultation with private experts.

(5) Materials Development. To specify the materials that can survive the stringent conditions of coal gasification with a high degree of reliability, it is necessary to know and understand the behavior of many candidate metals and ceramics under actual use conditions. A construction materials test program has been initiated to subject a wide range of materials to actual conditions of temperature, pressure and gaseous components currently existing or anticipated to exist in each of the pilot plants being developed. The data being generated on the response of these materials to their environment is being collected, correlated and used to solve specific problems being encountered in pilot plant operations (e.g., chloride stress corrosion cracking, sulfide metal dusting in recycle heaters, refractory failure). During FY 1977, those programs underway in FY 1976 will be accelerated through the implementation of additional and better materials management programs.

(6) Process Development. Development projects that have been initiated include several processes for generating hydrogen (e.g., the electrothermal gasification of char, the steam-oxygen process and the Steam-Iron process). Intensive efforts initiated in FY 1976 to survey the industry for all possible processes that are candidates for auxiliary systems in either coal preparation, gas cleanup, synthesis gas methanation and raw material supply will be continued in FY 1977. These processes are being evaluated for potential use in a commercial gasification facility. Pilot plant data will be evaluated to determine the relative merits of some auxiliary processes now being used as they might indicate or demonstrate the need for further investigation or the search for more suitable concepts. In FY 1977, comparison of candidate processes for a particular use will be continued.

(7) Exploratory Development-Gasification Processes. Exploratory development of both state-of-the-art and advanced (third generation) gasification techniques will be continued in FY 1977. This work, initiated in previous fiscal years, is being performed as applied research. Unique reactor designs for both gasification and methanation are being studied. A number of developmental projects are underway that include the study of a free-fall gasifier that would combine integral pretreatment, carbonization and gasification; the feasibility of a spouting-bed pretreater that would use product gas to replace steam-oxygen mixtures; and the use of heat pipes to add or remove heat from gasification and/or methanation systems. Also extending into FY 1977 will be studies now determined as necessary to achieve balance between the effort spent in advancing state-of-the-art processes and the development of second generation processes. Included among these studies would be comparative evaluation and feasibility investigations of slagging, fixed-bed gasification systems as well as pressurized, entrained-bed processes.

(Dollars in thousands, except whole dollars in narrative material)

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FOSSIL ENERGY DEVELOPMENT
COAL PROGRAM: OPERATING COSTS - continued

		FY 1976 Estimate	FY 1977 Estimate	Increase Or Decrease
3. Low-Btu Gasification	B/A	$ 24,552	$ 33,052	+ $ 8,500
	B/O	36,076	39,952	+ 3,926

Objectives:

The objective of the Low-Btu Gasification subprogram is to develop, at the earliest possible date, one or more gasifier systems which are economically applicable for the use of coal as a substitute for oil or natural gas for power generation and industrial use, and provide the technology required to initiate design of a demonstration plant and permit the widespread commercialization of low-Btu gasification by the mid 1980s. Restrictions on sulfur-dioxide emissions have created a need for new processes capable of converting high-sulfur coals economically to an acceptable powerplant fuel, while complying with stack emission regulations.

The Low-Btu Gasification subprogram is directed toward processes that will produce a low-Btu gas suitable for electric power generation, combined gas-steam turbine power cycles, and other industrial uses. The advantage of low-Btu gas lies in lower costs. Because the low-Btu process is less complex than that for the high-Btu gas, the capital cost could be lower on an equivalent Btu basis. Operating costs could also be lower as some energy-consuming steps would not be needed and the overall thermal efficiency would be higher.

The subprogram provides for the development of above ground gasification for operation at near atmospheric and higher than atmospheric pressures. The state of development of near atmospheric gasification is currently more advanced than that of pressurized gasification. Therefore, the intent of the subprogram is to promote the development of near atmospheric gasifiers as a primary objective and at the same time begin development of higher pressure gasifiers in order to provide a commercially acceptable process at the earliest possible date.

In order to compress the time required to develop a suitable gasification system several feasible concepts are being studied concurrently. The results of these efforts will permit evaluation and comparison of techniques and provide a basis for selection of the most economical process in the shortest time.

Accomplishments:

The Low-Btu Gasification subprogram was initiated in FY 1973, and the projects are still in the early stages of development. However, some significant results have been obtained and the preliminary design for an entrained-bed combined cycle pilot plant is underway.

In addition to the pilot plant project in progress, engineering and final design for an atmospheric pressure, entrained flow gasifier of 5 tons-per-hour is underway with Combustion Engineering; construction is scheduled to start in calendar year 1976. Work with a fluidized-bed gasifier PDU is also being continued at the Westinghouse Laboratory in Waltz Mill, Pennsylvania, and a determination will be made in FY 1976 on further development of this concept.

Budget Request:

The FY 1977 request for $39,952,000 in operating costs is an increase of $3,926,000 over the FY 1976 level, primarily for the design and construction of the Combined Cycle plant and Entrained Bed Atmospheric PDU. The budget request of $33,052,000 on a budget authority basis is an $8,500,000 increase compared to FY 1976.

a. Low-Btu Gasification Processes

	Budget Authority FY 1976 Estimate	Budget Authority FY 1977 Estimate	Increase Or Decrease
(1) Fixed-Bed PDU (Atmospheric)	$ 2,350	$ 2,700	+ $ 350

A preliminary design and economic assessment of a fixed-bed process to produce clean low-Btu fuel gas from coal is scheduled for completion in early FY 1976. This effort is an extension of previous work at the stirred fixed-bed gasification process development unit (PDU) at the Energy Research Center in Morgantown, West Virginia. Renovation of the 18 tons per day (TPD) PDU will be completed in FY 1976. The unit will be operated at different pressures and with different types of coal to determine changes in capacity as a function of these parameters and to determine operating and design conditions for a full-scale unit. The fixed-bed producer at the Grand Forks Energy Research Center will be reactivated and the slagging mode studies will be started in FY 1976 and continued into FY 1977.

During FY 1977 the experimental project at Morgantown will be continued with operation in an oxygen blown mode to provide basic data on the process.

(2) Fluid-Bed PDU (Pressurized)	$ 8,300	$ 1,700	- $ 6,600

There are two ongoing projects to develop the technology of the pressurized fluidized-bed gasification process. The three-stage fluid-bed gasifier project is an extension of earlier small scale gasification research and development. A one-TPD PDU is currently under construction and is scheduled to be completed in early FY 1976. PDU operations will continue for a two-year period, followed by a performance review. The PDU will be used to study and optimize the multi-stage system and data generated from operations will provide needed information for scale-up design.

The second project is a two-stage pressurized fluidized-bed gasifier with integral sulfur removal by injection of limestone as the solvent for hydrogen sulfide. The overall power generation system will consist of the sulfur absorbent regenerator and gas turbine combined-cycle power conversion equipment with the fluidized two-step gasifier. A small 14 TPD PDU has been completed and operations will be underway at the Westinghouse laboratory at Waltz Mill, Pennsylvania.

(3) Entrained-Bed PDU (Atmospheric)	$0	$ 500	+ $ 500

This gasification system is an atmospheric entrained-bed slagging gasifier capable of producing low-Btu gas from highly caking coals containing a high percentage of sulfur. This gas will be treated for particulate and sulfur removal. Preliminary design considerations indicate this gasifier can be operated with a carbon consumption efficiency approaching that

of a coal-fired steam generator with a projected heat rate of about 10,200 Btu's per kilowatt hour, making this project one of the more promising possibilities for early utility use. Following completion of the preliminary design and evaluation work initiated in FY 1975 and continued through FY 1976, the final design is programmed for completion in FY 1977. In addition, fabrication of the system will be started in FY 1977 for the test facility to be built in Windsor, Connecticut. Cost sharing of two-thirds Government and one-third industry, established in the basic contract, will be continued.

	Budget Authority FY 1976 Estimate	FY 1977 Estimate	Increase Or Decrease
(4) Combined Cycle Pilot Plant	$ 6,550	$ 16,500	+ $ 9,950

A major problem in the adaptation of low-Btu gasification processes to use in combined-cycle power plants is the combination of the gasification and gas purification units with gas turbine electrical generating units. During FY 1977, construction of a pilot plant to explore this problem is planned. The pilot plant will process from 500 to 800 tons of coal per day; convert the coal to a purified low-Btu gas; and utilize the gas to drive a combustion turbine for electric power generation. Areas will be provided for integration of future, improved gasification and purification units and second generation, higher-temperature combustion turbines. Load-following characteristics of the various components will be evaluated. Cost sharing commitments for the project of two-thirds Government and one-third industry have been made.

(5) Molten Salt PDU (Pressurized)	$ 500	$ 1,000	+ $ 500

Preliminary development and some pilot gasifier work on this process have been performed with electric utility industry support. Rates of 470 ton/hour at 3 atmospheres pressure have been achieved. In this process, coal is partially burned and completely gasified in a molten salt furnace. The sulfur and ash from the coal are retained in the melt, and the gases flow to a conventional gas-fired boiler where combustion is completed to produce steam for electric generation. The FY 1977 request provides for the completion of design for a larger process development unit. Cost sharing of two-thirds Government and one-third industry will be continued.

(6) Hydrogen Production	$0	$ 5,000	+ $ 5,000

The Low-Btu Gasification subprogram is planning to design, construct and operate a developmental unit to produce hydrogen from coal. The production of hydrogen from coal is a necessary capability for coal conversion processes which are dependent on reaction of coal with hydrogen. The developmental unit, for which an RFP is being prepared will be located at the facilities of an industrial user of hydrogen. Co-funding is anticipated.

b. Support Studies and Engineering Evaluations	$ 6,852	$ 5,652	- $ 1,200

(1) Engineering Support. Technical and engineering services, including assistance in proposal evaluations, process selection, preparation of cost estimates, preliminary engineering design, and the collection, evaluation and assembly of technical data generated by the various projects will be provided by an engineering firm under contract with the Government.

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Proposed new and improved gasification processes, coal feed, and gas cleanup schemes are being evaluated and considered for funding in the future. During FY 1977, many of these proposals will be critically reviewed.

Compilation of a coal conversion data book will be continued in FY 1977. This handbook will include data pertaining to all phases of coal conversion and will be of value to the entire Fossil Energy program. The handbook will be for the use not only of ERDA, but also by the many organizations participating in the national program for conversion of coal to clean fuel.

(2) Hot Gas Cleanup. Hot gas cleanup projects include:

(a) Cleanup with Molten Salt. This project is for the development of a fused salt scrubber system for removal of fly ash and sulfur compounds from low-Btu fuel gas at high temperatures in order to meet the stringent requirements for clean gas needed for combustion in a turbine. By cleaning the gas at high temperatures as generated, sensible heat is conserved, improving overall thermal efficiency. This process will complement many of the gasification processes described above by providing the gas cleaning necessary for combined cycle operation. The process utilizes molten salt scrubbing of the fuel gas at temperatures up to 2,100° F for the removal of particulates and sulfur compounds. Fuel gas from a fixed-bed gasifier will be scrubbed in a venturi scrubber using molten salt working fluid. The molten salt will be recovered in a baffled settling chamber with a demister section, filtered, regenerated and recycled. The project includes a pilot-scale scrubber system, and demonstration runs are planned to provide data for design and operation of a scrubber for a 50 megawatt installation preventing corrosion and erosion of the turbine and maintaining environmental contamination at satisfactory levels.

(b) Cleanup with Iron Oxide. Removal of hydrogen sulfide and particulates from low-Btu gas, while preserving the thermal energy of gas steam, is still an unsolved problem. Efforts will continue on the development of a hot gas cleanup process for hydrogen sulfide removal with emphasis on regeneration of the sorbent. Improved particulate removal systems will be investigated. Operation of the bench-scale (18,000 standard cubic feet per hour) gas cleanup system, currently under construction, will begin in FY 1976. Design of a large scale unit (160,000 standard cubic feet per hour) will also begin in FY 1976. Construction is planned for initiation in FY 1977.

		FY 1976 Estimate	FY 1977 Estimate	Increase Or Decrease
4. Advanced Power Systems	B/A	$ 10,001	$ 22,500	+ $ 12,499
	B/O	7,461	12,800	+ 5,339

Objectives:

The objective of the Advanced Power Systems subprogram is to develop advanced power generation systems to the technology readiness stage in preparation for engineering into prototype electric power generation systems. The systems under development have been selected on the basis of evaluations which showed the likelihood of electric power generation at lower cost and attractive efficiency when compared with current technology. The systems are all based on technology using coal containing appreciable sulfur content, or partially clean coal-derived gaseous or liquid fuels, in an environmentally acceptable manner.

The major potential economic advantages offered by these advanced power systems result from the fact that high performance combined cycle turbine systems could have lower capital cost and are expected to offer an attractive coal to busbar power generation efficiency.

Additional benefits from the use of advanced power generation systems include:

reduced water requirements enabling electric power to be generated in arid areas of the U.S., where coal is abundant;

reduced fuel requirements of potentially high-efficiency generation equipment;

the creation of technology which can also be used with existing premium liquid and gaseous fuels at higher efficiency.

Major budget categories included under the Advanced Power Systems subprogram are Open Cycle Gas Turbines, Closed Cycle Power Systems and Support and Additional Projects.

The open cycle gas turbines developed in the United States were predominantly for military and civilian jet aircraft. The United States has also developed heavy duty, long life, open cycle gas turbines for the utility and industrial markets. Both aircraft and utility gas turbines have been designed to burn clean fuels exclusively; however, recent development work is expected to enable ship propulsion gas turbines to burn lower grade fuels.

A turbine system with a high turbine inlet temperature (over 2500° F) burning coal derived fuels, utilizing materials, internal cooling and component designs specifically for high reliability utility service, and rejecting heat to a heat recovery boiler which generates additional steam turbine power, appears highly attractive. This system concept offers potentially lower capital cost, more rapid construction time and higher efficiency than a conventional high pressure steam powerplant. This system is typically referred to as a combined cycle plant.

The closed cycle power systems have been categorized into two main areas, the Closed Cycle Gas Turbine (CCGT) system and the Alkali Metal Vapor Turbine (AMVT) system. The Closed Cycle Gas Turbine system has primarily been developed in Europe since 1939. At least 15 of these European systems have operated industrially, the original system (2 MWe) has operated over 120,000 hours and the largest system (50 MWe) has been commissioned this year. These projects have used air, gas mixtures, and helium as working fluids and have operated with turbine inlet temperatures as high as 1380° F. They have burned coal, among other fuels, in the heaters. In the United States, small closed cycle gas turbine systems have been used by the Department of Defense for land-based power and by the National Aeronautics and Space Administration for space applications. American industry is just beginning to become interested in exploring closed cycle systems for utility and industrial service. Alkali metal vapor turbine systems have been built and tested in small power sizes. Major development tasks include large size boiler and condenser engineering, long life materials qualification, and full size turbine engineering.

Accomplishments:

Open cycle gas turbine projects are being initiated to utilize coal derived fuels in an environmentally acceptable manner in gas turbines operating as the topping portion of combined cycles. Specifically, these projects start with system definition studies to determine both technical and economic factors of promising gas turbine system designs. Gas turbines show increases in both power

output and efficiency when turbine inlet temperatures are raised with modest requirements of cooling fluids; consequently R&D efforts in blade and vane cooling, ceramic component evaluation, and materials corrosions and reliability studies are being initiated in FY 1976. The combustion of partially cleaned coal derived fuel produces solid particulates which are damaging to gas turbine blades. Projects are being started in FY 1976 to evaluate improved blade durability as well as the cleanup of particulate matter reaching the gas turbine and coal derived fuel cleanup methods to improve turbine life and reliability.

In the closed cycle power systems area, two approaches are presently under consideration. The first is the Closed Cycle Gas Turbine which would operate with the direct combustion of coal in a primary heat exchanger. Second, is the Alkali Metal Vapor Turbine which shares the potential for improved system efficiency and the possibility of improved power generating costs. In both closed-cycle systems, work has proceeded in the high temperature heater or boiler, on materials evaluation and on system studies to evaluate overall power generating costs. The work on the boiler technology for the alkali metal vapor topping turbine system will be performed at the Oak Ridge National Laboratory.

Program management support and technical evaluations of advanced concepts and new systems are also a necessary component of this subprogram. These efforts also provide a mechanism for initiating new projects in the field of improved coal utilization as new techniques and processes become known and reach appropriate stages of economic justification. The results may be incorporated in either the open cycle or the closed cycle projects. Also, initial investigations are conducted of new technology, and improved reliability of present generation plants which can use coal-derived fuel.

Budget Request:

The FY 1977 budget request provides for an increase, on a cost basis, of $5,339,000 over the FY 1976 level. The budget provides $22,500,000 on a budget authority basis, which is an increase of $12,499,000 over FY 1976. The increase is primarily for efforts in connection with the open cycle gas turbine efforts. With the initiation of projects in FY 1976 in improved cooling, blade and vane research at a very high temperature, materials, bearings and seals selection, and combustor development, a considerable increase in funding is required in FY 1977 for component testing. Experimental efforts will be accelerated in order that necessary subsystems and components be made available for use in prototype turbines in the early 1980s. Efforts in the area of Support and Additional Projects will also be increased. These increases will be concentrated on the high temperature component of the systems and the technology development of the improved materials and systems that would benefit the performance and reliability of high-temperature, high-performance turbine utility power systems.

		FY 1976 Estimate	FY 1977 Estimate	Increase Or Decrease
5. Direct Combustion	B/A	$ 38,096	$ 52,416	+ $ 14,320
	B/O	32,645	52,116	+ 19,471

Objectives:

The primary purposes of this subprogram are: (1) to develop both atmospheric and pressurized systems capable of burning high-sulfur coals of all degrees of rank and quality directly in fluidized-bed combustors in an environmentally acceptable manner; (2) to

develop technology to substitute coal for a substantial portion of oil in existing oil-fired combustors capable of firing coal-oil mixtures; and (3) to improve the reliability and efficiency of present boilers. The strategy for combustion research is directed toward:

developing a new mode of clean and economic coal combustion for powerplants, industrial and institutional users having the potential for substantial improvements over conventional coal-firing modes;

determining methods to burn synthetic, low-sulfur fuels derived from coal, and the chars from coal conversion processes;

minimizing or preventing fouling and corrosion of heat transfer surfaces in coal-fired boilers.

Implementation of fluidized-bed boilers and heaters is anticipated in the early 1980s for medium sized industrial units and in the mid-1980s for large sized utility units. In this manner high sulfur coals will be able to be used in an economic and environmentally acceptable manner.

Combustors for coal-oil mixtures are expected to be developed in a few years and retrofit systems are anticipated to be implemented starting at the end of this decade.

Accomplishments:

The atmospheric, fluidized-bed boiler project has underway the construction of a 30 megawatt (MW) facility. The 30 MW boiler is now being built at the Monongahela Power Company plant at Rivesville, West Virginia, and is scheduled to begin start-up in mid-1976. A feasibility study and preliminary design for the industrial application of the concept, as well as a study on the feasibility of plant conversion of existing boilers will be initiated in FY 1976. Component development, test and integration work will proceed. In addition, a Program Opportunity Notice has been issued to cover a variety of industrial and institutional applications of fluidized-bed boilers and process heaters for commercial applications, and development programs will begin in FY 1976.

The pressurized, fluidized-bed projects include a 1.8 megawatt process development unit used for providing design, materials, and environmental data. The design, construction and testing of a combined cycle plant of an approximately 13 megawatt size will be initiated in FY 1976. Fossil Energy will also participate in a pressurized coal combustor research project under the management of the International Energy Agency.

In addition to the above projects, laboratory studies, other feasibility studies, systems analyses, etc., are underway in support of the development programs for atmospheric and pressurized fluidized-bed combustion systems. A concept study for Project MIUS, a cooperative activity involving six Federal agencies, has led to a specific program to develop one or more decentralized coal-fired electric powerplants located within a community to use powerplant waste heat for heating, hot water, and air conditioning.

Budget Request:

The FY 1977 request for budget authority is $52,416,000 an increase of $14,320,000 over the FY 1976 level. On a cost basis, the increase is $19,471,000 over that estimated for FY 1976. The budget year period will be one of fabrication of several prototype systems in the industrial and institutional fluidized bed combustion applications program. It is anticipated that these prototypes

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will lead to commercial applications promptly, as curtailments of natural gas and the cost and uncertainty of oil supply create the need for equipment to burn coal cleanly. These units are anticipated to lead to commercial implementation after a year or more of shakedown and testing. In the FY 1977 period, component test and integration facilities for both atmospheric and pressurized fluidized-bed combustion systems are expected to be constructed. These facilities will provide the capability for component improvement development testing and for system configuration research. In FY 1977 the pressurized fluidized-bed, combined cycle project will continue with construction of the plant scheduled to begin in FY 1978. This plant is expected to lead a demonstration project in the mid-1980s, and later commercialization, resulting in increases in power generation efficiency and improvement in power generation costs.

Fluidized-bed plants lend themselves not only to utilities and to industrial and institutional application, but also to coal conversion processes in that they can utilize the char byproduct of coal conversion for increased overall plant efficiency at power generation sites, using fluidized-bed combustors, as well as allowing for a fully integrated self-sufficient type of operation.

a. Fluidized-Bed Boilers, Atmospheric. The technology involved in the atmospheric pressure system is being developed for commercial implementation in the mid-1980s.

	Budget Authority		
	FY 1976 Estimate	FY 1977 Estimate	Increase Or Decrease
(1) Fluidized-Bed Boiler, 30 MW	$ 8,600	$ 3,000	- $ 5,6

An atmospheric pressure, multi-cell, fluidized-bed boiler has been designed, and is under construction for the 30 MW program. Intended as a low pollution method of burning coals of high sulfur or corrosive qualities, the boiler has a steam capacity of 300,000 pounds per hour. The boiler is being constructed and installed at the Monongahela Power Company plant at Rivesville, West Virginia. The plant is scheduled to begin start-up in July 1976. In FY 1977, after a shakedown period, the boiler will be used in a test program to verify design engineering procedures, performance as a boiler, sulfur dioxide and nitrogen oxide suppression in the combustor, and the adequacy of auxiliary equipment.

(2) Industrial Applications	$ 1,000	$ 10,000	+ $ 9,000

This project will consist of a feasibility study, preliminary and final prototype boiler designs for plants employing the atmospheric fluidized-bed concept. High pressure and low pressure steam generation, and air and industrial product heaters will be studied to determine the practicality and economics of using these applications of atmospheric fluidized-beds in industry to burn coal, in lieu of oil and gas, for industrial heat. The projects initiated in design phase in FY 1976 will proceed to prototype equipment development in FY 1977. The program will be cost-shared in the construction and operation phases.

(Dollars in thousands, except whole dollars in narrative material)

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FOSSIL ENERGY DEVELOPMENT
COAL PROGRAM: OPERATING COSTS - continued

	Budget Authority FY 1976 Estimate	FY 1977 Estimate	Increase Or Decrease
(3) Modular Integrated Utilities System (MIUS)	$ 2,400	$ 1,700	- $ 700

Project MIUS is authorized by the Housing and Urban Development Act of 1970 (P.L. 91-609). The program is being conducted as a cooperative study by HUD, NASA, DOD, National Bureau of Standards, HEW, as well as ERDA, to demonstrate combined processing plants within a community to use residual or recycled energy for heating, air conditioning, and generation of electricity. A small coal-fired fluid bed combined cycle powerplant will be developed as a demonstration for this project. In FY 1977, the prototype fluidized-bed combustor for the small, externally fired, gas turbine will be completed and testing will begin. This portion of the program will be performed at the Oak Ridge National Laboratory.

(4) Component Test and Integration Facility (CTIF)	$ 4,000	$ 9,000	+ $ 5,000

This CTIF is being located at an ERDA Energy Research Center. The purpose will be to test new fluidized-bed combustion systems and components at an intermediate size scale and to act as an investigative facility for problems developed in the 30 MW boiler test program. The design of the CTIF will start in FY 1976 with fabrication and field erection in FY 1977 followed by operations in FY 1978.

(5) Plant Conversion	$0	$ 1,100	+ $ 1,100

This project will evaluate the applicability of utilizing atmospheric pressure fluidized-bed combustion concepts in converting existing power generating systems, emphasizing 10 to 20 year old plants with the greatest environmental impact, to environmentally acceptable and economically feasible systems. The feasibility study and the preliminary design will be started in FY 1977. In FY 1978, the study will be extended to determine site requirements for plant conversion and the extent to which boiler integration requirements are generic rather than plant specific.

b. Pressurized Systems. Pressurization of the fluidized-bed combustor is a means of potentially effecting an increase in power generation efficiency with the possibility of reduction in the cost of power generation. The basic technology is that the coal and bed material must be injected into a pressurized combustion chamber and the process converted to a combined cycle, gas turbine-steam turbine system. The pressurized system further reduces the size of the combustor and, thus, the capital cost. The use of combined cycle systems increases the efficiency of the overall plant. Objectives for the pressurized program are similar to the atmospheric, except that developmental problems are greater and more complex, and the first commercial units would be appreciably later. Limited tests of American coals were performed in a 5-6 atmospheres pressure test unit at Leatherhead, England, and have shown that this approach is feasible from a technological standpoint. Additional work is required and is being performed in order to accomplish the cleanup of the hot gases produced from pressurized fluidized-bed combustion to produce the high turbine reliability and long life required for practical power generation application, and for control of emissions to the atmosphere.

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
FOSSIL ENERGY DEVELOPMENT
COAL PROGRAM: OPERATING COSTS - continued

	Budget Authority FY 1976 Estimate	FY 1977 Estimate	Increase Or Decrease
(1) Fluidized-Bed Combined Cycle Plant, 13 MW	$ 1,000	$ 6,500	+ $ 5,500

This project includes the design, construction and operation of a 13 megawatt coal-fired pressurized fluidized-bed combined cycle plant to be located at the Curtis-Wright Corporation, Woodbridge, New Jersey, facility. The prototype module is to be designed as a basic element of a central station powerplant, so that operating, engineering, and economic and environmental data can be fully evaluated. Construction activity is scheduled to begin in FY 1977. The program will be cost-shared in the construction and operation phases.

(2) Pressurized Fluidized-Bed Component Test and Integration Facility (CTIF)	$ 4,896	$ 8,000	+ $ 3,104

Funds will be made available in FY 1976 for the preliminary design of a 3 ft x 3 ft square pressurized fluidized-bed combustion facility to be located at the Argonne National Laboratory. The facility will be used in test programs supporting the pressurized combined cycle plant program. The steam conditions and hot gas cleanup provisions of the CTIF will match those selected for the pressurized fluidized-bed plant. FY 1977 funds will be applied to the following test elements of the CTIF project: technology support, detail design, and procurement.

(3) Granular Bed Filter	$ 2,200	$ 1,500	- $ 700

Experiments with granular bed filters and other hot gas particle cleanup systems will proceed in FY 1977.

c. Support Studies and Engineering Evaluations	$ 14,000	$ 11,616	- $ 2,384

(1) Engineering Studies. Very little is known concerning the emission characteristics, slagging and corrosion characteristics of the synthetic fuels now being developed. Such data is essential, however, for design of new combustors and boilers for such fuels, as well as combustion improvement for existing fossil fuels. Present boiler operational practices result in significant deposits of ash and slag on boiler tubes, which cause a reduction in heat transfer and corrosion. ERDA laboratory facilities will be utilized in FY 1977 to conduct these studies on restriction of fireside tube fouling and tests will be run at the Morgantown and Pittsburgh Energy Research Centers on combusion characteristics.

Feasibility studies, system analyses, etc., are necessary to develop and experimentally establish an analytical model of the elemental processes of fluidized-bed combustion in boilers so as to establish a better understanding of the fundamental processes, including their use for advanced conversion systems. In FY 1977, this fluidized-bed combustion modeling activity will be used to correlate design and performance characteristics of both atmospheric and pressurized systems with a variety of internal components so as to provide an improved engineering basis for future development and commercial units. Program planning and engineering and economic evaluation of complete systems are being performed so that the development program leads to equipment and systems which can be operated by users and can be fabricated practically by industry. New technologies in direct combustion and gas cleanup are being investigated.

(2) Coal Based Fuel Combustion. The combustion of coal-oil slurries in existing oil-fired combustors will be investigated to determine the extent to which this technology can be implemented in a practical manner so as to substitute coal for an appreciable fraction of oil in appropriate industrial and utility combustors within the near-term future. In FY 1976, the test equipment will be installed at the Pittsburgh Energy Research Center and the test program will be operational in FY 1977. Consequently, this portion of the subprogram will require less funds in FY 1977 than were needed in FY 1976.

(3) International Energy Agency Pressurized Combustor. At the request of the State Department, ERDA is cooperating in the program of the International Energy Agency (IEA). The participating nations plan to jointly fund the construction and operation of a 2 meter by 2 meter pressurized fluidized-bed combustor to be located in the United Kingdom. Primarily it will provide data directed toward the development of pressurized industrial boilers. The British team that will build and operate this unit has been in the forefront of research on fluidized-bed combustion for many years, and their new facility will provide an additional test facility that will complement the limited number of fluidized-bed facilities in this country.

The IEA facility will be used to provide scientific combustion research information on pressurized fluidized-bed combustion of world-wide coals and limestones with configurations appropriate for commercial applications. The IEA facility will provide data on combustor performance while the Component Test and Integration Facility (CTIF) planned to be built in the United States will enable ERDA to qualify auxiliary components and test our systems controls. In addition, the IEA facility will use boiler tube geometries different from the CTIF, thereby evaluating a viable alternative design and to provide information on the relationship of combustion and mixing rates to variations in internal combustor design.

In addition, the cost sharing arrangement with the other supporting nations provides an additional large scale scientific research facility at only a fraction of the cost to the United States of a domestic ERDA funded facility. The test program to be performed will be decided upon by the supporting nations (expected to be U.S., West Germany, and the U.K.) and all data will be made available as rapidly as possible.

		FY 1976 Estimate	FY 1977 Estimate	Increase Or Decrease
6. Advanced Research and Supporting Technology	B/A	$ 35,393	$ 37,085	+ $ 1,692
	B/O	32,061	36,585	+ 4,524

Objectives:

The Advanced Research and Supporting Technology subprogram serves as the central research and system studies area for all elements of fossil energy. The major objectives of this subprogram are:

To develop and maintain the supporting science and technology base;

To assure reliable and efficient operation of synthetic fuel plants;

To investigate and develop advanced techniques and support technology for direct utilization of coal including gas cleanup and improved high temperature materials;

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
FOSSIL ENERGY DEVELOPMENT
COAL PROGRAM: OPERATING COSTS - continued

To lay the foundation for innovating technology;

To conduct analyses of fossil energy processes, technologies and systems and to formulate planning and policy options for management decision making;

To assure an adequate supply of trained personnel from the nation's university system.

Accomplishments:

During FY 1976, supporting research projects continued to be initiated in the areas of advanced process research and engineering, basic coal science, materials and components, and direct coal utilization. This central research effort is vital to the progress of all program areas of Fossil Energy. Projects in this area are conducted in ERDA's energy research centers and national laboratories, other government agencies, private industry, and universities.

Specific major accomplishments during FY 1976 are:

a. Processes.

Initiation of a major, advanced Fischer-Tropsch technology program including both contract and in-house research.

Formulation of a comprehensive program on the catalytic upgrading of coal liquids to distillate fuel products. This involves research on advanced and innovative processes which minimize hydrogen consumption and reduce cost.

Development of an exploratory research program aimed at applying promising homogenous catalysis techniques to coal liquefaction. Early work indicates the potential of a dramatic lessening of the severe process conditions required in coal liquefaction.

Development of a novel catalytic coal gasification process in which a high yield of methane is obtained in the gasifier at process conditions significantly less stringent than current processes.

Continuation of a comprehensive research program aimed at advanced processes for coal gasification focusing on improved methane production in the gasifier, decreased process heat and pressure requirements, and improved methane production in the gasifier, decreased process heat and pressure requirements, and a sulfur tolerant (sulfur cleanup is very costly in coal gasification) methanation and shift catalyst.

Continuation of a major liquefaction catalyst research and development program involving testing and evaluating a large number of commercial and experimental catalysts, the development of a unique liquefaction scheme based on disposable catalysts, development efforts on a novel two-stage catalytic liquefaction process, and research on advanced and innovative processes for catalytic liquefaction.

b. Materials and Components.

The start of the Materials Newsletter.

Preliminary determination of the maximum limits to be set on impurities and particle size for entrance gases to turbines and boilers.

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
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COAL PROGRAM: OPERATING COSTS - continued

Determination of the mechanisms causing stress concentration and subsequent propagation of cracks from within and through multi-layer gasifier sections (pilot plants).

Discovery by Metals Research Council that only three alloys exist that are able to sustain very high temperature simulated "clean" gasifier environments.

Formation of standardized rapid tests to ascertain the propensity and degree thereof towards stress-corrosion cracking of metals and alloys.

c. Direct Utilization

Work begun toward the end of FY 1975 on several selected contracts was expanded significantly in FY 1976 on various supportive engineering studies relevant to combustion and power generation. Also, an evaluation of competing precombustion coal cleaning processes will be completed.

d. Systems Studies

Spearheaded the effort to prepare a comprehensive review of synthetic fuels technologies, and assessment of financial incentives required to encourage commercialization of synthetic fuels production and the cost to Government of the application of such incentives.

Completed 31 preliminary process economic studies on 15 different synthetic fuels processes. Completed study on the benefits and costs of advanced power systems.

Completed study of the value of liquids derived from coal as compared to natural crudes for use as refinery feedstocks.

Completed methodology for estimating the socio-economic impacts and infrastructure requirements of large coal conversion complexes.

Phase I (of two phases) was completed of a method to estimate the costs of coal supplied to conversion processes from large surface mines.

Initial work was completed on a method to estimate delivered price of coal and coal derived energy delivered to specific locations in the United States.

Coordinated the preparation of initial reports of ERDA's strategies for RD&D of:

Utility and Industrial fuels
Demonstration plant program
Oil Shale program

Coordinated the preparation of integrated plans and budgets for Fossil Energy.

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS

FOSSIL ENERGY DEVELOPMENT
COAL PROGRAM: OPERATING COSTS - continued

In compliance with the National Environmental Policy Act:

Developed methodology and planning tools for assessing environmental impacts of Fossil Energy projects and programs.
Completed draft environmental statements for Synfuels Commercialization Program, and Clean Boiler Fuels Demonstration Plant.
Completed environmental assessments for Coal R&D program, and component development facility for MHD.

In compliance with the Non-Nuclear Energy R&D Act:

Established procedures for interfacing with Water Resources Council.
Prepared inventory of data needs and availability for water resources assessments.
Initiated program of water resource assessments of Fossil Energy technologies and demonstration projects.
Strengthened cooperation with EPA and National Institute for Occupational Safety and Health (NIOSH) on environmental and occupational health aspects of Fossil Energy.
Prepared a comprehensive environmental research strategy for Fossil Energy.

During FY 1976, the Systems Studies category was structured to better fit the needs of the permanent Fossil Energy organization. The new structure will provide management with a broad base for decision-making and covers the following responsibilities:

Strategic planning
Program planning and budget development
Process technology and comparative economic evaluations
Independent program and project review analysis
Environment and Safety analysis and cooperation

Budget Request:

	Budget Authority FY 1976 Estimate	Budget Authority FY 1977 Estimate	Increase Or Decrease
a. Processes	$ 14,000	$ 15,200	+ $ 1,200

(1) Gasification. Significant projects contemplated for FY 1977 include research to develop an advanced gasification process from char to produce intermediate-Btu gas or hydrogen. In addition, completion of research to develop a commercially suitable sulfur-tolerant methanation catalyst will be emphasized. Ongoing and new exploratory research projects with selected universities at ERDA facilities, and industry laboratories will be maintained.

(2) Liquefaction. Major project areas during FY 1977 will include research to develop an advanced process for the direct conversion of coal to a distillate motor fuel, develop advanced and commercially useful catalysts for use in the Synthoil and H-Coal processes for low-sulfur boiler fuels, and continue other basic and exploratory research efforts.

(3) Refining and Chemical. The FY 1977 projects will support contract efforts initiated in FY 1976 for the development of innovative catalytic processes for upgrading coal liquids to distillate fuels and chemicals. Exploratory research will be largely completed in FY 1976 and bench scale work will be initiated in FY 1977. In addition, the in-house projects

conducted at ERDA's Research Centers on catalyst development will continue. Development efforts on advanced Fischer-Tropsch technology will begin in FY 1976. Present plans call for the completion of exploratory research in FY 1976 with initiation of process development studies in FY 1977. Efforts will also be focused on a sulfur-tolerant and a more selective catalyst as well as a novel reactor design for more efficient heat removal.

	Budget Authority		
	FY 1976 Estimate	FY 1977 Estimate	Increase Or Decrease
b. Materials and Components	$ 8,493	$ 8,585	+ $ 92

Materials R&D effort will continue in FY 1977 to reduce the cost of equipment and plant facilities, and improve their reliability. Specific efforts will be made to develop improved materials and design codes for pressure vessels, improve the reliability of refractory liners, and improve oxygen compressors. Efforts will be made to upgrade the valve testing apparatus at Morgantown ERC. Investigations in Failure Analysis will continue at specific pilot plants.

c. Direct Utilization	$ 5,000	$ 5,550	+ $ 550

The FY 1977 request for Direct Utilization will permit continued efforts to develop improved instrumentation for fluidized-bed combustors. Efforts will be made to identify limiting problems in gas turbines and Magnetohydrodynamics systems.

Efforts will be initiated in FY 1977 in support of the Petroleum and Natural Gas and In Situ Technology programs. However, requested amounts for these efforts have been included under the budgets of the respective programs to maintain the established program structure. Particular projects envisioned for the Petroleum and Natural Gas program will support tertiary petroleum recovery characterization of extracted deposits, and physical chemistry studies. In the In Situ Technology program, projects will concentrate on shale oil refining, environmental problems, materials of construction, and novel extraction methods.

d. Systems Studies	$ 7,900	$ 7,750	- $ 150

No increase in funding has been requested for FY 1977. The funds requested will be used to extend the work discussed immediately above under Accomplishments in Section d. The work is designed to provide a coherent and integrated direction to the Fossil Energy Program and establish the technical base needed for management decisions. It will be carried out in four general areas as follows:

Long Range Strategy - Continue the development of Fossil Energy strategies and rationale, including: analysis of market applications and market requirements for fossil energy products; analysis of the effect of transportation on the competitiveness of synthetic fuels in energy markets; analysis of the commercialization potential and attendant problems for advance fossil energy technologies; and means to expedite the transfer of fossil energy technology to commercial use.

Planning and Budget - Continue the development of integrated Fossil Energy plans, programs, and budgets within the strategic framework established above.

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
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Review and Analysis - Intensify process design and economic analyses of fossil energy recovery and conversion technologies, including coal, oil shale, petroleum, natural gas, and heavy oils. Expand knowledge base for coal conversion technologies by analysis of foreign technologies. Continue independent review of Fossil Energy projects and programs to compare results with planned activities.

Environment and Safety - Continue efforts to comply with the National Environmental Policy Act, the Non-Nuclear Energy R&D Act, and all applicable laws and regulations pertaining to the environment, health and safety. Initiate those activities necessary to develop environmental development plans that assure that information is available to characterize process effluents, control emissions, assess water availability, promote health and safety, conserve energy and natural resources, ensure prudent siting decisions, and mitigate local impacts associated with fossil energy technologies.

		FY 1976 Estimate	FY 1977 Estimate	Increase Or Decrease
7. Demonstration Plants	B/A	$ 31,900	$ 53,000	+ $ 21,100
	B/O	14,250	50,600	+ 36,350

Objectives:

The objective of the Demonstration Plants subprogram is the translation of research and development results into technology that can be transferred to the private sector for use in commercial operations. This objective is achieved by designing, building, and operating demonstration-scale plants in cooperative efforts with the private sector. Demonstration plants are defined as those plants that utilize either commercial-scale equipment or somewhat smaller units that can be scaled up to full commercial size with normal risk.

Competitive proposal procedures are used to elicit interest from private industry concerning proposed demonstration plants. The plants are all intended to be jointly funded with the present standard for cooperative Government-industry joint funding assumed to be 50-50 sharing. The commitment of private funds will strongly indicate a real world belief in the process' potential, assure the availability of top industry personnel and continued management attention, and foster the technology transfer.

Requests for proposals for demonstration plants will not constrain offerors to bid only those processes developed through the ERDA Fossil Energy program. All candidate processes, including those developed by industry, will compete and the final decision made will be primarily on the basis of technical merit and comparative projected costs of production.

For every project, the contractor is required to prepare a conceptual commercial design for the process of his choice. This design is prepared to provide a basis for the demonstration plant design and to insure that all elements of a commercial plant are included in the demonstration plant itself. These designs include preparation of a fixed and working capital cost estimate as well as an operating cost estimate from which a projected selling price of product can be determined. The projected product selling price, based on capital and operating cost estimates with appropriate profit, is an important criterion on which a choice among processes or competing contractors is finally made.

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS

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COAL PROGRAM: OPERATING COSTS - continued

Additional conceptual designs are prepared as part of the general support area of the program. These designs may be used by contractors, and are also used as bench marks against which processes proposed by others can be rated.

Products to be produced include liquid and solid boiler fuel, synthetic crude oil, distillate type material, pipeline quality gas (high-Btu) and fuel gas (low-Btu). All processes are targeted so that data for design of commercial facilities will be available in the 1979-1983 time period. It is expected that future commercial plants will probably produce both liquids and gases much as a refinery produces a spectrum of products from crude oil.

Accomplishments:

A Request for Proposal (RFP) was issued for a Clean Boiler Fuel Demonstration Plant in June 1974 and a contract was awarded on January 17, 1975 to Coalcon for design, construction, and operation of a demonstration plant. Coalcon is a joint effort of Union Carbide and Chemico, and the plant will utilize Union Carbide's hydrocarbonization process and will produce about 3500 barrels per day of fuel oil, 1250 barrels per day of gasoline fraction, 725 barrels per day of liquified petroleum gas, and 22,000,000 standard cubic feet per day of pipeline quality gas. In the cleanup process, 58 tons per day of sulfur and 20 tons per day of ammonia will be produced. During FY 1976 the contractor will complete detailed conceptual design of a commercial plant and will have substantially completed all engineering for the demonstration plant. Concurrently, equipment will be purchased through the Corps of Engineers to expedite construction.

The design and engineering phase for the Coalcon project is being funded by the Government. Coalcon and the Government will share construction and operating costs on a 50-50 basis. Twelve companies will participate in funding for the project, including four petroleum companies, two chemical companies, a gas utility, a coal company, a utility association, and two heavy industries. Initial operations are scheduled for FY 1979.

Conceptual designs are underway for a number of processes from which future demonstration plant projects may be selected. During FY 1976 conceptual designs are expected to be completed in the following areas:

Oil/Gas Plant - a modification of the solvent refined coal (SRC) process to produce a clean-burning liquid and pipeline quality gas.

Fischer-Tropsch Plant - the coupling of a high capacity gasifier with a high capacity synthesis step to yield distillate and pipeline quality gas.

Synthoil - a direct hydrogenation system using a fixed-bed catalyst to produce a liquid product ranging from boiler fuel to high-quality crude depending on operating conditions.

Hydrocarbonization - a mild hydrocarbonization to yield a liquid product and a low-sulfur solid fuel.

Each major project in the subprogram will be covered by an engineering support contractor or by assistance from such groups as the Army Materiel Command or the Oak Ridge Operations Office. A support contract has been awarded for the Clean Boiler Fuel project and support from the above mentioned organizations has been arranged for the Pipeline Gas and Fuel Gas projects.

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FOSSIL ENERGY DEVELOPMENT
COAL PROGRAM: OPERATING COSTS - continued

Three contracts have been awarded for the development of coal feeding devices for demonstration plants. Work has been started and several promising concepts are being investigated. Engineering studies are underway to develop optimum costs for principal items of equipment in projected commercial plants.

Budget Request:

The FY 1977 request for $53,000,000 in budget authority for Operating Expenses is an increase of $21,100,000 over the FY 1976 level for continuation of efforts initiated in that year. On a cost basis, the FY 1977 request is $50,600,000, an increase of $36,350,000 over FY 1976.

	Budget Authority FY 1976 Estimate	FY 1977 Estimate	Increase Or Decrease
a. Clean Boiler Fuel Demonstration Plant	$ 10,000	$ 0	- $ 10,000

No additional budget authority is requested for this project in FY 1977 as activities are expected to be in the construction phase. Operating costs of $5,000,000 will be required in FY 1977 to support the engineering and construction activities. The FY 1977 Plant and Capital Equipment appropriation includes $30,000,000 for construction-related actions.

b. High-Btu Synthetic Pipeline Gas Demonstration Plant	$ 8,000	$ 10,000	+ $ 2,000

Pipeline quality gas can be produced by a number of alternate processes. These processes are of particular interest to both pipeline and distribution companies. Because of the significant differences in Eastern and Western coal, some processes may be adaptable to one or the other, but not both. Multiple awards to be made in FY 1976 will provide a basis for proceeding with and continuing several alternate conceptual and plant designs. Budget Authority of $10,000,000 is requested for FY 1977 to provide for the continuation of these efforts. Included under the Plant and Capital Equipment appropriation for FY 1977 are funds in the amount of $10,000,000 to initiate detailed demonstration plant designs.

c. Low-Btu Gas Demonstration Plant	$ 8,000	$ 12,000	+ $ 4,000

Low-Btu gasifiers can deliver a hot, clean gas to produce central station electric power. In the near term, this gas can be utilized in conventional steam cycle generation; as the technology develops, it promises to be an attractive source of energy for the more efficient combined (gas/steam turbine) cycle. Multiple awards to be made in FY 1976 will provide a basis for proceeding with several alternate conceptual plant designs as well as the coupling of the plant to a central station power operation. The Budget request of $12,000,000 in FY 1977 will provide for continuation of these efforts. The Plant and Capital Equipment appropriation for FY 1977 of $7,300,000 will provide for the inception of detailed plant designs.

d. Design and Technical Support	$ 5,900	$ 31,000	+ $ 25,100

Studies required in support of the Demonstration Plants subprogram include: initiation and continuation of conceptual designs for commercial plants from which additional demonstration plant projects may be selected; development of hardware generic to the coal processing technology, such as coal handling and feeding equipment; and costs and systems evaluations.

These specialized services are essential to assist in detailed evaluation of specific equipment and other requirements needed in all of the demonstration projects. Each major demonstration plant project will be provided with in-house support and highly skilled technical assistance from systems contractors to manage, control and monitor efforts through the design, construction and operational phases.

Conceptual designs of commercial plants provide the data base for program planning, i.e., as an aid in the selection of technologies which may require demonstration. Ongoing studies will continue and several new ones will be started including:

Industrial fuel gas - These plants would produce low-Btu gas for various industrial applications. The designs may be either oxygen- or air-blown, and would vary in size according to the demands of individual or pooled uses.

Advanced Liquefaction - It is expected that this plant would make a "best case" for the production of liquid fuel from coal. Past studies have shown that products from the plant will probably vary from a liquefied petroleum gas (LPG) fraction to the coal equivalent of a heavy residual fuel oil. By-products will probably include pipeline-quality gas, sulfur and ammonia. A clean-burning fuel gas and one or more chemicals may be produced as well. Depending on process, electricity may be produced as a coproduct or by-product.

Oil Shale - State of the art developments for processing of oil shale will be examined and a selection made for conceptual commercial design studies.

Work will continue on technology for direct combustion of coal and coal products (char, heavy residual oil). This technology requires demonstration of the fabrication and operation of a large-sized boiler.

		FY 1976 Estimate	FY 1977 Estimate	Increase Or Decrease
8. Magnetohydrodynamics (MHD)	B/A	$ 29,544	$ 37,441	+ $ 7,897
	B/O	18,400	27,341	+ 8,941

Objectives:

The MHD subprogram has the objective to achieve successful operation by the late 1980s of a commercial facility to generate electricity from coal or a coal-derived fuel, utilizing the MHD generation process. This objective is being pursued in recognition of the potential higher overall coal to electricity conversion efficiencies predicted for this process.

Accomplishments:

Prior to FY 1975, the basic feasibility of the open cycle plasma MHD system was established and exploratory work conducted which demonstrated that an MHD generator could operate utilizing the products of direct coal combustion. Through the current U.S./USSR agreement on MHD, preliminary information of pilot plant operations with natural gas is adding to our technology. Since FY 1975, these efforts have been continued and developed while the planning of a structured, goals-oriented program was completed preparatory to focusing work on engineering goals of open cycle MHD. Consideration was also given to closed cycle systems, such as

exploratory work relating to heat exchanger and generator problems. The MHD subprogram is divided into two technology categories; open cycle system and closed cycle system. By far the greater emphasis is on open cycle as it is technologically the most advanced and offers greater potential for high powerplant efficiency.

The incorporation of open cycle MHD generators into the topping stage of binary power cycle offers the dual prospects of high overall thermal efficiency and low pollution levels with the direct utilization of coal. Recognizing that the engineering experience and data base for the design and construction of pilot scale facilities are not yet available in the case of coal-fired systems, the open cycle MHD system is structured to progress through three overlapping phases, each focused on specific development requirements for commercial demonstration. The initial and current phase will develop the technology required to design and test individual components and effect their integration, culminating in the completion of pilot scale Engineering Test Facilities (ETF). Under Public Law 93-404, a first ETF will be located in Montana. The second phase carries the ETFs into an advanced engineering stage and the third phase covers the design, construction, and operation of a commercial-scale plant.

In the closed cycle system the recycling of the work fluid in MHD systems enables the electrical conductivity to be established to some degree independently of the combustion conditions and requires a heat exchanger between the primary source and the working fluid, as well as involving critical component issues not encountered in the open cycle system. Since closed cycle systems involve the separate selection of a working fluid, either a plasma or a liquid metal/gas or vapor mixture, they can at least in principle be applied to a variety of heat sources; fossil, fission-nuclear and fusion-nuclear are all being studied or are contemplated. Much less effort has been expended on closed cycle systems than in the open cycle case and insufficient exploratory work has been done to establish conclusively their performance potential or to identify completely the critical technical issues which have to be faced in an engineering development. Exploratory work undertaken in several countries has established the basic feasibility of generators of both the non-equilibrium plasma and liquid metal types, but the type of preliminary engineering already completed in open cycle system has yet to be undertaken.

Budget Request:

The FY 1977 request is $27,341,000 an increase of $8,941,000 for operating costs over the FY 1976 level, primarily for the open cycle systems projects. The budget request provides $37,441,000 for budget authority which is an increase of $7,897,000 over FY 1976.

	Budget Authority		
	FY 1976 Estimate	FY 1977 Estimate	Increase Or Decrease
a. Open Cycle Systems	$ 28,594	$ 36,000	+ $ 7,406

Preliminary testing work required to identify basic design requirements, component application, instrumentation, etc., will be completed in FY 1977. Further development of generator channels following the achievement of the initial milestone of 100 hours of continuous operation at the end of FY 1976 is necessary to design for operating times in excess of 1000 hours. Superconducting magnet work in connection with the U.S./USSR Cooperative Program is required. System and design analysis effort

will be expanded in the areas of component and parametric studies and optimization based on computer models of critical subsystems and component requirements. This work is essential to prepare the overall plant design description and ultimately to prepare for the detailed design of the ETF, and is based on activities initiated in FY 1976. The level of component development is maintained to continue development of generator channels and diffusers, combustors, and air heaters. The Component Development and Integration Facility (CDIF) is included. Continuation of work on a U.S. channel to be tested at the U-25 facility in the Soviet Union is included. ERDA's Argonne Laboratory is presently engaged in supporting efforts for several of these projects.

The timely progress of each of these components is critical to the successful development of the CDIF and ETF, and must be accomplished if the time frame for commercial demonstration is to be met. Parallel developments of alternate concepts are included to permit the construction of facilities where these concepts may be examined to determine their possible integration into the overall system.

Supporting science and technology will be increased to continue and extend the development of diagnostic techniques and instrumentation for critical MHD gas stream characteristics, the evaluation of electrical thermal conductivities and slag/seed compatability of potential electrode materials, testing of electrodes/insulator module combinations under simulated MHD channel conditions, and determination of basic physical and chemical properties of MHD materials. This activity will be supportive to the component development work described above as well as allowing initiatives in promising new areas.

	Budget Authority		
	FY 1976 Estimate	FY 1977 Estimate	Increase Or Decrease
b. Closed Cycle Systems	$ 950	$ 1,441	+ $ 491

The general objective of activities planned in FY 1977 is to continue basic work initiated in FY 1976 and prior years to resolve critical issues in connection with the feasibility of closed cycle systems. The funding requested for closed cycle plasma systems will permit the effort to be maintained towards addressing the issues involved in the operation of the high temperature heat exchanger, the performance of the MHD generator under conditions matching those of a commercial power system and the effects of contaminant carryover to the working fluid in the case of coal-fired systems. In addition, sufficient system and design analysis will be conducted to refine and improve the understanding of component, sub-system and system level issues to enable key questions regarding performance of these systems to be resolved. In the case of liquid metal closed cycle systems, the basic study of critical components under environmental conditions similar to those anticipated in full scale plants will be continued.

U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
FY 1977 Budget Estimates
Appropriation - Plant and Capital Equipment
(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS

FOSSIL ENERGY DEVELOPMENT
COAL PROGRAM - PLANT AND CAPITAL EQUIPMENT OBLIGATIONS

PROGRAM STATEMENT

	Actual FY 1975	Estimate FY 1976	Estimate Transition Quarter	Estimate FY 1977
A - Obligations for Construction Projects	$ 4,750	$28,250	$ 8,000	$54,200
B - Obligations for Capital Equipment Not Related to Construction ..	0	0	0	250
Total Obligations for Plant and Capital Equipment	$ 4,750	$28,250	$ 8,000	$54,450

Obligations for the Coal program for FY 1977 are estimated at $54,450,000 of which:

a. $54,200,000 is for the construction projects listed in Section A below, (1) requested for authorization in the proposed Authorization Bill, or (2) were previously authorized and for which a request for appropriation is being made in FY 1977.

b. $250,000 is for Capital Equipment Not Related to Construction justified in Section B below, requested for authorization in the proposed Authorization Bill.

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS

FOSSIL ENERGY DEVELOPMENT
COAL PROGRAM - PLANT AND CAPITAL EQUIPMENT OBLIGATIONS - continued

SECTION A - Obligations for Construction Projects

The projects comprising Section A, which are requested for authorization or which were previously authorized and for which a request for appropriation is being made, are:

Project No.	Title	Total Estimated Cost	Funded Thru FY 1976	Estimated Obligations Transition Quarter	Estimated Obligations FY 1977	Future Funding Required to Complete Project
77-1-a	Modifications and additions to Energy Research Centers	$ 6,900	$ 0	$ 0	$ 6,900	$ 0
76-1-a	Clean boiler fuel demonstration plant.	91,000	33,000	8,000	30,000	20,000
76-1-b	High-Btu synthetic pipeline gas demonstration (A-E and long-lead procurement)	25,000	0	0	10,000	1/
76-1-c	Low-Btu fuel gas demonstration plant (A-E and long-lead procurement)	18,750	0	0	7,300	2/
	Total	$141,650	$ 33,000	$ 8,000	$ 54,200	$ 20,000

1/ Estimated total cost of capitalized project items is about $260,000,000 for the Government's share only. In addition, conceptual designs and alternate designs not capitalized and included under Operating Expenses for FY 1976 and FY 1977 are estimated at $20,000,000.

2/ Estimated total cost of capitalized project items is about $200,000,000 for the Government's share only. In addition, conceptual designs and alternate designs not capitalized and included under Operating Expenses for FY 1976 and FY 1977 are estimated at $22,000,000.

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
FOSSIL ENERGY DEVELOPMENT
COAL PROGRAM - PLANT AND CAPITAL EQUIPMENT OBLIGATIONS - continued

EXPLANATION OF PROJECTS IN SECTION A

1. Project 77-1-a Modifications and additions to Energy Research Centers ..... $ 6,900

ERDA's Energy Research Centers are in need of rehabilitation of existing facilities to provide a proper work setting conducive to the efficient handling of the research projects conducted at these sites. The provision of improved space will allow for increased operating efficiencies and the correction of unsafe work situations.

The FY 1977 request of $6,900,000 will be used for projects such as the following, which presently are the leading candidates for the requested funds:

(a) Morgantown Energy Research Center - $1,800,000. FY 1977 funding is required to provide for the repair of the existing heating system and permit extensive overhaul to replace piping. Upgrading of the heating system will combine the heating, ventilating and air conditioning for increased efficiency and will be done to meet energy conservation and safety standards. The total estimated cost of the project is $1,800,000.

(b) Fire, Safety and Environmental Protection - $5,100,000. This project provides for modifications required at the five Energy Research Centers located in Pittsburgh, Pennsylvania; Bartlesville, Oklahoma; Grand Forks, North Dakota; Laramie, Wyoming; and Morgantown, West Virginia. These modifications are necessary to comply with the requirement of the Occupational Safety and Health Act (OSHA) to minimize potential fire losses, to improve monitoring and control of pollutants and in general attain and maintain the level of protection of property and personnel as appropriate.

Preliminary surveys completed to date indicate that sprinkler systems and improvements in water supply will be required at all five locations to provide for fire protection. Required OSHA corrections include modifications to walking surfaces and passageways, materials handling and storage facilities and gas equipment, and operating machinery to provide protective guards and other personal protection equipment.

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
FOSSIL ENERGY DEVELOPMENT
COAL PROGRAM - PLANT AND CAPITAL EQUIPMENT OBLIGATIONS - continued

Details of Cost Estimate 1/		Item Cost	Total Cost
a. Engineering, design and inspection at 15%-25% of construction costs		$	$ 1,050
b. Construction costs			4,700
(1) Building and modifications		1,200	
(a) Repair heating - MERC	$ 1,200		
(2) Utilities and other		3,500	
(All five sites)			
(a) Fire protection	2,600		
(b) OSHA	500		
(c) Environmental protection	400		
SUBTOTAL			$ 5,750
c. Contingency at 20% of above costs			1,150
TOTAL PROJECT COST			$ 6,900

2. Project 76-1-a Clean boiler fuel demonstration plant $30,000 2/

This project provides for design and construction of a chemical process plant to convert high sulfur coal to a clean boiler fuel. The plant is expected to process 100 tons of coal per hour, to yield about 3,500 barrels per day of boiler fuel grade oil and 22 million cubic feet of pipeline quality gas. The oil expected to be produced will be sufficient to fuel a 125-175 megawatt powerplant. The plant will be a fully integrated self-sustained entity capable of receiving bituminous coal directly from the mine and achieving coal conversion through hydrocarbonization in a dense phase, fluid-bed reactor under a hydrogen environment and conditions of high temperature and pressure. In addition to the cited primary energy products the process will also produce 1,250 barrels of gasoline per day and 700 barrels per day of liquefied natural gas.

The clean boiler fuel demonstration plant is intended to accelerate commercialization of economically attractive processes for conversion of coal to clean environmentally acceptable fuels at high efficiency. The demonstration plant to be constructed in this project is approximately one-fifth scale of the commercial plant envisioned for industrial application. Process design is being accomplished consistent with the progress attained by both the private sector and the Government in data gathering operational phases of pilot plants. This demonstration plant will be capable of converting typical high sulfur Eastern bituminous coals to environmentally acceptable low-sulfur, low-ash, fuel oil for industrial use. The plant will demonstrate both the technical and economic feasibility of processes to remove sulfur from coal. The products produced by the plant will be tested on the basis of industrial usage utilizing commerical equipment.

1/ Based on preliminary estimates.
2/ $41,000,000 has been authorized and appropriated through FY 1976, including $13,000,000 appropriated to the Office of Coal Research prior to the establishment of ERDA. Authorization of $50,000,000 and appropriation of $30,000,000 is requested in FY 77.

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS

FOSSIL ENERGY DEVELOPMENT
COAL PROGRAM - PLANT AND CAPITAL EQUIPMENT OBLIGATIONS - continued

Details of Cost Estimate

	Cumulative Thru FY 1976 1/	FY 1977		FY 1978		FY 1979		Total Estimate to Complete	
		Gov't.	Shared	Gov't.	Shared	Gov't.	Shared	Gov't.	Shared
a. Engineering design and inspection	$16,000	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$16,000	$ 0
b. Construction	25,000	30,000	40,000	15,000	30,000	5,000	5,000	75,000	75,000
Total	$41,000	$30,000	$40,000	$15,000	$30,000	$5,000	$5,000	$91,000	$75,000

The very preliminary estimate for design and construction of the clean boiler fuel demonstration plant is $166,000,000 of which the Government's share is $91,000,000. The Government's share of the project cost includes $16,000,000 for A-E design and $75,000,000 for the construction phase. The estimate is based on FY 1975 dollars and does not include escalation or contingency. Furthermore, the total project cost includes $13,000,000 appropriated through FY 1975 to the Office of Coal Research (prior to the establishment of ERDA). These funds were assigned as follows: $3,000,000 for design and $10,000,000 for procurement of long-lead time equipment. The industrial participant, Coalcon, is preparing an updated project estimate.

As shown above the design and inpsection costs will be fully borne by the Government. Construction costs will be shared equally between the Federal Government and the industrial contractor. The Government's share of the total construction project is $91,000,000 and the contractor's share will be $75,000,000.

The project will cover a period of eight years and be condusted in four phases:

Phase I	Preliminary engineering (15 months)
Phase II	Plant engineering (18 months)
Phase III	Plant construction (30 months)
Phase IV	Plant operation (42 months)

These four phases overlap to provide for timely completion of the project. Phases I and II will be accomplished at Government expense. Phases III and IV will be cost-shared 50/50 with an industry partner.

To the extent feasible, construction and procurement will be accomplished by fixed-price contracts and subcontracts awarded on the basis of competitive bids.

1/ Includes transition quarter; Government funding only.

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
FOSSIL ENERGY DEVELOPMENT
COAL PROGRAM - PLANT AND CAPITAL EQUIPMENT OBLIGATIONS - continued

3. Project 76-1-b High-Btu synthetic pipeline gas demonstration plant (A-E and long-lead procurement) $10,000

This project comprises the concept development, design, construction and operation of a demonstration scale pipeline gas plant to validate the commercial viability of the process for converting coal to pipeline gas. The results anticipated are the demonstration of technical performance, and commercial (economic) feasibility of the coal conversion process. Plant capacities may involve up to 5,000 tons per day coal input and up to 80 million standard cubic feet per day pipeline gas output. The construction and operating costs will be shared equally by the Government and an industrial partner to be selected. The industrial partner will select the process to be exploited as part of his proposal package for evaluation and acceptance. The industrial partner will act as the prime contractor for the design, construction and operation of the plant. The FY 1977 funds are to initiate plant design and preliminary efforts for site selections.

This project supports objectives of the Federal Non-Nuclear Energy Research and Development Act of 1974, P.L. 93-410, and is specifically directed to stimulate industrial production of pipeline gas from coal, and demonstrate and transfer to industry commercial scale technology for converting coal to pipeline gas. The development of alternative sources for pipeline gas is especially needed in view of increasing production shortfalls from natural well head sources.

The estimated cost for A-E services and preliminary efforts for site selection is $10,000,000 in FY 1977. The very preliminary estimate for the Government's share of plant and capital equipment costs for the demonstration plant is $143,000,000 based on CY 1975 dollars. Escalated at 12% CY 1975, 10% CY 1976 and 8% thereafter to the midpoint of contract and including a 25% contingency factor, the estimate is about $260,000,000.

4. Project 76-1-c Low-Btu fuel gas demonstration plant (A-E and long-lead procurement) ..... $ 7,300

This project comprises developing the design concept, constructing and operating a demonstration plant furnishing clean fuel gas to an electrical utility. The scale of the plant is dependent on the process configuration for which fuel is required. The objective of the plant demonstration is to confirm the process economics and commercial feasibility of the fuel gas process selected. A utility partner will be chosen for this demonstration, based in part on the economic promise of the process he selects. The utility partner will be responsible for design, site selection, construction and operation as the prime contractor, and will share equally the costs of construction and operation with the Government. The FY 1977 funds are to initiate plant design.

This project supports the objectives of the Federal Non-Nuclear Energy Research and Development Act of 1974, P.L. 93-410, and is specifically directed to electric utility. Environmental restraints preclude use of available sulfur bearing fuels such as coal. The production of clean fuel gas is a means by which these fuel resources, otherwise unavailable, can be used to broaden the national energy base, and promote national energy "independence". This project is directed to demonstration of the commercial feasibility of fuel gas production and utilization in electric power generation.

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS

FOSSIL ENERGY DEVELOPMENT

COAL PROGRAM - PLANT AND CAPITAL EQUIPMENT OBLIGATIONS - continued

The estimated cost for A-E services is $7,300,000 in FY 1977. The very preliminary estimate of the capitalized portion of the total project is about $104,000,000 for the Government's share based on CY 1975 dollars. Escalated at 12% CY 1975, 10% CY 1976 and 8% thereafter and including a 25% contingency factor, the total capitalized cost is about $200,000,000.

Section B - Obligations for Capital Equipment Not Related to Construction

Subprogram	Actual FY 1975	Estimate FY 1976	Estimate Transition Quarter	Estimate FY 1977
1. High-Btu Gasification	$ 0	$ 0	$ 0	$ 100
2. Other Capital Equipment	0	0	0	150
Total Coal Program	$ 0	$ 0	$ 0	$ 250

JUSTIFICATION

1. High-Btu Gasification ..... $ 100

Support for the High-Btu Gasification subprogram is provided by the Morgantown Energy Research Center. These activities will necessitate the acquisition of laboratory and test equipment in connection with projects conducted at the site. The amount requested for FY 1977 will be used primarily for standardized equipment needed in connection with the Coal Gasification with Critical Steam project at the Research Center.

2. Other Capital Equipment ..... $ 150

This request is to provide the general laboratory and testing equipment to be used in ERDA's energy research centers and national laboratories. Many items of general equipment are in need of replacement and are essential to support the coal program projects conducted at the ERDA field centers. The acquisition of these equipment items is essential to maintain the overall capability of the field centers operations.

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U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
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RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS

FOSSIL ENERGY DEVELOPMENT
PETROLEUM AND NATURAL GAS PROGRAM: OPERATING COSTS

PROGRAM STATEMENT

Estimate FY 1977	$ 32,205
Estimate FY 1976	34,441
Decrease	$ 2,236

Petroleum and natural gas supply about three-fourths of the nation's energy. These fluid fuels will continue to be the nation's main energy source for many years. Very recent estimates indicate that production of domestic petroleum and natural gas will begin to drop rapidly in the mid-1980's without enhanced recovery. Enhanced recovery of oil and gas with requisite technological success could extend the supply of domestically available resources by approximately 10 years that are crucially important to the country while alternate sources are being developed. The near-term goal for tertiary oil production is 500,000 barrels per day of increased incremental production by 1985.

Government sponsored programs currently underway are designed to encourage and accelerate the industry-wide efforts which will be necessary if these goals are to be met. This program is planned recognizing the substantial concurrent effort of private industry and anticipates generating substantial industry cost sharing on contracts for FY 1977 based on experience to date.

Concurrent planning is underway to define quantitative requirements for injection fluids and supporting equipment, including transportation facilities, and to assure operational availability when required. Recent systematic evaluations of this program have indicated the need for its expansion and have also shown the need for additional means of building an information system to permit inter-field analysis and industry wide use of all pertinent data on enhanced oil recovery methods. In particular, the system will enable delineation of those reservoirs suitable for sustained production and enhanced recovery technique most applicable to a given reservoir.

To meet national energy goals, it is imperative that there be a mechanism for accelerating technology development and application to convert idle resources to active production. The mechanism that will provide maximum flexibility and utilization is the free flow of information to and from this system. Government participation assures this flow of information. For maximum effectiveness, the information system must be established as rapidly as possible utilizing those means that will provide the most and best information for the funds available. The research program required to generate the information must be multi-faceted and flexible in attacking the problems at hand. The current enhanced recovery effort is oriented primarily toward the recovery of oil. However, in view of the significant industrial dependence on supplies of natural gas, additional effort is being directed toward assuring a stable supply of gas to user industries.

Micellar polymer flooding is the most promising method for enhanced oil recovery, and seven field tests are underway. Four additional field tests are planned in FY 1977 to maintain acceleration of the subprogram. Massive hydraulic fracturing appears to provide the major promise of near-term gas production increases. The FY 1977 budget will provide for constant funding in this vital technology.

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS

FOSSIL ENERGY DEVELOPMENT
PETROLEUM AND NATURAL GAS PROGRAM: OPERATING COSTS - continued

SUMMARY OF ESTIMATES BY SUBPROGRAM

Page No.	Subprogram	Actual FY 1975	Estimate FY 1976	Estimate Transition Quarter	Estimate FY 1977
FE/P-2	1. Gas and Oil Extraction	$ 8,647	$ 32,859	$ 9,000	$ 30,374
FE/P-4	2. Supporting Research	2,015	1,582	500	1,831
	Total Petroleum and Natural Gas Program	$ 10,662	$ 34,441	$ 9,500	$ 32,205

		FY 1976 Estimate	FY 1977 Estimate	Increase Or Decrease
1. Gas and Oil Extraction	B/A	$ 41,423	$ 35,074	- $ 6,349
	B/O	32,859	30,374	- 2,485

Objectives:

The Gas and Oil Extraction subprogram objective is to encourage and support industry efforts to develop and demonstrate enhanced oil and gas recovery technology to increase production rates and yields from existing oil and gas fields by:

Cost-sharing demonstrations to accelerate implementation of industrially developed technology.

Pursuing concurrent projects in fluid injection, thermal stimulation and formation fracturing techniques.

Providing a means for documentation and dissemination of data on enhanced recovery techniques.

Maintaining an aggressive research program in ERDA and industry laboratories and academic institutions on enhanced oil and gas recovery to provide a scientific basis for present and future recovery methods.

Accomplishments:

ERDA planning has established that a prime technological need in energy R&D is to extend the life of our oil and gas resources. A Federal role in enhanced oil and gas is required because of commercial uncertainties and financial risks associated with economically unproven technologies and the urgent need to accelerate progress beyond normal commercial capability. In addition, Federal participation provides for the rapid and industry-wide dissemination of test results. The program for enhanced oil and gas recovery was initiated because of an early perception of this requirement. Demonstration of enhanced recovery methods has accelerated rapidly as a result of the first two years of this subprogram.

An early industry-wide study showed that of the known but unproved enhanced oil recovery methods, micellar polymer flooding rated as most promising. The consensus was that this method might provide over half of all the oil that might be recovered by tertiary methods. The oil that may be recovered by enhanced recovery methods is estimated to amount to about 60 billion barrels. Three

major demonstrations of the micellar polymer method have been initiated to date. These projects are being applied to reservoirs having significantly different rock and liquid characteristics and represent the application of the best technology.

Two major demonstrations were contracted in improved waterfloods and two in thermal methods of oil production. Smaller demonstrations of two solvent extraction technology procedures also were made. One large scale demonstration of carbon dioxide injection has been contracted.

More than 100 billion barrels of heavy oil and 35 billion barrels of bitumen in tar sands are known to exist domestically. These resources are an inviting target for new technology that can be competitive in the present era of high cost crude oil. Thermal methods are most promising for these resources, but novel mining methods also may prove applicable. The FY 1976 effort is limited to small scale field testing in Utah.

Formation fracturing appears the most likely method of economically producing natural gas from vast reservoirs of shale and low permeability formations in the Rocky Mountain and Appalachian regions. A major demonstration of massive hydraulic fracturing of the Devonian shale has been contracted for in the Appalachian region. In addition, two promising methods for chemical explosive fracturing of formations have been demonstrated and a third is under contract. Such methods, if successful, will provide the most rapid advance in energy production since fractured wells can be put into production immediately after cleanup.

Industry has contributed about 55 percent of the funding for contracts on fluid injection and on hydraulic fracturing and is expected to continue to contribute at about this same level in future enhanced recovery projects.

Budget Request:

The Gas and Oil Extraction subprogram budget request for FY 1977 budget authority is $35,074,000, a decrease of $6,349,000 from the FY 1976 level. Operating costs are estimated at $30,374,000 for FY 1977, a decrease of $2,485,000 from FY 1976. The reductions are in the areas of fluid injection and non-nuclear fracturing, and will result in stretching out the field demonstration projects in these areas.

The principal activity in the fluid injection category is micellar polymer flooding. Three tests initiated in FY 1975 and three in FY 1976 were accompanied by the next scale-up size for testing--a demonstration in excess of 200 acres to provide solid economic data. These seven projects will be continued in FY 1977. The proposed funding level will provide the interface with industry contractors who propose to implement projects in their fields and also permits developing data systems for use by independent operators.

A contract to demonstrate oil recovery by carbon dioxide injection has been finalized. In addition, a modest effort to reduce the cost of carbon dioxide is also planned. The two improved water flooding projects started in FY 1975 and an additional one started in FY 1976 will be continued. One additional test is programmed in FY 1977 to demonstrate improved water flooding technology.

The application of thermal methods for extracting usable products from heavy oils and tar sands also will be expanded with one field test in FY 1977. In an effort to avoid critical natural gas shortages, an expanded R&D program for obtaining gas from very

tight formations in the Rocky Mountain and Appalachian basins was initiated in FY 1976 using non-nuclear fracturing methods. This program will be continued in FY 1977 with particular emphasis on developing the gas potential of Eastern shales.

The FY 1977 budget also provides funds for drilling research projects in critical technical areas not being adequately supported by industry. Determination and initiation of gap-filling research and development related to production of oil and gas in the Outer Continental Shelf area constitutes a second new initiative. Much of this work involves compiling the efforts on basic studies, the results of which would be of value to the entire industry.

		FY 1976 Estimate	FY 1977 Estimate	Increase Or Decrease
2. Supporting Research	B/A	$ 1,797	$ 1,831	+ $ 34
	B/O	1,582	1,831	+ 249

Objectives:

The emphasis of this subprogram is on the characterization and processing of heavy petroleum fractions, asphalt utilization, crude oil identification, and fuels utilization. Limited work will also be done on characterization and processing of shale oil and coal liquids. Part of this effort will be under the supervision of the Division of Fossil Energy Research, particularly in the area of refining technology and novel exploratory processes.

Budget Request:

The budget request for budget authority in FY 1977 is $1,831,000, an increase of $34,000 over FY 1976. On a cost basis the FY 1977 request of $1,831,000 is an increase of $249,000 over the FY 1976 level. The budget for this subprogram will provide for continuation of basic research work, and the completion of waste oil recycling projects. This subprogram will include some engine testing of re-refined lubricating oils, and shale oil products.

Oil identification work relates to basic needs for assistance in oil spill and oil source identification and will become part of an oil field classification system. The characterization and processing of heavy oils has gone on for several years and is important for design of heavy oil and tar sand recovery projects. The work is being extended into shale oil and synthetic fuels.

A relatively small physical facility for engine testing of fuels and lubricants (including dynamometer testing) and the skilled engineers and scientists using it are necessary in the growing ERDA liquid fuels program. The effort in refining process technology and utilization of alternate fuels ties in with this activity and will be continued.

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RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
FOSSIL ENERGY DEVELOPMENT
PETROLEUM AND NATURAL GAS PROGRAM: PLANT AND CAPITAL EQUIPMENT OBLIGATIONS

PROGRAM STATEMENT

	Actual FY 1975	Estimate FY 1976	Estimate Transition Quarter	Estimate FY 1977
A - Obligations for Construction Projects	$ 0	$ 0	$ 0	$ 0
B - Obligations for Capital Equipment Not Related to Construction	35	100	100	270
Total Obligations for Plant and Capital Equipment	$ 35	$ 100	$ 100	$ 270

Obligations for the Petroleum and Natural Gas program for FY 1977 are estimated at $ 270,000 of which:

a. $ 270,000 is for the Capital Equipment Not Related to Construction justified in Section B below, requested for authorization in the proposed Authorization Bill.

SECTION B - Obligations for Capital Equipment Not Related to Construction

Subprogram	Actual FY 1975	Estimate FY 1976	Estimate Transition Quarter	Estimate FY 1977
1. Gas and Oil Extraction	$ 35	$ 100	$ 100	$ 100
2. Other Capital Equipment	0	0	0	170
Total Petroleum and Natural Gas Program	$ 35	$ 100	$ 100	$ 270

JUSTIFICATION

1. Gas and Oil Extraction	$ 100

The Bartlesville Energy Research Center provides support for the Gas and Oil Extraction subprogram. Items of equipment required include spectrographic testing apparatus, pressure monitoring gear and custom design equipment.

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS

FOSSIL ENERGY DEVELOPMENT
PETROLEUM AND NATURAL GAS PROGRAM - PLANT AND CAPITAL EQUIPMENT OBLIGATIONS - continued

2. Other Capital Equipment ..... $ 170

This request is to provide for general laboratory and testing equipment at ERDA's field centers. Major items of equipment are in need of replacement and are essential to support the Petroleum and Natural Gas program. This equipment is essential to maintain the overall capability of field centers' operations.

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RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS

FOSSIL ENERGY DEVELOPMENT
IN SITU TECHNOLOGY PROGRAM: OPERATING COSTS

PROGRAM STATEMENT

Estimate FY 1977	$ 20,131
Estimate FY 1976	18,507
Increase	$ 1,624

The In Situ Technology Program contains two major subprograms; Oil Shale and In Situ Coal Gasification. The technology for conventional mining and surface retorting of oil shale has advanced to a level believed capable of early commercial application to richer grades of oil shale averaging over 25 gallons per ton although commercial-scale equipment and operations have not been demonstrated. Present ERDA strategy in this area consists of making its Anvil Points facility available for industry-sponsored projects, providing for the technology transfer of results through the ERDA observer program, providing general consultation to industry, and conducting laboratory-scale supporting research on problems relevant to general oil shale processing, both aboveground and in situ.

The ERDA Oil Shale subprogram is focused mainly on developing technology capable of improving total resource recovery and lowering environmental impacts and water requirements. This is accomplished through development of various in situ extraction techniques capable of exploiting the leaner and deeper oil shale deposits as well as offering an alternative to present technology. In addition to the in situ method's advantages of relatively smaller water, manpower, and shale disposal requirements, the potential application to lower grade shales is important in that most of the total estimated resource of 1.8 trillion barrels of shale oil in the western Green River formation is in low-grade deposits that may never be recovered by techniques that involve conventional mining. Laboratory-scale research on new process technology includes fundamental research on methods potentially offering similar advantages for aboveground processing.

Eastern oil shales of Devonian and Mississippian age represent an additional, large, potential energy resource although their extent is presently poorly defined. These shales are potentially major producers of synthetic gas and oil although they are considered lower grade than Western shale from an oil production standpoint. They are geologically similar to Western oil shales, and it is believed that similar technology can be used in exploiting these shales by in situ methods.

The present Oil Shale subprogram includes oil production research involving both true in situ methods, requiring no mining, and modified in situ methods that require partial mining; gas production research targeted to both Eastern and Western oil shales; environmental studies related to the in situ processes being developed; and supporting research for oil shale processing that is not tied to any specific technology but rather to oil shale development problems in general.

In situ conversion of oil shale to liquid and gaseous products offers several potential advantages over conventional mining and surface processing, both economic and environmental, although it is presently much less developed. However, no single version of in situ technology is applicable to the full range of oil shale deposit types. True in situ techniques requiring no mining to

provide the required permeability for passage of gases and liquids are believed most suitable for relatively shallow deposits characteristic of the Eastern shales of Devonian and Mississippian age that range from Pennsylvania to Texas in a broad but poorly defined belt, and to some geologically similar but chemically different types of oil shale in Wyoming, Colorado and Utah. This technique is difficult and is not believed suitable for shales grading over 30 gallons per ton or at great depth, such as in the center of Colorado's Piceance Creek Basin, and is considered best applied to shale beds too thin or lean for economic mining. Modified techniques that require partial mining followed by massive rubblization are believed to offer the most promise especially for richer, deeper and thick shale deposits. However, it has not yet been established that very thick beds of rubblized shale can be successfully retorted, particularly if layers of rich shale are included. Two major variations of modified in situ retorting are of interest, with choice partially governed by actual thickness of oil shale to be processed. One of these is referred to as vertical modified, in which more or less square individual chambers are mined into which the overlying shale is broken to create an in-ground retort.

The other version is referred to as horizontal modified in which long tunnel-like chambers are mined and the overlying shale is rubblized, creating in effect one long series of retorting chambers without intervening partitions that can, however, be processed sequentially by vertically flowing gases as if each segment was a separate retort. This technique is considered an alternative for shales where true in situ methods may apply, and also for shales of intermediate thickness but similar overburden characteristics.

The other major subprogram, In Situ Coal Gasification, seeks to further enhance the utilization of the vast coal reserves of the United States which will supply much of our short and intermediate-term energy needs. More than 85 percent of our coal resources are too deep, too thin-seamed, or otherwise unsuitable to be commercially exploited by conventional mining. In situ processing, especially gasification, provides a means to utilize these otherwise unusable resources while providing benefits of minimal environmental disruptions, lower water usage and relief of mine safety problems and of shortage of skilled miners.

Underground coal gasification has been shown to be technically feasible, although the product was not economically competitive with abundant and cheap natural gas. The onset of the gas and oil shortage and resulting price rises are changing this situation. If in situ processing can be controlled and run efficiently, the savings resulting from a smaller surface plant could permit a selling price for the gas which would be cheaper than entirely surface-based gasification processes.

SUMMARY OF ESTIMATES BY SUBPROGRAM

Page No.	Subprogram	Actual FY 1975	Estimate FY 1976	Estimate Transition Quarter	Estimate FY 1977
FE/I-3	1. Oil Shale	$ 3,884	$ 9,834	$ 2,000	$ 12,085
FE/I-4	2. In Situ Coal Gasification	2,283	7,560	1,787	6,736
FE/I-7	3. Supporting Research	965	1,113	300	1,310
	Total In Situ Technology Program	$ 7,132	$ 18,507	$ 4,087	$ 20,131

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
FOSSIL ENERGY DEVELOPMENT
IN SITU TECHNOLOGY PROGRAM: OPERATING COSTS - continued

JUSTIFICATION OF SUBPROGRAMS

		FY 1976 Estimate	FY 1977 Estimate	Increase Or Decrease
1. Oil Shale	B/A	$ 13,720	$ 21,085	+ $ 7,365
	B/O	9,834	12,085	+ 2,251

Objectives:

The Oil Shale subprogram has both near-term (to 1985) and mid-term (1985-2000) objectives. The immediate objective is to support development of a commercial shale oil and gas industry with a daily capacity equivalent to at least 300,000 barrels per day by 1985. This objective will be fostered by providing the technologic base for commercial implementation by 1980 through development and demonstration projects in cooperation with industry. The mid-term objective is to provide the technology base to expand an oil shale industry to its full potential by maximizing resource recovery efficiency and minimizing environmental impacts and water requirements through cooperative projects with industry, backed up by university and ERDA laboratory research as necessary.

Accomplishments:

A combustion test between two wells following the first explosive fracturing test at ERDA's Rock Springs, Wyoming, Site 9 project demonstrated that oil shale can be readily ignited in a safe, easily controlled manner by downhole electrical heaters instead of the more commonly used propane mixture. A second explosive test at this site in multiple hydraulic fractures succeeded in highly fracturing a 40-ft. thick bed of shale over a 70 ft. diameter area at a depth of approximately 150 feet. A recovery experiment at this site was initiated and is scheduled for completion including evaluation in FY 1977. Three fracturing and recovery experiments at other sites near Rock Springs, featuring alternative true in situ fracturing methods including well springing, underreaming, and at greater depths up to 500 feet, were initiated in FY 1976. Fluid monitoring wells installed as part of the environmental project yielded the first data on in situ water quality changes during the limited combustion experiment at Site 9. All data from the Rock Springs and northern Green River Basin wells are being entered into the data bank of the Wyoming Water Research Institute for permanent record and for integration with area-wide data obtained by the U.S. Geological Survey. A joint project by the Laramie Energy Research Center and Lawrence Livermore Laboratory (LLL) yielded significant new data on mechanisms of large-block retorting.

Industry cost-sharing will be sought for all in situ oil shale process-development field projects selected in response to a Program Opportunity Notice issued in FY 1976. At least two contracts are anticipated under this program. The level of cost-sharing is expected to be proportionate to the status of development of the particular technology.

Budget Request:

The FY 1977 budget request of $ 12,085,000 for operating costs, an increase of $ 2,251,000 over FY 1976, provides for the continuation of projects contracted for in FY 1976 and the initiation of one added project during the budget year. The budget request, on

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
FOSSIL ENERGY DEVELOPMENT
IN SITU TECHNOLOGY PROGRAM: OPERATING COSTS - continued

the basis of budget authority, is $ 21,085,000 an increase of $7,365,000 from the FY 1976 level. An expanded oil shale in situ program is needed to develop the technology required by the Department of the Interior and ERDA's national program to accelerate the development and application of in situ processes and to provide for maximum resource recovery from oil shale tracts. Strong interest in the proposed ERDA program has been shown by major private companies including Gulf Oil, Standard Oil (Indiana), Union Oil of California, Dow Chemical Company, the Westco group, and others. The requested FY 1977 increased level of effort is needed to accelerate and move forward a program to develop and demonstrate adequately in situ technologies that can be rapidly transferred to industry for possible adoption.

The increase also will provide for detailed engineering design of a larger and more realistic scale in situ gasification test facility, and additional instrumentation support for new field projects in addition to instrumentation which will be installed in FY 1976 at the Rock Springs sites by Sandia Laboratories.

Added funding is needed to maintain normal progress in research projects that will be ongoing in FY 1976 at ERDA's Laramie Energy Research Center (LERC), Sandia Laboratories (SL), Lawrence Livermore (LLL), Los Alamos Scientific Laboratories (LASL), and several universities in support of field projects on in situ technology. These projects include a coordinated program between LERC and LLL to develop mathematical models for computer use by which progress of shale processing operations can be predicted and controlled. This research utilizes data obtained both from actual field operations and experiments conducted in large retorts simulating in situ conditions to develop and test the predictive capability of the computer-generated models.

A second area of joint research is conducted by the Los Alamos and Sandia Labs in which the ability to accurately design the explosive rubblization of modified in situ oil shale is being developed through research on the response of various oil shale to explosive shock as a function of the mechanical and dynamic properties of oil shale and the characteristics of particular explosives. FY 1977 progress of this project will require detonations in large blocks of oil shale to be conducted at an explosive test site. Research on advanced instrumentation will be continued by Sandia to improve their capability to detect and interpret underground processes at field test locations for in situ oil shale processing. The Laramie Energy Research Center (LERC) will have additional wells drilled for fluid monitoring baseline studies. Technical project officer services for contract projects will also be provided by LERC. Evaluation of data from the Paraho project at Anvil Points will continue.

Depending on initial results and upon industry interest in cost-sharing of additional projects, new field projects are tentatively planned to start after FY 1977 to fully develop in situ technology applicable to a broad range of deposit types and demonstrate such technology at a sufficiently large scale that industry can make credible projections of economics for commercialization.

		FY 1976 Estimate	FY 1977 Estimate	Increase Or Decrease
2. In Situ Coal Gasification	B/A	$ 6,137	$ 8,236	+ $ 2,099
	B/O	7,560	6,736	- 824

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
FOSSIL ENERGY DEVELOPMENT
IN SITU TECHNOLOGY PROGRAM: OPERATING COSTS - continued

Objectives:

The In Situ Coal Gasification subprogram has the goal of developing commercially feasible processes for producing energy from coal in place. The timing of the program includes preparing at least one process for the pilot plant stage in FY 1977, and planning a demonstration project by FY 1980. This would carry the development of at least one process to commercial feasibility by the mid-1980's.

Primary emphasis of the program is on three major gasification processes which are tailored to specific coal resources. These include: a process using gasification in deviated borehole sets for thin seams less than 15 feet thick (one variation called the Longwall Generator); a process which links vertical boreholes drilled into the coal seam by a combustion technique (Linked Vertical Wells) and is applicable to seams of intermediate thickness; and a process using chemical explosives to rubblize deep seams greater than 50 feet thick, producing a packed bed which will be gasified by a vertically moving reaction zone (Packed Bed). In addition, advanced processes will be evaluated for coal seams which are steeply tilted and very dry seams in the Southwest.

The in situ coal gasification effort has unique needs due to three characteristics: the process must be remotely monitored and controlled, the coal resource and its surroundings vary with location and can be prepared for processing to only a limited extent, and the product/market match is controlled by geography. Thus, the process development must be pursued by field tests and supported by laboratory and analytical studies to learn how to understand the process behavior in order to control it. Remote instrumentation must be developed and evaluated and systems studies must be made to optimize the process to the best product market. Of course, environmental effects must be assessed and minimized, especially surface subsidence, water usage, and possible aquifer disruption. Each field project contains these elements to address their specific needs, and supporting technology efforts at ERDA headquarters attack problems common to the general area of in situ processing.

Accomplishments:

The second field test of the Linked Vertical Well (LVW) concept will be completed in FY 1976. This is the first fully instrumented U. S. coal gasification field test and it will provide data to evaluate the process' readiness and further needs for a scaleup to the pilot plant stage. It will also define useable downhole and remote instrumentation techniques. The site for the first field test of the packed bed process will be evaluated for suitability and the coal in a shallow seam will be fractured by explosive charges in a specified pattern. The rubblization will be analyzed for its suitability for gasification and to verify fracturing models used to design future fracturing experiments. Three deviated wells will be drilled to assess the capabilities of this drilling technique. Field design will progress toward a first test of the concept as applied to thin seams. Industry cooperation will be sought wherever possible to minimize Federal cost, speed up the studies, and insure effective technology transfer.

The initial assessment of processes for gasifying steeply pitched beds will be done. An initial systems study will tie together resources, processes, and end-use. Supporting research will continue, directed toward improving the design of field experiments.

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
FOSSIL ENERGY DEVELOPMENT
IN SITU TECHNOLOGY PROGRAM: OPERATING COSTS - continued

Budget Request:

The FY 1977 budget request for In Situ Coal Gasification operating costs is $6,736,000. The request in terms of budget authority is $8,236,000, an increase of $2,099,000 over FY 1976. FY 1977 is an important funding year for the In Situ Coal Gasification subprogram. It offers the first opportunity to move into the pilot plant phase for one process and to execute the first field test of a concept to develop the deep, thick seams which comprise half of the U.S. resources. Likewise, it will lead to the first thin coal seam gasification.

The proposed funding level will permit the specification and design of a pilot plant for the Linked Vertical Well concept. The low-Btu gas product would be useable for electric power generation. This effort will benefit all projects, specifying pilot plant design needs towards which other projects can target their programs. It will also offer an opportunity toward major industrial participation in the development of this process. Funds will be distributed between the plant design and a third field test to evaluate specific parameters and to provide data for the pilot plant design.

The development of the Packed Bed process for thick, deep coal seams will be advanced significantly by executing two field tests in a shallow seam. The fracturing experiment to be run in FY 1976 will be gasified with steam and oxygen to produce an intermediate-Btu gas. This will test the basic Packed Bed concept, provide direction for the second experiment, and determine the problems and possibilities of in situ oxygen-steam gasification. The results from the FY 1976 fracturing and the first gasification in FY 1977 will guide an improved field design. One option to be explored is explosive emplacement by a minimal mining effort rather than through boreholes drilled from the surface. This may prove to be more economical when the process is run at greater depths.

ERDA is concluding Packed Bed process assessments with two industrial partners who are bearing the entire cost of their services. ERDA has received two cost-sharing proposals for executing PDU scale experiments. Two industry-owned sites are being used for tests and others have been offered. Contracts for technology transfer are being continually made in the field laboratories. Industry has shown interest directly proportional to ERDA field testing activity and has expressed a desire for increased participation as the field program develops. The FY 1977 level of $6,736,000 for operating costs will support the needed field tests to stimulate industry to increase their participation toward possible commercialization of this technology.

During FY 1977 the Deviated Well concept will progress toward a project to gasify coal in thin seams. The FY 1976 directionally drilled wells will have been evaluated to determine whether the Longwall Generator or a variation of it promises success in gasifying thin seams. The possibility of incorporating minimal mining efforts to develop the gasification manifold will be explored. A gasification project would use air to produce a low-Btu gas for electric power generation, an option well matched to the market in the vicinity of the resources. Industrial participation will be sought to advance this project. Thin seam gasification is the most difficult to accomplish, both technically and economically. This disadvantage is offset by the wide availability of these resources and their location near high population and industrialized centers. Site verification for a dipping seam field test will be done and analyses will be made of the process potential for delivering useful energy in the near term. This concept contains characteristics of the three processes already discussed and can directly use their results. It may entail the least risk toward commercialization. Some preliminary examination of processes of dry coal seams in the Southwest will also be made.

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
FOSSIL ENERGY DEVELOPMENT
IN SITU TECHNOLOGY PROGRAM: OPERATING COSTS - continued

		FY 1976 Estimate	FY 1977 Estimate	Increase Or Decrease
3. Supporting Research	B/A	$ 1,265	$ 1,310	+ $ 45
	B/O	1,113	1,310	+ 197

Costs for the supporting research elements of the subprogram are $1,310,000 or $ 197,000 above the FY 1976 level, all for oil-shale-related problems. The Laramie Energy Research Center (LERC) will be required to increase its characterization of oil shale cores to provide data for ongoing field projects, and have additional wells drilled for coring operations. Laboratory-scale refining studies will continue to study the applicability of modern refining techniques including required modifications for processing shale oils representative of different retorting processes. Data for process evaluation will continue to be provided through non-routine analytical procedures applying latest instrumental advances.

Research on novel extraction processes that may form the basis for improved second-generation technology will be continued by LERC. Although the projects in the category of Supporting Research are presently oriented largely toward specific needs of the in situ program, this subprogram is considered supportive of oil shale development in general, providing data useful to both aboveground and in situ processing.

U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
FY 1977 Budget Estimates
Appropriation - Plant and Capital Equipment
(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
FOSSIL ENERGY DEVELOPMENT
IN SITU TECHNOLOGY - PLANT AND CAPITAL EQUIPMENT OBLIGATIONS

PROGRAM STATEMENT

	Actual FY 1975	Estimate FY 1976	Estimate Transition Quarter	Estimate FY 1977
A - Obligations for Construction Projects	$ 0	$ 0	$ 0	$ 0
B - Obligations for Capital Equipment Not Related to Construction	225	325	100	500
Total Obligations for Plant and Capital Equipment	$ 225	$ 325	$ 100	$ 500

Obligations for the In Situ Technology program for FY 1977 are estimated at $500,000 of which:

a. $ 500,000 is for Capital Equipment Not Related to Construction justified in Section B below, requested for authorization in the proposed Authorization Bill.

SECTION B - Obligations for Capital Equipment Not Related to Construction

Subprogram	Actual FY 1975	Estimate FY 1976	Estimate Transition Quarter	Estimate FY 1977
1. Oil Shale	$ 75	$ 325	$ 100	$ 450
2. In Situ Coal Gasification	150	0	0	0
3. Other Capital Equipment	0	0	0	50
Total In Situ Technology Program	225	325	100	500

JUSTIFICATION

1. Oil Shale ..... $ 450

The equipment requested is to maintain the ongoing and planned projects relating to the in situ processing of oil shale. General items of equipment include instrumentation, pumps, tanks, distillation equipment and thermal processing equipment.

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
FOSSIL ENERGY DEVELOPMENT
IN SITU TECHNOLOGY PROGRAM: PLANT AND CAPITAL EQUIPMENT OBLIGATIONS - continued

3. Other Capital Equipment ..... $ 50

This request is primarily to permit the acquisition of general and standard laboratory and testing equipment. The acquisition of these items is essential to maintain the overall capability of the field centers operations.

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U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
FY 1977 Budget Estimates
(Dollars in Thousands)

SUMMARY TABLE BY ENERGY RESEARCH CENTERS: BUDGET AUTHORITY

Fossil Energy Development

	Actual FY 1975	Estimate FY 1976	Estimate Transition Quarter	Estimate FY 1977
Bartlesville Energy Research Center (BERC)				
Operating Expenses: Coal Program	$ 0	$ 660	$ 165	$ 850
Petroleum and Natural Gas Program	4,647	5,793	1,340	6,314
In Situ Technology Program	0	0	0	0
Total Operating Expenses, BERC	4,647	6,453	1,505	7,164
Full Time Permanent Employment*	151	160	160	160
Grand Forks Energy Research Center (GFERC)				
Operating Expenses: Coal Program	1,380	1,350	337	2,850
Petroleum and Natural Gas Program	0	0	0	0
In Situ Technology Program	0	0	0	0
Total Operating Expenses, GFERC	1,380	1,350	337	2,850
Full Time Permanent Employment*	37	46	46	46
Laramie Energy Research Center (LERC)				
Operating Expenses: Coal Program	0	0	0	0
Petroleum and Natural Gas Program	1,396	1,787	435	2,123
In Situ Technology Program	4,992	7,035	1,945	7,205
Total Operating Expenses, LERC	6,388	8,822	2,380	9,328
Full Time Permanent Employment*	126	140	140	140
Morgantown Energy Research Center (MERC)				
Operating Expenses: Coal Program	3,144	9,414	2,728	14,385
Petroleum and Natural Gas Program	1,439	1,652	409	1,985
In Situ Technology Program	839	1,000	250	1,000
Total Operating Expenses, MERC	5,422	12,066	3,387	17,370
Full Time Permanent Employment*	171	179	179	179

* Includes direct as well as reimbursable employment.

(Dollars in Thousands)

SUMMARY TABLE BY ENERGY RESEARCH CENTERS - continued

Fossil Energy Development - continued

		Actual FY 1975	Estimate FY 1976	Estimate Transition Quarter	Estimate FY 1977
Pittsburgh Energy Research Center (PERC)					
Operating Expenses:	Coal Program	$ 9,750	$ 14,958	$ 4,205	$ 19,166
	Petroleum and Natural Gas Program	0	0	0	0
	In Situ Technology Program	0	0	0	0
	Total Operating Expenses, PERC	9,750	14,958	4,205	19,166
Full Time Permanent Employment*		284	299	299	299
San Francisco Office of Program Coordination and Management - Fossil Energy					
Operating Expenses:	Coal Program	0	0	0	0
	Petroleum and Natural Gas Program	373	437	106	510
	In Situ Technology Program	0	0	0	0
	Total Operating Expenses, San Francisco	373	437	106	510
Full Time Permanent Employment*		10	10	10	10
Summary of Energy Research Centers					
Operating Expenses:	Coal Program	14,274	26,382	7,435	37,251
	Petroleum and Natural Gas Program	7,855	9,669	2,290	10,932
	In Situ Technology Program	5,831	8,035	2,195	8,205
	Total Operating Expenses, ERCs	$ 27,960	$ 44,086	$ 11,920	$ 56,388
Total Full Time Permanent Employment at ERCs*		779	834	834	834

* Includes direct as well as reimbursable employment.

U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
FY 1977 Budget Estimates
(Dollars in thousands, except whole dollars in narrative material)
FOSSIL ENERGY DEVELOPMENT - ENERGY RESEARCH CENTERS

Role of the Energy Research Centers

The Energy Research Centers (ERC's) play an important role in achieving the ERDA goals in fossil energy. Although relatively small, the ERC's are staffed by highly skilled scientists, engineers and technicians with a long history of accomplishments in the production and utilization of fossil fuels. The ERC's are looked to for new ideas, new data, and new processes to better utilize our fossil energy resources.

Operating expenses for the ERC's are essentially all furnished by Fossil Energy Development and are justified elsewhere in the FY 1977 Budget Estimate.

Bartlesville Energy Research Center

Operating Expenses - Budget Authority	Actual FY 1975	Estimate FY 1976	Estimate Transition Quarter	FY 1977 Estimate	FY 1977 Increase or Decrease
Coal Program	$ 0	$ 660	$ 165	$ 850	+$ 190
Petroleum and Natural Gas Program	4,647	5,793	1,340	6,314	+ 521
Total Operating Expenses	$ 4,647	$ 6,453	$ 1,505	$ 7,164	+$ 711
Full time permanent employment*	151	160	160	160	0

Research at the Bartlesville Energy Research Center is focused primarily on the production, processing and utilization of petroleum and natural gas; a lesser effort is devoted to the characterization and use of liquid fuels manufactured from non-petroleum sources. The Center plays a major role in providing in-house support research and technical oversight for ERDA's field demonstration projects on enhanced recovery of oil.

Coal. Characterization studies of syncrudes from coal were initiated in FY 1976 to provide the bases for processes to upgrade these materials to finished fuels and chemical feedstocks. In FY 1977 research will continue to provide information on the properties and on the combustion and engine performance characteristics of liquid fuels derived from coal.

Petroleum and Natural Gas. Research and development activities in the area of oil and gas extraction are centered on developing improved secondary and tertiary methods for the recovery of oil and gas. Fluid injection into existing wells is being tested to increase oil production. The effectiveness of massive hydraulic fracturing and the use of chemical explosives to increase recovery of natural gas from tight formations are being investigated. Utilization research includes studies on the characterization of crude oil and its products, on improved processing methods, and on ways to reclaim waste oil. In FY 1977, activities in support of ERDA's field demonstration studies of enhanced recovery of oil and gas will be increased.

* Includes direct and reimbursable employment.

Fossil Energy Development - Energy Research Centers - continued

Grand Forks Energy Research Center

	Actual FY 1975	Estimate FY 1976	Estimate Transition Quarter	FY 1977 Estimate	FY 1977 Increase or Decrease
Operating Expenses - Budget Authority					
Coal Program	$ 1,380	$ 1,350	$ 337	$ 2,850	+$ 1,500
Total Operating Expenses	$ 1,380	$ 1,350	$ 337	$ 2,850	+$ 1,500
Full time permanent employment*	37	46	46	46	0

The Grand Forks Energy Research Center is concerned primarily with the production and utilization of Western coals, including lignite. These coals which comprise over one-half of the nation's total identified resources, are generally characterized by lower sulfur content but higher moisture content and lower heating value compared to Eastern coals.

Coal. Research and development activities are continuing in the areas of coal liquefaction, gasification and combustion, and in the control of pollution arising from coal utilization. In 1977, a 25 ton-per-day slagging-bed coal gasifier, currently being renovated, will be operated, requiring increased funding, to obtain information on the quantity and characteristics of emissions. These data are extremely important in the development of environmental safeguards for proposed commercial coal gasification plants.

Laramie Energy Research Center

	Actual FY 1975	Estimate FY1976	Estimate Transition Quarter	FY 1977 Estimate	FY 1977 Increase or Decrease
Operating Expenses - Budget Authority					
Petroleum and Natural Gas Program	$ 1,396	$ 1,787	$ 435	$ 2,123	+$ 336
In-situ Technology Program	4,992	7,035	1,945	7,205	+ 170
Total Operating Expenses	$ 6,388	$ 8,822	$ 2,380	$ 9,328	+$ 506
Full time permanent employment*	126	140	140	140	0

The Laramie Energy Research Center serves as the focal point for research and development on the production and utilization of vast oil-shale resources. Additionally, research is conducted in the fields of production, processing and utilization of petroleum and natural gas and in the in situ gasification of coal.

Petroleum and Natural Gas. Current research is aimed at the development of processes for recovering oil from tar sand deposits, methods for characterizing heavy liquids derived from fossil fuels, and methods for improving the performance and utilization of asphalts. Research in these areas will be maintained at essentially the same level in FY 1977.

*Includes direct as well as reimbursable employment.

(Dollars in thousands, except whole dollars in narrative material)

Fossil Energy Development - Energy Research Centers - continued

In Situ Technology. In oil shale, current emphasis is being placed on the development of an in situ retorting process for recovering oil from the shale deposit. Process support and field studies focus on developing fracturing techniques and methods for recovering oil from the fractured shale, and on refining the shale oil.

A major effort is underway to develop an underground coal gasification process. The field test site is located near Hanna, Wyoming in a seam of sub-bituminous coal 30 feet thick at a depth of about 400 feet. In 1977, the field test program will be expanded to obtain information essential to process scale up of in situ gasification.

Morgantown Energy Research Center

Operating Expenses - Budget Authority	Actual FY 1975	Estimate FY 1976	Estimate Transition Quarter	FY 1977 Estimate	FY 1977 Increase or Decrease
Coal Program	$ 3,144	$ 9,414	$ 2,728	$14,385	+$ 4,971
Petroleum & Natural Gas Program	1,439	1,652	409	1,985	+ 333
In Situ Technology Program	839	1,000	250	1,000	0
Total Operating Expenses	$ 5,422	$12,066	$ 3,387	$17,370	+$ 5,304
Full time permanent employment*	171	179	179	179	0

Research and development on coal comprise the major activity at the Morgantown Energy Research Center. A diverse program is carried out to develop technology for direct combustion of coal and for converting it into clean-burning gases and oils. Enhanced recovery of oil and gas is also being investigated as is in situ gasification of coal.

Coal. Current studies are aimed at developing processes for producing clean gas for industrial use or for burning in gas turbines. Gasification of caking bituminous coals has been demonstrated in a stirred fixed-bed test gasifier. In direct combustion studies, anthracite containing culm bank material was successfully burned in a laboratory scale fluidized-bed combustor. In 1977, construction will be initiated on a scaled up fluidized-bed combustion test facility.

Petroleum and Natural Gas. The applicability of carbon dioxide injection for increasing oil recovery from Eastern reservoirs is being determined. Massive hydraulic fracturing is being studied as a way to increase gas recovery. Additionally, the Center provides technical oversight for ERDA field demonstration projects on enhanced oil and gas recovery. These activities will be continued at about the same level in 1977.

In situ technology. A long-wall generator technique is being investigated for gasifying deep, relatively thin Eastern coal seams. In 1977, efforts will be devoted to completing tests on drilling wells deviated from the vertical to intersect the coal seam.

* Includes direct as well as reimbursable employment.

(Dollars in thousands, except whole dollars in narrative material)

Fossil Energy Development - Energy Research Centers - continued

Pittsburgh Energy Research Center

	Actual FY 1975	Estimate FY 1976	Estimate Transition Quarter	FY 1977 Estimate	FY 1977 Increase or Decrease
Operating Expenses- Budget Authority					
Coal Program	$ 9,750	$14,958	$ 4,205	$19,166	+$ 4,208
Total Operating Expenses	$ 9,750	$14,958	$ 4,205	$19,166	+$ 4,208
Full time permanent employment*	284	299	299	299	0

The Pittsburgh Energy Research Center is the largest Federal laboratory devoted solely to research and development on coal. The center carries out a diversified program on coal including: basic research to obtain new knowledge of the chemical and physical properties and reactions of coal; conversion of coal to electricity and to clean-burning liquid and gaseous fuels; and control of pollution arising from coal usage.

Coal. Major efforts are underway in the development of processes to gasify and to liquefy coal. Back up research and technical direction is provided for the Synthane coal gasification pilot plant. A 10 ton-per-day Synthoil process development unit is being constructed to confirm favorable laboratory tests on converting coal to low sulfur fuel oil. Combustion of coal-oil slurries is being investigated as a way to cut down the use of improved residual oils.

In 1977, increased efforts will be made in further development of the Synthane and Synthoil processes, and in the area of direct combustion of coal.

San Francisco Office of Program Coordination and Management - Fossil Energy

	Actual FY 1975	Estimate FY 1976	Estimate Transition Quarter	FY 1977 Estimate	FY 1977 Increase or Decrease
Operating Expenses - Budget Authority					
Petroleum and Natural Gas Program	$ 373	$ 437	$ 106	$ 510	+$ 73
Total Operating Expenses	$ 373	$ 437	$ 106	$ 510	+$ 73
Full time permanent employment*	10	10	10	10	0

The main objective of research at this facility is the development of new methods of stimulating oil production from California reservoirs.

Petroleum and Natural Gas. Methods being investigated for stimulating oil production include: cyclic injection of solvents, solvent steam injection and solvent micellar polymer waterflood. These activities will be continued in 1977 as will providing technical oversight to ERDA field demonstrations of enhanced oil and gas recovery.

* Includes direct as well as reimbursable employment.

U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
FY 1977 Budget Estimates
(Dollars in Thousands)

SUMMARY TABLE BY SUBPROGRAM

Conservation Research and Development

Operating Expenses	FY 1975 Actual B/A	FY 1975 Actual Obs.	FY 1975 Actual B/O	FY 1976 Estimate B/A	FY 1976 Estimate Obs.	FY 1976 Estimate B/O	Transition Quarter Estimate B/A & Obs.	Transition Quarter Estimate B/O	FY 1977 Estimate B/A & Obs.	FY 1977 Estimate B/O
End Use Conservation and Technologies to Improve Efficiency										
1. Industry Conservation										
a. Unit Operation and Equipment Efficiency	$ 0	$ 0	$ 0	$ 1,050	$ 1,050	$ 500	$ 300	$ 125	$ 2,150	$ 1,800
b. Process Analysis & Modification	0	0	0	1,365	1,365	650	380	160	1,700	1,400
c. Alternative Fuels, Materials & Processes	0	0	0	630	630	300	180	75	2,200	1,760
d. Agriculture & Food Processes	0	0	0	1,050	1,050	500	300	125	2,600	2,250
e. Industrial Information, Technology Transfer & Analysis	0	0	0	105	105	50	40	15	2,780	2,050
Total Industry Conservation	0	0	0	4,200	4,200	2,000	1,200	500	11,430	9,260
2. Buildings Conservation										
a. Commercial Buildings	0	0	0	1,300	1,300	600	350	160	3,850	3,310
b. Residential Buildings	0	0	0	850	850	400	225	100	3,075	2,700
c. Performance Standards	0	0	0	2,600	2,600	1,200	675	300	1,250	1,200
d. Community Systems	0	0	0	2,600	2,600	1,200	775	350	6,850	5,700
e. Urban Waste	2,400	400	0	1,750	3,750	3,170	750	500	1,650	1,200
f. Appliances	0	0	0	650	650	300	200	90	1,200	1,000
g. Technology	0	0	0	1,750	1,750	800	450	200	3,100	2,800
h. Dissemination & Transfer	0	0	0	1,050	1,050	500	125	50	625	500
Total Building Conservation	2,400	400	0	12,550	14,550	8,170	3,550	1,750	21,600	18,410
3. Transportation Energy Conservation										
a. Implementation and Equipment	0	0	0	570	570	460	200	120	1,300	1,180
b. Heat Engine Highway Systems	7,797	6,808	8,068	8,516	9,505	7,285	2,100	1,910	14,790	12,800
c. Electric & Hybrid Systems	0	0	0	1,560	1,560	925	500	300	4,550	3,940
d. Non-Highway Transport Systems	0	0	0	500	500	250	100	100	500	500
e. Technology Studies	345	345	375	1,394	1,394	1,080	300	270	2,030	1,770
Total Transportation Energy Conservation	$ 8,142	$ 7,153	$ 8,443	$12,540	$13,529	$ 10,000	$ 3,200	$ 2,700	$ 23,170	$ 20,190

(Dollars in Thousands)

SUMMARY TABLE BY SUBPROGRAM - continued

Conservation Research and Development - continued

Operating Expenses - continued	FY 1975 Actual B/A	FY 1975 Actual Obs.	FY 1975 Actual B/O	FY 1976 Estimate B/A	FY 1976 Estimate Obs.	FY 1976 Estimate B/O	Transition Quarter Estimate B/A & Obs.	Transition Quarter Estimate B/O	FY 1977 Estimate B/A & Obs.	FY 1977 Estimate B/O
4. Improved Conversion Efficiency	$ 2,252	$ 2,252	$ 529	$ 8,900	$ 8,900	$ 6,870	$ 2,000	$ 2,000	$ 15,000	$ 4,300
Total Operating Expenses	12,794	9,805	8,972	38,190	41,179	27,040	9,950	6,950	71,200	52,160
Plant and Capital Equipment										
End Use Conservation and Technologies to Improve Efficiency										
Capital Equipment										
1. Industry Conservation	0	0	0	0	0	0	0	0	1,000	400
2. Buildings Conservation	0	0	0	0	0	0	0	0	0	0
3. Transportation Conservation	0	0	0	400	400	400	40	40	500	200
4. Improved Conversion Efficiency	0	0	0	200	200	200	0	0	500	300
Total Plant and Capital Equipment	0	0	0	600	600	600	40	40	2,000	900
End Use Conservation and Technologies to Improve Efficiency Totals										
Operating Expenses	12,794	9,805	8,972	38,190	41,179	27,040	9,950	6,950	71,200	52,160
Capital Equipment	0	0	0	600	600	600	40	40	2,000	900
Total	$12,794	$ 9,805	$ 8,972	$38,790	$41,779	$27,640	$ 9,990	$ 6,990	$ 73,200	$53,060

U.S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
FY 1977 Budget Estimates
(Dollars in thousands, except whole dollars in narrative material)

OVERVIEW

CONSERVATION RESEARCH AND DEVELOPMENT

The program of the Office of Conservation is based on the following rationale. Energy conservation is an important part of our nation's plan to develop abundant domestic sources of energy. Oil and gas, the main elements in the current supply system, are in short supply; these sources must be replaced. It will take both time and money to develop and implement satisfactory alternative sources and means for employing those sources in our business and daily life. Conservation is important because it will provide more time to make this shift. With time, the resulting energy system can utilize the best technology and can be put in place with a minimum of cost and disruption to the environment.

If conservation is to serve this function well, it must begin immediately and continue for a number of years. There is already a costly and potentially dangerous shortfall in domestic production.

Because of this urgency, the program of the Office of Conservation has begun immediately to focus on rapid development and deployment of technologies that will begin soon, or have already begun, to conserve our vital energy resources. The program also contains a mid-term (1980-1985) and long-term (1985-2000) strategy that will bring continuing cost-effective improvements in coming years. This focus is evident in the FY 1976 program and in the program for FY 1977 set forth below.

The objectives of the Office of Conservation are based on the broad view that conservation leads to more productive use of energy and the more efficient use of capital and other resources in our energy system. In short, conservation is the use of energy in a cost-effective manner.

Thus, conservation will yield both immediate and continuing benefits. Conservation will buy valuable time needed to develop new energy supplies. Conservation, through more efficient technologies, will reduce the impact of the emerging energy supply system upon our economy and lifestyles.

We recognize that public acceptance of conservation technologies will be largely, if not exclusively, an economic decision--a return on investment decision. Conservation technologies must compete successfully with other ways that companies and individuals can spend their monies.

We also recognize that technology development alone is a futile gesture if the impediments to its use are ignored. The economic, social, environmental, institutional, and political issues must be identified and resolved if conservation technology is to be successfully implemented. The end result cannot be technology that remains "on the shelf"; it must be a saleable product being purchased and used because it is economically advantageous to the customers.

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS

CONSERVATION RESEARCH AND DEVELOPMENT - continued

Government, industry, and the public must all be involved in the process of energy conservation. The program of the Office of Conservation plays a vital role in bringing about this result. The technologies that can help save energy are new and largely untried on a commercial scale. Further, in many areas there are several possible approaches to the same end. Until the best approach becomes clear, industry and the public cannot risk the large investments that are required.

ERDA's role in conservation is to bring new technologies to the point where informed choices can be made and where private development can proceed with reasonable risk. Private industry will serve as the delivery system, and, of course, the nation will be the ultimate consumer. Our "product" will be conservation technology and knowledge about how it can be put to work; we expect the private sector to "buy" it on their terms, not ours. For this reason, many of the projects involve working with the end user.

The program for FY 1976 introduced a number of projects whose impact on energy use will begin within a very short time. Projects with a near term focus are also proposed in the FY 1977 program detailed below. Other projects, whose focus is mid-term or long-term, also continue, so that energy savings will continue to accrue, to an increasing degree, as each year brings new approaches to maturity.

The major projects in the FY 1976 program and proposed in the FY 1977 program have been examined to determine the time when energy savings might be expected. Estimates of the potential energy savings have also been suggested. Although these figures must be considered preliminary and rough at this point, they do indicate the approach we wish to refine in the next year--to examine each step of a project from concept through implementation and market penetration to gain a better understanding of the factors that influence its potential success.

The initial estimates of impact for each project have been aggregated to produce the results shown in the accompanying table: "Projected Energy Savings." The estimated aggregate energy savings of the overall program are:

Potential Energy Savings

Thousands of Barrels of Oil Per Day--Equivalent

1977	1978	1979	1980	1985
35-56	152-215	475-671	1,400-1,750	6,300-8,800

These figures are based on the assumption that projects will be funded at the proposed level to completion; they must be viewed as preliminary at this time. These figures represent an attempt to aggregate the energy savings from Conservation RD&D projects. When a number of projects are examined for energy savings, as is done in this analysis, it is necessarily true that some of the projects will impact on the same end use. For example, more efficient automobile engines and more efficient highway systems both affect passenger energy use, and their combined effect is less than the two considered separately. To eliminate this type of

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS

CONSERVATION RESEARCH AND DEVELOPMENT - continued

overlap between projects and programs, the tables below do not "add" the energy savings of the individual projects; they show a range of "estimated aggregate energy savings" that has reduced the total to reflect our best understanding of these effects.

However tentative these figures may be at this point, they clearly indicate the program focus on gaining significant results in the near-term years. The approach also illustrates the analysis that will be further developed--to examine projects on the basis of cost versus return.

The projected energy savings provide a common format running throughout this document. The potential energy savings figures are summarized for the major programs in the Office of Conservation in the accompanying table, "Projected Energy Savings." These figures can be traced, through the tables provided in the budget document, to the individual projects from which the expected savings arise.

POTENTIAL ENERGY SAVINGS ERDA-CONSERVATION

Conservation Subprograms:	Potential Energy Savings BBLS of Oil Per Day (Thousands)				
FISCAL YEARS	1977	1978	1979	1980	1985
1. Electric Energy Systems	-	5-10	30-55	105-155	1,060-1,480
2. Energy Storage	0-1	1-3	10-15	60-80	400-500
3. Industry Conservation	-	-	0-1	60-100	1,800-2,700
4. Building Conservation	25-40	100-150	350-500	1,000-1,200	2,000-2,800
5. Transportation Energy Conservation	10-15	45-50	80-90	150-180	480-710
6. Improved Conversion Efficiency	-	1-2	5-10	25-35	560-610
Estimated Aggregate Energy Savings	35-56	152-215	475-671	1,400-1,750	6,300-8,800

CR-5 END

U.S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
FY 1977 Budget Estimates
Appropriation - Operating Expenses

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
CONSERVATION RESEARCH AND DEVELOPMENT
END USE CONSERVATION AND TECHNOLOGIES TO IMPROVE EFFICIENCY: OPERATING COSTS

PROGRAM STATEMENT

Estimate FY 1977.....$52,160
Estimate FY 1976..... 27,040
Increase.....$25,120

The overall objective of the End Use Conservation and Technologies to Improve Efficiency program is to conduct energy saving research, development and demonstrations in the three sectors that are the primary energy consumers of the Nation; Industry, Buildings, and Transportation; and the development of energy conversion techniques applicable to the End Use Sectors. To accomplish this objective this program proposes to:

- encourage and support the installation of energy efficient existing technologies as soon as possible;
- develop and implement new energy efficient technologies;
- develop and implement systems which will reduce the dependence on petroleum and natural gas; and
- disseminate information about existing and new technologies concerning energy efficient systems.

The End Use program organizationally is divided into four subprograms that address themselves to energy conservation in each consuming sector. A detailed examination of the Industry Conservation, Buildings Conservation, Transportation Energy Conservation and Improved Conversion Efficiency subprograms follows:

SUMMARY OF ESTIMATES BY SUBPROGRAM

Page No.	Subprogram	Actual FY 1975	Estimate FY 1976	Estimate Transition Quarter	Estimate FY 1977
CR/U-2	1. Industry Conservation	$ 0	$ 2000	$ 500	$ 9260
CR/U-24	2. Buildings Conservation	0	8170	1750	18410
CR/U-47	3. Transportation Energy Conservation	8443	10000	2730	20190
CR/U-60	4. Improved Conversion Efficiency	529	6870	2000	4300
	Total End Use Conservation and Technologies to Improve Efficiency	$ 8972	$ 27040	$ 6930	$ 52160

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
CONSERVATION RESEARCH AND DEVELOPMENT
END USE CONSERVATION AND TECHNOLOGIES TO IMPROVE EFFICIENCY: OPERATING COSTS- continued

Justification of Subprograms

1. Industry Conservation.....$ 9,260

The industry/agriculture sector consumes 42% of the energy used annually in the U.S. and offers a prime target for conservation. The goals for the savings resulting from the industry/agriculture subprogram are presented in the following table:

Total Potential Savings (substitutions) Resulting from the Industry Conservation Subprogam.

	(Thousands BPDE)				
	1977	1978	1979	1980	1985
Category					
A. Unit Operations and Equipment Efficiency	<.01	.03	.03	52-85	1700-2500
B. Process Analysis and Modifications.....	<.01	<.01	<.01	5-10	85-175
C. Alternative Energy Fuels, Materials and Processes*.....	0	0	.5	1-2	5-10
D. Agriculture and Food Industries.....	<.01	<.01	.2	2-3	10-15
E. Industrial Information, Technology Transfer and Analysis	Not applicable				
Estimated Aggregate Energy Savings.....	<.01	.03	.7	60-100	1800-2700

* This category is devoted to substituting other fuels for oil and gas (up to 1 million BPDE by 1985) consequently does not show large energy savings.

The Industry Conservation subprogram was initiated in FY 1976,thus an overview of the program in this introductory section is presented to provide insight into the subprogram framework.

- To complement industry's activities to develop competitive technologies to reduce industrial and agricultural energy consumption.
- To accelerate industrial initiatives and promote acceptance of technology alien to an industry to achieve meaningful energy savings.
- To establish and maintain national technical leadership in the development and implementation of economically viable techniques for improving the efficiency of industrial processes with minimum socio-economic and/or environmental impacts.

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
CONSERVATION RESEARCH AND DEVELOPMENT
END USE CONSERVATION AND TECHNOLOGIES TO IMPROVE EFFICIENCY: OPERATING COSTS- continued

The industrial energy conservation program will be conducted with great selectivity to assure that the Federal role is properly and judiciously focused. In the face of increasing energy costs and decreasing energy supply, industry can be expected to take some steps entirely on its own without Federal incentive. It is not the intent of this program to duplicate or reduce industry's responsibility or effort in this regard, but rather to accelerate and augment that effort to enable meaningful energy savings to be achieved.

In evaluating the role that ERDA should play in the RD&D applicable to industrial conservation, consider the qualitative assessment shown below.

RISK[1/]	COST[2/]	BENEFIT[3/]
High (50-75%)	High (120-150)	High (< 1yr)
Intermediate (10-15%)	Intermediate (.05-.20)	Intermediate (1-3 yrs)
Low (0-10%)	Low (0-.05)	Low (> 3yrs)

Industry will normally invest (high variability from industry to industry) in those RD&D activities which have a low probability of failure; consume a reasonable portion of their product sales (less than 5% of product sales distributed over all R&D programs); and have intermediate to high return on investment (ignored in this qualitative assessment is the return on capital which normally involves an operational savings of greater than 10% per year return on the production cost of the innovation.) ERDA's role is an investment in those programs of higher risk and potentially of high or intermediate benefit. RD&D cost is less important but the projected cost of production units must still adhere to return on investment and return on capital criteria. Thus the emphasis of ERDA's efforts should be directed toward intermediate and high risk programs of intermediate or high potential benefit.

1. Risk involves the probability (percent) that investment in the RD&D will not prove to result in an economically viable technical innovation.

2. Cost includes the cost of the RD&D, (measured in $ investment/$ product).

3. Benefit is determined by the return on investment for the installation of the innovation (measured in years of payback).

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH DEVELOPMENT AND DEMONSTRATION PROGRAMS
CONSERVATION RESEARCH AND DEVELOPMENT
END USE CONSERVATION AND TECHNOLOGIES TO IMPROVE EFFICIENCY: OPERATING COSTS- continued

In addition to these considerations the following additional criteria help to define the Federal Role:

- o Conduct RD&D that industry normally would not pursure on its own;
- o Conduct RD&D that significantly accelerates energy conservative technology introduction;
- o Conduct RD&D on technologies which promise a significant savings in fragmented industries which have no research funds allocated to such effort;
- o Conduct RD&D on unit operations capable of retrofit into existing industrial processes;
- o Conduct RD&D technologies which promise a significant return on investment (payoff in 3-10 years in energy savings), but which further represent a significant departure from standard industrial practice;
- o Apply foreign energy conservation technologies to the industrial sector to maximum extent.

In the execution of the industrial conservation program a two pronged attack is contemplated:

1. Evaluation of Unit Operations: In order to categorize the processes within industry, the engineering community has divided these processes into basic functions called "Unit Operation," (e.g. crushing and grinding, heat exchange, distillation, etc.) This categorization serves to integrate processes applicable to all industry and hence serves as a logical starting point for the Industry Conservation program. These unit operations are used to establish operational capabilities of existing unit operations, opportunities for process modifications which would improve efficiency, and the identification of basic R&D required to upgrade the efficiency of unit operations. These unit operations are applicable to a broad spectrum of industrial activities and their judicious application to selected targets can significantly improve efficiency in a number of process streams. The opportunity for fuel substitution within selected unit operations is investigated. These efforts, therefore, serve to integrate the whole Industry Conservation program.

2. Evaluation of selected industrial processes to determine targets of opportunity for energy conservation. Obviously, the ERDA effort cannot hope to define the energy and material balance of all industrial processes, thus it has concentrated on the most energy intensive industries. These include: primary metals (steel, aluminum, copper); petroleum refining, petrochemical, cement, glass, pulp and paper, and food processing. These industries in aggregate consume over 70% of all energy in the industrial sector. Detailed material, energy, entropy and enthalpy balances for each process step are required. However, much of these data are already available through the work of other agencies. Thus our program will be directed towards firmly establishing data only in those areas where significant disparity in the available data exists. From these analyses the industrial targets of opportunity for conservation will be determined since the areas of primary energy loss are established.

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(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
CONSERVATION RESEARCH AND DEVELOPMENT
END USE CONSERVATION AND TECHNOLOGIES TO IMPROVE EFFICIENCY: OPERATING COSTS- continued

The most promising improved unit operations are then applied to the industrial areas in which significant energy is wasted and the technology is demonstrated in laboratory, pilot or full scale demonstrations. Each potential demonstration program, however, must further show economic viability within environmental regulations and have minimum socio-economic impact.

The demonstrated technology must then be disseminated to and adopted by the applicable industry. Thus the technology transfer problem is also emphasized in the Industry Conservation subprogram.

The Industry Conservation subprogram was initiated in FY 1976. A significant portion of the FY 1976 effort was devoted to defining and identifying the industrial energy conservation opportunities and the Federal role in reducing the energy consumed by the industrial sector. The Industry Conservation subprogram is divided into five categories. Each is discussed in detail in the subsequent sections of this budget, but an overview of the projects being pursued in each category is provided here to highlight the program organization and accomplishments made during FY 1976:

- Unit Operations and Equipment Efficiency

  - A workshop on unit operations was conducted in which industry specialists analyzed, critiqued and supplemented the ERDA program.
  - A study was completed on industrial evaporators and guidelines prepared for their improved design and operation for minimum energy consumption with emphasis on economic viability.
  - An analysis of in-plant power generation was completed and the opportunities for cogeneration of electrical and thermal energy defined.
  - A detailed analytical and experimental data collection project defining the energy conservation opportunities in distillation was initiated.
  - An experimental project on improved catalytic combustion was initiated.
  - An experimental project on fuel/air ratio control in furnaces was initiated.
  - A high temperature (1300 - 3000°F) recuperator project was initiated.
  - A high temperature (400°F) heat pump project was initiated.
  - Although it is recognized the computerized control of industrial processes offers significant potential for energy conservation, no programs have been initiated to date in this area.

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
CONSERVATION RESEARCH AND DEVELOPMENT
END USE CONSERVATION AND TECHNOLOGIES TO IMPROVE EFFICIENCY: OPERATING COSTS - continued

o Process Analysis and Modifications

(This category is directed toward energy conservation in the energy intensive industries. Thus the accomplishments of 1976 are listed by industry.)

Primary Metals:

+ A detailed study of the energy conservation opportunities in the steel industry was completed.

+ A project to develop a new type of steel reheat furnace was initiated.

+ A project to modify the cupola furnace used in the grey iron industry was initiated.

+ A case study providing a detailed energy audit in a large metal forge was initiated.

+ A project was initiated to modify the Hall Process electric smelter for aluminum production.

+ A project was initiated to modify the Bayer process for Alumina (aluminum oxide).

+ A third aluminum project involving the use of pulverized coal in aluminum remelt is being conducted under the alternative fuels category.

Petrochemicals

+ Case studies providing detailed energy audits in several major petrochemical plants were initiated.

Petroleum Refinery

+ A case study providing a detailed energy audit in an integrated refinery was initiated.

Cement

+ A project was initiated to develop testing procedures and ASTM standards on blended cements.

+ An experimental project was initiated to investigate steam catalysis as a means of reducing energy consumption in the production of lime and cement.

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
CONSERVATION RESEARCH AND DEVELOPMENT
END USE CONSERVATION AND TECHNOLOGIES TO IMPROVE EFFICIENCY: OPERATING COSTS- continued

Pulp and Paper

+ A project was initiated to develop an optical imaging technique for paper fibers.

Glass - (no major programs initiated as yet.)

Other

+ An analysis of energy conservative paint curing systems was completed and an experimental program defined.

o Alternative Energy Fuels, Materials, and Processes

+ A comparative analysis of the relative energy consumption of electric versus pneumatic hand tools was initiated.

+ An experimental project was started to evaluate the potential of using pulverized coal in aluminum remelt furnaces.

o Agriculture and Food Industries

Fertilizer Production

+ An experimental program was initiated to increase the energy efficiency in the production of granular fertilizer.

Meat Production

+ A demonstration project of an energy conservative meat processing technique was started.

Textiles

+ An experimental program to reduce the energy consumption in textile finishing was started.

Forage and Food Crops

+ A pilot plant of a microwave/vacuum grain drying was designed and the follow-on experimental program initiated.

+ A project to demonstrate vacuum blanching of vegetables was initiated.

Forestry - (No programs initiated.)

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
CONSERVATION RESEARCH AND DEVELOPMENT
END USE CONSERVATION AND TECHNOLOGIES TO IMPROVE EFFICIENCY: OPERATING COSTS- continued

o Industrial Information, Technology Transfer and Analysis

+ The approach to be used for assuring industrial/agricultural adoption of energy conservative technologies was defined.

Since the Industry/Agriculture Conservaton category is a new government area of concern, most of the above projects will not reach significant milestones during FY 1976. Likewise FY 1977 will provide limited significant milestones with major results starting in FY 1978. Some milestones however, that can be expected in FY 1977 are:

+ Completion of the cupola furnace experimental work.

+ Demonstration of air/fuel ratio control equipment.

+ Demonstration of improved vacuum/microwave grain drying.

+ Demonstration of improved processes of vacuum blanching of vegetables.

+ Completion of energy audits in refineries, petrochemicals and metal forges.

+ Completion of all study and analysis projects.

Greater detail will be found in the following category discussions.

Category	Actual FY 1975	Estimate FY 1976	Estimate Transition Quarter	Estimate FY 1977
A. Unit Operations and Equipment Efficiency	$ 0	$ 500	$ 125	$ 1800
B. Process Analysis and Modifications	0	650	160	1400
C. Alternative Energy Fuels, Materials and Processes	0	300	75	1760
D. Agriculture and Food Industries	0	500	125	2250
E. Industrial Information, Technology Transfer and Analysis	0	50	15	2050
Total Industry Conservation Subprogram	$ 0	$ 2000	$ 500	$ 9260

A. Unit Operations and Equipment Efficiency.....$ 1,800

This category is directed at detailed examination of unit operations and associated equipment and technologies which may have broad application to a spectrum of industrial processes.

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
CONSERVATION RESEARCH AND DEVELOPMENT
END USE CONSERVATION AND TECHNOLOGIES TO IMPROVE EFFICIENCY: OPERATING COSTS- continued

The FY 1976 program established the operational limitations of unit operations in their current state of development, identified specific unit operations as targets for further investigation and identified several promising applications to selected industrial processes. The FY 1977 program will continue some of the projects initiated in FY 1976 and will initiate selected new activities deriving from the results of FY 1976 projects.

Unit operations, being the fundamental constituents of industrial processes, represent an integrating influence across the industrial energy conservation programs. The Unit Operations category is directed at a total potential energy savings of over 60% of the total industrial conservation subprogram when considering the total scope of applications. A summary of the potential energy savings anticipated to result from this effort is shown in the following table.

Summary of Potential Energy Savings for the Unit Operations and Equipment Efficiency Category

(Thousands BPOE)

	1977	1978	1979	1980	1985
1. First Impact 1977					
a. Evaporator Optimization	.005	.01	.01	1-3	2-5
2. First Impact 1978					
a. Distillation Optimization	0	.01	.01	2-5	5-10
b. Cupola Furnace Modification	0	.01	.01	2-4	5-13
3. First Impact beyond 1978					
a. Catalytic Combustion	0	0	0	0	200-250
b. Improved Boiler A/F ratio	0	0	0	6-10	200-250
c. High Temperature Recuperators	0	0	0	41-63	688-1170
d. High Temperature Heat Pump	0	0	0	0	600-800
Estimated Aggregate Energy Savings	.005	.03	.03	52-83	1700-2500

There are several energy consuming unit operations common to most industries that can be delineated at this time.

These unit operations and the technologies that are potentially significant are summarized below:

o Fuel Combustion (Not a classical unit operation but a process common to many operations):

The average industrial furnace achieves an efficiency of converting the energy content of a fuel to steam of about 70%. Direct heating (as used in glass and cement kilns, soaking pits, reheat furnaces, remelt furnaces, etc.) processes are much less efficient, sometimes as low as 20%. The following projects are directed towards increasing combustion efficiencies:

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(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
CONSERVATION RESEARCH AND DEVELOPMENT
END USE CONSERVATION AND TECHNOLOGIES TO IMPROVE EFFICIENCY: OPERATING COSTS- continued

oo Catalytic Combustion Industrial Boilers

This project is the analysis, design, development and demonstration of industrial boilers utilizing catalytic combustion of natural gas. The efficiency of steam converters is currently in the order of 65% to 75% and the expected efficiency of a catalytic combustion boiler would be 90% or more. If steam generators were all 90% efficient, a savings of 3.5×10^{15} Btu would be realized annually. During FY 1976 a Program Opportunity Notice (PON) was issued and two contracts were initiated for this project and the conceptual analyses were started. During FY 1977, development will proceed with one of the designs selected in late FY 1976 for a full scale demonstration in an industrial boiler in FY 1978. The program will continue with laboratory testing of concepts and boiler design.

oo Demonstration of a Novel Fuel Conservation System on Boiler Equipment

This project is a full scale demonstration of a newly developed multi-sensor instrument system for excess air control on industrial boilers. The system features a spectral flame analyzer at each burner with feedback to individual burner controls. This was a project started in late FY 1976 which will conclude in FY 1977 with a demonstration on a small number 6 oil fired boiler of the type used in paper industry. Boiler operation using a low level of excess oxygen can cut fuel consumption up to 7% on certain units with the actual amount of fuel savings dependent on the efficiency of the boiler and its utilizaton. In addition to the fuel savings, operation at low excess air levels will reduce emissions of Nitrogen Oxides and Sulphur Trioxides.

During FY 1976 the first 3 phases of this project (program initiation, construction of fuel control system and design of the test program) were completed. The FY 1977 phase will be design of a test program, demonstration of the system and preparation of reports.

o Heat Exchange

One of the major heat exchange opportunities is the recovery of flue energy. All direct heating furnaces discharge thermal energy up the flue at temperatures ranging between 1200°F and 3000°F. Indirect heating systems have stack discharge temperatures ranging between 400°F and 800°F. Both systems represent significant energy loss since hot combustion products typically contain from 40% to 90% of the energy initially put into the process. Projects directed towards recovery of heat losses are:

oo High Temperature Recuperator System

A recuperator is a device which extracts energy from a waste stream and reuses that energy. In this case the waste streams consist of intermediate, high and ultra high temperature stacks with exhaust gases ranging from 1200 to 3000°F. These include a growing number of small plants (solvent plants, finishing concerns, etc.) which will require installations of gas fired incinerators in order to comply with EPA emission standards.

The objective of this project is the development and demonstration of high efficiency recuperator systems to capture the thermal energy currently being exhausted to the atmosphere from the flues and incinerators of industry. The recuperator systems developments are targeted at the ambient environments of the glass, cement, aluminum and steel remelt operations; soaking pits and the finishing industry. There are estimated to be over 100,000 applications in the United States and savings from this effort are estimated as 2,140,000,000 BPDE by 2000. This is one of the highest priority projects in the Division of Buildings and Industry due to the very early potential energy savings and application to a wide range of fragmented industries.

During FY 1976, a Program Opportunity Notice (PON) was issued and two contracts were awarded in late FY 1976 after a competitive selection. During FY 1977 the two contractors will complete the industrial application analyses, design concept selection and design the recuperator systems for subsequent demonstration.

Many steam processes discharge hot water at temperatures between 100 and 200°F. These effluent streams represent an extremely large energy loss (though of low quality). A specific program to recover such loss is:

oo High Temperature Heat Pump

The heat pump applied to industrial processes is an extremely attractive device. In simplified terms heat pumps are devices which take energy from a source and pump it to another source in concentrated (higher heat level) form. The performance of a heat pump is measured by its coefficient of performance (COP) which can have a value greater than one (1.0). To put this into perspective, corresponding heater efficiencies as COP's would be: gas heaters (less than .69); oil fired heaters (less than .55) and electric heaters (.30).

Industrial applications of heat pumps take discharge hot water at 100 to 200°F and raise it to inlet steam at 40 to 600°F at a COP of between 2.5 and 3.5. Since the temperature differential in any given industrial process is relatively constant, the heat pump in such application would operate at maximum efficiency constantly.

Although heat pumps have been considered for industrial applications, there has been no known integrated development effort in the temperature range of primary interest. Such is the objective of this project.

The project was initiated in March 1976 with the issuance of a Program Opportunity Notice (PON) followed by awards of two contracts during FY 1976. The effort consisted of applications analyses to study in detail the available working fluids, heat exchangers, compressors and bearings. During FY 1977, a prototype will be designed and fabricated combining optimum available components. This unit will be installed in an industrial environment and tested in FY 1978 with the evaluation of results and initial implementation phases also underway during FY 1978.

The high priority assigned to this project is based on the very large potential energy savings (a total market potential of 2.3 million BPDE) and wide divergence of application within industry.

o Distillation

This unit operation is the principal separation and purification technique for compounds in the refinery and chemical industries and accounts for a total consumption of an estimated .7 million BPDE. Retrofit technologies exist for energy conservation in conventional stills including heat cascading, vapor recompression, minimizing heat losses, automated impurity control and retraying. A project directed to energy conservation from this unit operation is:

oo Study of Energy Conservation in Distillation

This project is an assessment of energy conservation techniques for distillation and their application to a sufficient number of specific fractionations in oil and chemical industries to enable generation of improved guidelines for energy conservation in distillation.

Although the techiques by which energy can be conserved in distillation have been known for some time, there are as yet insufficient guidelines to aid in deciding where many of these are apt to prove economic. Changes in the cost of energy and development of new technology warranted a more thorough study of this subject than had previously been conducted. This project was started in FY 1976 to review energy conservation techniques for distillation and their applicability to a sufficient number of specific fractionations in the oil and chemical industries to enable better guidelines to be generated. Particular emphasis was placed on those options, such as retraying, heat cascading, instrumentation and control which offered the possibility of substantial reductions in reflux. At the same time, other benefits of improved design, such as decreased product degradation, and increased column throughout (debottlenecking) were assessed as well as the industrial demand for such improvements. A number of oil and chemical companies are being contacted and visited and appropriate distillation systems examined in detail.

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
CONSERVATION RESEARCH AND DEVELOPMENT
END USE CONSERVATION AND TECHNOLOGIES TO IMPROVE EFFICIENCY: OPERATING COSTS- continued

During late FY 1976, the project was initiated and some of the initial analyses were completed and some base data obtained. During FY 1977, methods will be developed to determine and categorize the energy usage in existing fractionation columns and to estimate the energy which can be conserved by retrofit and the cost of retrofit. Specific retrofit options which will be considered include retraying, insulation, instrumentation and control, heat cascading, vapor recompression and heat pumps.

Procedures will be simplified through the use of charts and nomographs where possible. Guidelines will be developed to enable rapid evaluation of which, if any, retrofit is likely to be economic with a given distillation system and processing equipment. Correlations and procedures developed will be tested through visits and discussions with oil and chemical companies, architect-engineer-construction firms, and equipment suppliers. Specific field distillation installations which appear to be candidates for retrofit will be evaluated by the methods developed and these results will be compared with more detailed calculations for these specific cases.

B. Process Analysis and Modifications.....$ 1400

This category is directed at detailed examination of energy balances and materials flow in high energy consumption industries, and examining techniques for optimizing such processes for minimum energy consumption. FY 1976 funds identified those processes within such industries which offer the most promising opportunities for verifying technical feasibility. One or more of these project validation efforts will be initiated in FY 1977 via solicitation of proposals from industrial teams and will involve detailed analysis, design, engineering and test. A summary of the potential energy savings anticipated to result from this effort is shown in the following table. The following examples though not intended to preempt the results of FY 1976 feasibility investigations are provided to illustrate the type of program anticipated:

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
CONSERVATION RESEARCH AND DEVELOPMENT
END USE CONSERVATION AND TECHNOLOGIES TO IMPROVE EFFICIENCY: OPERATING COSTS- continued

Summary of Potential Energy Savings for the Process Analysis and Modification Category
(Thousands BPDE)

	1977	1978	1979	1980	1985
1. First Impact 1977					
None	0	0	0	0	0
2. First Impact 1978					
None	0	0	0	0	0
3. First Impact beyond 1978					
a. Energy Optimized Industrial Park.....	0	0	0	.01	1-2
b. Oxygen Blow Blast Furnace.....	0	0	0	0-1	10-20
c. Blended Cements.....	0	0	0	1-2	20-30
d. Monobeam Furnace.....	0	0	0	0	10-30
e. Integrated Steel Plant.....	0	0	0	1-2	4-5
f. Inert Gas Paint Curing.....	0	.01	.01	1-2	10-35
g. Steam Catalysis in Lime/Cement.....	0	0	0	1-2	20-40
h. Bayer Process Modification.....	0	0	0	1-2	5-7
i. Hall Process Modification.....	0	0	0	0	5-6
Estimated Aggregate Energy Savings ..	0	.01	.01	5-10	85-175

o Energy Optimized Industrial Park

This project includes the study, analysis, design, construction and demonstration of an industrial park wherein integrated control and utilization of the industrial energy will be implemented as well as incorporation of available energy conservative technologies. This industrial park can take any of several forms and sizes but would most probably be located at a site with a number of existing industries where selected facilities can be added. The waste energy of one industry can become the process energy of another if such industries are in correct proximity. In FY 1976 activities consisted of developing specifications for submission of a Program Opportunity Notice. In FY 1977 a Program Opportunity Notice will be issued to perform Phase I consisting of program definition, site selection, industry selection and detailed design. Subsequent phases will involve a cost shared park development.

o Energy Conservation in Blended Cements

The program on blended cements began in FY 1976 with studies to evaluate the effects of replacement materials on the alkali aggregate reaction, sulfate resistance, strength development and durability of blended cements. Work will continue

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
CONSERVATION RESEARCH AND DEVELOPMENT
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in FY 1977 to develop performance tests and criteria as a basis for voluntary consensus standards. Portland cement manufacture requires about 1% of the energy consumed in the U.S. Successful development of blended cements will lead to a 20% reduction of energy used in the cement industry. Because of the high energy requirements for the manufacture of portland cement, its partial replacement with waste materials will result in substantial energy savings.. In this project the chemistry, mechanical properties and durability of blended cements consisting of portland cement combined with either fly ash or blast furnace slag, are being investigated. Applicability of existing test methods to blended cements will be assessed and where necessary new performance tests and criteria will be developed and submitted for consideration by ASTM.

o Aluminum Electrolytic Smelter (Hall Process) Modification

Research was begun in FY 1976, and is partially complete through laboratory bench models, which supports the belief that existing aluminum electrolytic cells or "pots" can be retrofit with titanium di boride cathodes. This retrofit permits a 65% reduction, approximately, in the distance setting between the anode and the cathode. This modification reduces the amount of DC current required by about 25%.

The average industry requirement is 8 Kwh per pound of aluminum produced. This approximates .8 quad (1 quad = 500,000 BPDE) when one considers the average losses required to convert from the fuels of combustion to generated electric AC current,as well as rectifier conversion losses.

Therefore, the project,if successful, has the potential of saving .2 quad.

Further research in FY 1977 is required to complete the test evaluation in a commercial smelter as well as further efforts to reduce the cost of titanium di boride tiles in order to bring down the cost of retrofit and make it economically attractive.

o Oxygen Blow Blast Furnace

This is a new project to be initiated in FY 1977. This project proposes replacing the air blast in the blast furnace with an oxygen blast to improve combustion efficiencies. Successful development of this process concept will lead to a two-fold increase in capacity of existing blast furnaces. In addition, the top gas from the furnace becomes a concentrated CO stream with a high energy level that can be reclaimed for other industrial processes. Currently production of steel requires 7.9×10^6 Btu/ton. The oxygen blow blast furnace will reduce energy required to about 5.1×10^6 Btu/ton of steel for a 35% reduction in net energy consumption.

o Monobeam Walking Furnace

Studies of energy consumption indicate that 5% of total energy consumption in the United States is used in the making of steel. One of the most energy-intensive steel making operations is the continuous reheating furnace. A new concept of reheating furnace - the monobeam walking furnace - has advantages not achievable in conventional furnaces including lower fuel consumption, lower capital costs, lower operating costs and retrofit capability.

The project relates to the transport of steel slabs, blooms, and billets in reheat furnaces or "walking" furnaces. The pusher furnace, in which the entering slab pushes the slabs already in the furnace, seriously marks the piece being treated and hence increases scrappage. A walking furnace which uses a series of vertical moving legs to move the piece along was subsequently developed. Although this system reduced scrappage it is considerably more consumptive of energy. The Monobeam walking furnace is a new concept using horizontal beams which move the slab by sequential movement of parallel moving beams, and should solve both the fuel consumption and scrappage problems. It is estimated that 0.1 MBPDE could be saved by such a concept and that it is capable of retrofit in existing pusher furnaces.

A contract was approved in December, 1975 initiating a 15 month effort to carry the monobeam furnace concept from its current preliminary development phase through the proof of concept phase. The application analysis and engineering was completed during FY 1976 (by June 1976). The fabrication and delivery to the installation and start of demonstration is planned for October 1976 with completion of test in December 1976. Data evaluation and final report preparation will conclude the project in March 1977.

o Conservation in Lime and Cement Industry by Steam Calcination

This is a multi-phase experimental and demonstration program directed towards development of process for reducing the net energy requirement in the production of lime and cement by an estimated 25% by employing steam catalysis (has been confirmed in laboratory tests). Steam catalysis also has the potential of producing a more chemically reactive lime and the fuel savings derived from a 200 C reduction in the calcination temperature.

The project was initiated in the latter half of FY 1976 with Phase I - the laboratory development phase. In FY 1976 the rate of calcination of lime was measured under controlled conditions,and steam concentration and size effect was studied. During FY 1976 the lab program will be completed (with the studies of the reactivities of steam calcined lime, the effect of steam in lowering formation temperature of formation of the proper ratios of Calcium oxide to silicate at 2:1 and 3:1 and the cementitious properties of the 2:1 ratio) and initial planning will be done for the demonstrations in subsequent years.

o Inert Gas Paint Curing System

A new paint curing process has been developed which combines the combustion system with the incineration of the vapors with a substantial reduction (80%) of net fuel consumption. The equipment, applicable to both coil coating and spray finishing systems, is available although not in operation. It is expensive (ranging from $300K to $500K installed), therefore, it poses high risk to industry. This project consists of planning and installing equipment in one line of a major coil coater and running a six-month demonstration test.

The preliminary design and equipment selection studies were completed in FY 1976. The FY 1977 activities will include equipment procurement, installation and a full scale demonstration test.

C. Alternative Energy Fuels, Materials and Processes.....$ 1760

Studies conducted in FY 1976 led to decisions to evaluate the technical feasibility of the use of coal or waste matter (either directly or as derived substances) as fuels, and to investigate their use as material feed-stocks in industrial processes, to evaluate the substitution of nuclear heat for oil and gas combustion in such processes, to investigate means for waste reduction and reuse or recycling of waste materials, and to explore the substitution of biological processes for more energy intensive chemical processes. In FY 1977 detailed engineering analyses and experimental programs will be initiated on fuel/material/process substitutions. A summary of the potential energy savings anticipated to result from this effort is shown in the following table:

Summary of Potential Energy Savings* for the Alternative Energy Fuels, Materials and Processes Category
(Thousands BPDE)

	1977	1978	1979	1980	1985
1. First Impact 1977					
None	0	0	0	0	0
2. First Impact 1978					
a. Powered Hand Tools	0	.01	.1	.5-1	1-4
3. First Impact beyond 1978					
a. Pulverized Coal in Aluminum Remelt	0	0	.4	.5-1	4-6
Estimated Aggregate Energy Savings	0	.01	.5	1.0-2	5-10

* Note that the major emphasis in this subprogram is fuel substitution (replacement of oil and gas) not energy savings.

o Comparative Study of the Energy Characteristics of Powered Handtools

This is a project of analysis and testing of industrial handtools to determine the energy savings of electric tools as compared to pneumatically powered tools. There are an estimated ten million powered handtools in the United States industry and the large majority are pneumatic. Pneumatic tools are very inefficient and an estimated 36×10^{12} Btu's could be saved annually from total conversion of industry from pneumatics. The relative energy savings of electric tools over pneumatic is little known to the highly fragmented and diverse users of same. Also, until the advent of high energy costs, there was little economic concern in this regard by industry. The objective of this program is the analysis and test of powered tools, to obtain specific data from industrial applications and issue a comprehensive report that can be used as a basis for industry workshops to familiarize industry and achieve the energy savings.

This is a new project that will be initiated and completed in FY 1977.

o Pulverized Coal in Aluminum Remelt Furnaces

The project began in the last quarter of FY 1976 and will continue in FY 1977. The on-going work evaluates the use of pulverized coal in an aluminum metallurgical furnace. The objective of this test will be to determine the ability of the U.S. aluminum industry to successfully use coal in furnaces of this type. The program is designed to permit the transition from natural gas or fuel oil to coal in the minimum elasped time and, if successful, would provide the potential for conversion of two percent of the aluminum industry's total energy requirement. ERDA would finance approximately $.9 million of the total estimated cost of $1.56 million.

This project meets the ERDA objectives of having a large potential for conversion from oil and gas to coal. Although this project holds significant potential in the industry's long-range fuel conversion and energy conservation plan, current financial commitments for other such projects will not allow industry to implement this project on its own. Without ERDA assistance, the project will not proceed.

D. Agriculture and Food Industries.....$ 2250

The Agriculture and Food Processing Industry consumes about 12% of the Nation's energy and ranks fourth in energy consumption of all U.S. industries. It is estimated that a diligent conservation RD&D will lead to an annual savings of 13 thousand BPDE by 1985. A summary of the projected energy savings anticipated to result from this effort is shown in the following table. In addition to the energy conservation potential a strong RD&D program in energy conservation can be justified because of the favorable impact it will have on maintaining a timely and dependable food supply. In order to improve the energy efficiency of planting, tilling and harvesting and processing, an analysis of the structure of the agricultural industry and associated factors is being conducted. Research on factors affecting agricultural productivity

has been initiated, and studies of energy conservation opportunities in the food processing industry are being sponsored in FY 1976. The increase in the FY 1977 request is primarily for agricultural research programs which will be expanded and proposals for development and proof of concept programs in agricultural and food processing technology will be solicited.

Summary of Potential Energy Savings for the Agriculture and Food Industries Category
(Thousands BPDE)

	1977	1978	1979	1980	1985
1. First Impact 1977					
None	0	0	0	0	0
2. First Impact 1978					
a. Vacuum Blanching	0	<.01	.01	.02	.05
3. First Impact beyond 1978					
a. Textile Process Modification.....	0	0	0	.01	0-1
b. Fertilizer Process Modification.....	0	0	0	.1	2-3
c. Meat Process Modification.....	0	0	0	.1	2-3
d. Irrigation Pumping.....	0	0	0	.5	2-3
e. Fruit Dehydrators.....	0	0	0	0	1-2
f. Microwave/Vacuum Dryers.....	0	0	.2	2	3-3
Estimated Aggregate Energy Savings...	0	.01	.2	2-3	10-15

Examples of agricultural research programs include:

o Textile Process Modificaton

This research project began in FY 1976 directed to definition, design, and demonstration of process modifications to increase energy efficiencies of textile wet processes and thereby reduce energy requirements of the industry. Thermal processes employed in the industry to clean, dye and finish textile products (commonly termed wet processes) are heated by fuel oil and natural gas and annually consume approximately 30-40 million barrels of oil equivalent energy. These processes are generally energy inefficient with efficiencies of less than 20% typically encountered in commercial practice. Preliminary research has indicated that these efficiencies may be improved significantly by modifying existing processing techniques and equipment. Consequently this proposed project is directed to development of modifications to existing processes and equipment rather than to development of completely new methods and equipment. This method of approach offers the benefits of potential rapid utilization of results and lower capital investment requirements by the industry.

(Dollars in thousands, except whole dollars in narrative material)

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The proposed work is being conducted in three phases. Phase I begun in FY 1976 will develop an accurate profile of energy utilization by process in the industry. Phase II begins in FY 1977 and will consist of design and pilot plant demonstration of selected energy intensive wet processes. Phase III will consist of implementation and industrial participation through full scale in-plant demonstration of energy conserving process modifications.

o New Fertilizer Process

Ten million tons of granular mixed fertilizer are produced each year in the United States. About two million Btu of energy is used in producing each ton of granular fertilizer. The time availability of energy for production of these fertilizers is of paramount importance in ensuring a dependable U.S. food supply. This research proposes developing formulations to replace natural gas with heat energy from the formulation chemical reactions. Approximately 160 ammoniation granulation plants will be affected throughout the U.S. It is estimated that energy use in these plants will be reduced 50-60% by successful completion of this project. The program began in FY 1976 with formula development and will continue in FY 1977 leading to pilot plant demonstration.

o Meat Processing Modification

Present commercial meat processing methods require vast amounts of energy (5.8×10^{12} Btu/yr) to process and distribute the volume of beef. As a result, the profit margin for processing beef in existing inefficient facilities has reached a critical level. These changes added with pending innovations (centralized cutting and frozen retail meat), suggest that it would be desirable to make a systematic evaluation of alternate processing methods and their relationships to energy requirements. A 35% reduction in energy in this industry is possible from successful completion of the proposed RD&D.

On the rail boning (hanging on a rail immediately after slaughter) of the beef carcass will provide efficiencies in fossil energy. Savings in energy consumption, initial facilities cost and capacity requirements, all appear to favor hot boning of the beef carcass. Other potential efficiencies, such as extracting protein from the bone, and fat for human food, would be advantageous along with the reduced cost of transporting only edible products. A boneless, closely trimmed beef product as provided by warm boning would lend itself well to portion control and could provide savings at the retail meat counter. However, before on the rail boning of the warm carcass can be termed commercially acceptable, further analysis of yield, product quality, and shelf life must be achieved.

This research has as its main purpose the development of alternative procedures for processing meat which will effect significant savings of energy used by the meat industry. The work involves two primary areas of concern. First, the establishment of alternative meat processing methods, namely, hot boning of bovine and the evaluation of such changes upon the meat itself began in FY 1976. Second, FY 1977 plans are to design and evaluate alternative meat processing methodologies from an engineering viewpoint that tie directly to hot meat boning and which makes large energy savings feasible.

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
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- Microwave/Vacuum Grain Drying

Modern large scale farming produces large crops which are harvested at high rates, usually while still relatively wet. Since the spoilage time of these wet crops is relatively short, high capacity gas or oil fired hot air dryers are used to reduce the moisture content to a level suitable for storage. Considering the magnitude of the annual harvest, it can easily be seen that an improvement in dryer efficiency would result in a considerable savings of energy.

Current U.S. Department of Agriculture estimates place the 1975 corn crop yield at 5.85 billion bushels. Conventional drying methods requiring some 17,500 Btu/bushel will consume 102.8 trillion Btu equivalent to one billion gallons of Liquid Propane Gas (LPG). The microwave vacuum system will require about 7,500 Btu per bushel consuming 43.9 trillion Btu. This system, therefore,offers the potential to save the equivalent of more than 550 million gallons of LPG in a single season for corn alone. When all crops are included the savings would be about 0.2 MBPDE.

Initial experiments, utilizing microwave and vacuum for drying, involved placing a vacuum vessel inside a microwave oven. The results show corn dried in this way has good retention of texture and shape. Thus to obtain more meaningful results, the experimental application was scaled up. A modified and redesigned microwave oven was installed in an existing vacuum chamber and sample grains were dried while monitoring the electrical power input, moisture removal rates, and crop temperatures. Demonstration dryer design for drying corn, peanuts and grain began in FY 1976 with construction and start up to be completed in FY 1977.

- Vacuum Blanching

The preliminary heat treatment given vegetables prior to preservation in metal, glass, or plastic containers is called blanching. The blanching process, which is essential for the retention of the flavor and nutritional quality of preserved vegetables, is an energy intensive operation.

Blanching systems in present day canning technology employ hot water or steam as the heat transfer media. Millions of gallons of blanching wastewater produced in commercial vegetable canning must be treated to comply with pollution abatement regulations. The energy expended in these waste reduction operations is substantial and represents a significant energy conservation potential.

Vegetable blanching for canning is done primarily to remove oxygen, the presence of which could cause quality deterioration of the packaged food and internal corrosion of metal containers.

(Dollars in thousands, except whole dollars in narrative material)

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The ultimate for energy conserving blanching of vegetables would be a waterless system to remove tissue gasses. One attractive concept for waterless tissue gas removal is vacuum assisted tissue gas exchange. The use of vacuum to remove tissue gases is not a new concept. The use of vacuum closing of containers results from the necessity to remove oxygen from packing media and container headspace.

The proposed FY 1977 project will evaluate effects of vacuum blanching on quality attributes of canned vegetables. Following successful results of this project a follow-up contract will be proposed for in-plant demonstration of the vacuum blanching process.

E. Industrial Information, Technology Transfer and Analysis.....$ 2,050

The objective of this category is to promote the acceptance of new and existing means to improve the efficiency of energy usage. The most critical bottleneck in the proper utilization of new technology is the lack of properly evaluated technical information, placed in perspective with alternative technologies, and expertly communicated to the appropriate audience (e.g. government and industrial policy makers, the technical community applying the technology and the public).

There are various reasons for the need for Federal involvement in Technology Transfer. These include the fact that competitive forces in many cases are insufficient to cause adoption of energy conserving technologies as soon as they are available and Federal support will accelerate the onset of these technologies; commercialize the technology the Federal Government is developing through its research program.

Various barriers impede the adoption of energy conserving technologies. Technical obstacles include uncertainties in plant efficiency yield, reliability, availability and maintenance requirements under the projected range of different operating conditions. Economic factors include capital investment requirement, future availability and costs of the raw materials required by the technology, technology product costs, competitive product prices and market demand, interest rates and capital availability and labor costs.

Other obstacles include lack of information on available techniques, lack of information to assess costs and benefits, users aversion to risk, lack of capital, limited technical resources to assist in assessing and adopting energy saving techniques and user preference for lower first cost versus lower long range operating costs. While the Information and Technology Transfer Program cannot remove all of the above barriers, it can effectively provide the user the means necessary to make intelligent decisions.

Our overall strategy is to disseminate information on energy savings measures to energy consumers through a variety of channels. These include direct interface with industrial firms and trade associations, working with State or University out-reach programs, and by interfacing with other existing Federal information transfer programs, e.g., FEA, Department of Commerce, Department of Agriculture, NBS, and the Federal laboratories.

(Dollars in thousands, except whole dollars in narrative material)

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Essential characteristics of an effective information and technology transfer program involve:

a. High visibility to ensure participation;
b. Grass roots industrial input and contact with energy consumers and those influencing energy consumption;
c. Specific programs tailored to meet individual needs of each industrial segment;
d. Information assistance easy to accept, useful, and offered by people with credibility;
e. Substantive information.

Various media are being used to implement the program:

- o "How To" guidebooks on specific technologies and techniques
- o Technical manuals
- o Newsletters
- o Brochures
- o Hand-outs, demonstrations and exhibits
- o Training courses
- o Seminars and Workshops
- o Case Histories on successful applications
- o Energy Advisory Service

The target audiences for the technology and information transfer effort would be:

- o Major energy intensive industries
  - primary metals
  - petroleum refining
  - petrochemicals
  - cement
  - glass
  - pulp and paper
  - food processing
- o Users of unit operations
- o Agricultural industries
- o Small industries
- o Equipment manufacturers
- o Process designers

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
CONSERVATION RESEARCH AND DEVELOPMENT
END USE CONSERVATION AND TECHNOLOGIES TO IMPROVE EFFICIENCY: OPERATING COSTS- continued

- o Federal, state and local agencies
- o Financial institutions

A further purpose of this information program is to: identify logical targets for national energy conservation; outline the approaches by which those targets can be reached (with specific attention to the Federal role in research, development, demonstration and implementation); establish policy guidelines and program priorities within the Conservation RD&D activity.

Toward this end, the following data organization and analysis efforts are planned:

1. Organize currently available data into a self-consistent framework showing energy sources, modes of conservation and distribution and amounts consumed in each end use. This framework must be in sufficient detail so that the impact of specific technologies (e.g. home insulation) can be predicted.

2. Obtain a technical assessment of the potential for increased efficiency and/or reduced consumer requirements achievable by methods known today.

3. Obtain technical judgements regarding the potential for improving current technology through research and development.

4. Identify the practical modes for the deployment of existing or potentially improved technology. Special attention will be needed to identify the roadblocks to deployment and the feasible modes of Federal involvement to surmount them.

5. Establish the relative merits of the alternative modes of conservation in terms of costs and benefits to society and the potential for success.

The efforts described above will provide the tools needed to identify the target areas for conservation. They will be used to establish a "plan for energy conservation" and to set priorities in the ERDA activities in conservation consistent with this plan and with the Federal role in bringing it into being.

2. Buildings Conservation.....$ 18,410

Thirty-two (32) percent of all energy consumed in the United States is consumed by the buildings sector. Translated into physical terms that is equivalent to a consumption of almost 12,500,000 barrels per day equivalent of fuel oil. The goal of the Buildings Conservation subprogram is to significantly reduce those consumption figures without affecting the standard of living, that is to say, the ERDA program is directed at increased efficiency of energy utilization in the built environment as contrasted to a regulatory function of curtailment.

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
CONSERVATION RESEARCH AND DEVELOPMENT
END USE CONSERVATION AND TECHNOLOGIES TO IMPROVE EFFICIENCY: OPERATING COSTS - continued

Energy savings targets which can be realized without curtailment or further Federal regulation have been established for this subprogram and are shown in the following table according to category. Specific projects as part of the categories are described in those sections.

Total Potential Savings Resulting From the Buildings Conservation Subprogram
(Thousands BPDE)

Category	1977	1978	1979	1980	1985
A. Commercial Buildings	.3-1	5-12	35-55	100-135	170-230
B. Residential Buildings	<.1	5-20	40-70	130-170	225-350
C. Performance Standards	9-11	23-27	105-120	275-290	400-520
D. Community Systems	<.1	0-1	39-52	140-190	500-700
E. Urban Waste	-	0-1	1-3	3-10	50-100
R. Appliances	10-18	20-35	30-50	70-105	275-400
G. Technology	5-10	47-54	100-150	282-300	380-500
H. Dissemination and Transfer		Not applicable			
Estimated Aggregate Energy Savings	25-40	100-150	350-500	1000-1200	2000-2800

The Buildings Conservation subprogram is a new effort initially formulated in FY 1976. Based on the analyses and RD&D efforts initiated in FY 1976, a significant program has been developed and will be undertaken commencing in FY 1977. Due to the newness of this subprogram area, and furthermore due to the complex nature of the industry being addressed, the buildings industry, this document will attempt to clearly show the integrating function being accomplished by the ERDA management. An overview of the program is provided in this introductory section to provide the reader with insight into the subprogram framework.

The program is formulated around increasing energy utilization efficiency, providing for options to substitute energy forms such as coal for natural gas, and for providing technologies which decrease the need for energy to satisfy human needs. All activities undertaken are directed at providing these new technologies within a framework that is both economically and environmentally sound and which negates the need for curtailment.

Specifically, the efforts undertaken are to provide, to all segments of the building industry including consumers, options which, while significantly reducing the Nation's reliance on imported energy sources, will reduce the rate of escalation of operating costs.

For clarity, the subprogram is described below under several separate categories, such as "Commercial Buildings","Residential Buildings", etc., but in actuality the activities undertaken all form part of an integrated program directed at achieving the stated goals. The program is pursued in its entirety at all times, since the elimination of any one project would have negative impact on all other elements of the program. For example, all activities which have been or will be undertaken under those categories termed "Commercial Buildings" or "Residential Buildings" are providing the foundation for the development of energy efficiency standards for new buildings.

Similarly there is a flow of technology development through the elements of the program. New materials and appliances are developed within the categories designated as "Appliances" and "Technology". The output of these activities feed directly into the two categories "Commercial" and "Residential Buildings". These technologies, when incorporated into buildings, will change the demands of the buildings for utility services and change the way these buildings interact within the universe as a whole, hence what was initiated as a project in the "Technology" category effects the "Community Systems" activities and results.

The program, in addition to having an interlocking relationship of projects, is integrated in another manner. The program is directed at overcoming the institutional factors which inhibit the implementation of new technologies and practices which could significantly increase energy utilization efficiency in this sector. The program has been formulated with the recognition that traditional separation of research activities would not be a prudent approach to problem solving in this sector where all aspects, from those activities which could in some instances be deemed basic research to ultimate wide scale commercialization, constitute a continuum of activities with a requirement for continuous feedback. There is a further recognition, that in attacking any one problem, all levels of activity from fundamental research through commercialization, must be attacked simultaneously if the expenditure of public funds in this sector is to yield results in the near and mid term in which alternate energy sources can be developed, proven and commercialized.

Within this subprogram area the research, development, demonstration and commercialization activities are undertaken, which accelerate and/or complement those underway and planned for in the private sector, as well as other Federal agencies and other units of State and local government, which will promote the acceptance of energy saving technology for more effective utilization of energy in buildings, community systems and consumer products. To meet the objectives of the program, Buildings Conservation will utilize, as best suits the needs of the program, Federal laboratories, universities, private industry and various trade associations, singly or in consortia. The activities are closely coordinated with appropriate government agencies such as the Federal Energy Administration and the Department of Housing and Urban Development. They are also coordinated with other Assistant Administrators such as Fossil and Solar Energy.

The question of the need for a Federal role in this area must also be examined when the taxpayer is being asked to provide millions of dollars in RD&D funding. First, why is a Federal presence required? The building industry is an extremely diffuse industry, often times termed a "non-industry". No one segment can agglomerate the resources necessary to affect a significant

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change in the manner in which business goes on, which in turn can cause reductions in energy consumption. The various segments involved in the process may not have similar goals. On the local government level alone, the various jurisdictions such as zoning commissions, taxing authorities, code officials, etc., may in fact have goals and objectives which are contradictory and thus cannot be readily focused on the energy problem. Consider for example, the case of integrated utility systems, those in which multiple utility services are provided to a community from a central source; waste products are disposed of by recovering the energy content of the waste, etc. On the state and local level there are competing forces which tend to inhibit wide scale application of this very promising approach. Traditionally, the health and energy regulatory functions have been separated. Energy is normally regulated by State public service commissions and the collection of and disposal of waste is regulated by state health organizations and local environmental service groups. For integrated systems to have significant impacts on energy conservation and environmental protection and enhancement, state and local governments must be shown that the objectives of integrated systems can be achieved and that by achieving those goals the benefits are local. Then, and only then can we expect that state and local government will undertake those legislative actions necesary to overcome traditional regulation practice and thus create the marketplace for integrated systems which will have National as well as local benefits. It is thus fitting and proper that the Federal government undertake those RD&D activities to provide a baseline of knowledge to permit rational decision making to occur at all levels of government, for the benefit of all citizens.

It is also seen that a Federal role exists to bring new technologies into the marketplace in partnership with industry since, in the case of buildings, it is difficult for the potential manufacturer of a new product to receive support from the potential user, the builder and or the owner/operator of commercial space. This is simply due to the fact that products which will reduce the need for energy are not necessarily providing a new function. The entrepreneur is faced with a decision of using a new, unproven device to do the same function that is being done with established development and through limited demonstration and evaluation functions create the market which will then allow the industry to compete in an unregulated and unassisted manner for the benefit of the Nation as a whole.

Special considerations that inhibit progress toward attainment of the subprogram goals include:

1. Diffuse nature of the building industry;
2. Financial constraints that presently inhibit decisions for energy saving technology that is cost-effective in the life cycle sense, but higher in first-cost;
3. The diffuse nature of the regulatory apparatus including code officials, zoning jurisdictions, taxing authorities, etc.;
4. Lack of industry commitment to R&D for more efficient energy utilization; and
5. Lack of understanding by consumers of the energy consumption and cost implications of alternative choices.

The Buildings Conservation subprogram was initiated in FY 1976. In that year significant progress was made toward developing and undertaking an integrated program leading to improved energy utilization efficiency in this sector. Results, in measurable savings of equivalent barrels of fuel oil, were not obtained in FY 1976, however as a result of those projects initiated in FY 1976, energy savings will begin to be realized in FY 1977. These projects discussed in detail in each category include:

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In the Commercial Buildings category the evaluation of energy conservation techniques and equipment for restaurants will begin to yield energy savings.

Two projects in the Technology category will yield energy savings starting in 1977 and are:
Development and promulgation of domestic hot water retrofit insulation kits.
Development and utilization of new products for oil burning equipment in buildings.

Energy savings will be realized starting in 1977 as a result of the activities initiated in the Performance Standards category. Some of the Standards related activities are:

- An effort was undertaken with a consortium of all the major model code organizations to establish a model training program for state and local code groups.

- A contractor was selected to develop, in the public domain, an analytical technique to be used by small business as well as code officials in connection with use of energy efficiency standards.

- Development of performance standards, those which permit the greatest design latitude, was initiated to meet the requirements of Presidential initiatives and Congressional mandates.

There are other significant milestones in both FY 1976 and FY 1977 which will be highlighted here, and are discussed in greater detail under each category.

- Commercial Buildings
  - In FY 1976
    - Determination of the components of energy use in office buildings.
    - Evaluation of retrofit techniques for municipal buildings.
    - The American Institute of Architects completed for ERDA an evaluation of the entire building process to define, for FY 1977 activities, the educational needs of the various segments of the industry.
  - In FY 1977
    - Verify through limited field evaluations, energy use and conservation techniques for office buildings.
    - Evaluate energy saving technologies in municipal buildings and widely disseminate data.
    - Demonstrate retrofit lighting controls for commercial buildings.

- Residential Buildings
  - In FY 1976

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- An evaluation of the highly efficient Annual Cycle Energy System in a real life situation was undertaken.
- In FY 1977
  - Wide-scale commercialization of the Annual Cycle Energy System will be accomplished. Local control retrofit evaluation program will be initiated.

- Performance Standards
  - In FY 1977
    - Complete prototype training program concerning energy codes and standards for state and local officials and initiate dissemination to all code jurisdictions.
- Community Systems
  - In FY 1976
    - The engineering feasibility analysis for the Grid Connected Total Energy System was completed and a selection of equipments made for the system.
    - The analyses of the potential of utilizing more abundant fuels such as coal for small integrated systems was initiated.
    - Analyses concerned with institutional impediments to energy efficient community planning and design and an evaluation of mechanisms for financing and management of integrated systems were initiated.
  - In FY 1977
    - Fabrication and installation of the Grid Connected Total Energy System will be initiated.
    - Mechanisms for financing and managing energy efficient innovative systems will be developed.
- Urban Waste
  - In FY 1976
    - An experimental program leading toward the production of methane from urban waste was initiated.
    - Evaluations of the state of the art and institutional barriers to wide-scale utilization of urban waste as a fuel form were completed and the Federal role defined.
  - In FY 1977
    - Establish data base and initiate necessary efforts to assist local governments in utilizing urban waste as an energy source rather than being a drain on the community financial resources.
- Appliances
  - In FY 1976
    - Developed retrofit insulation package for home water heaters.
  - In FY 1977
    - Implement water heater insulation program.
- Technology
  - In FY 1976
    - Efforts leading to prototype of efficient light sources was completed.
    - Contracts for the development of thermally activated heat pumps were executed with industry to undertake this activity on a cost shared basis.

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- Activities were undertaken to provide better equipment for use of number two and number six fuel oil in the buildings sector including new equipment as well as equipment and techniques for rapid, accurate field adjustment at low cost.
- In FY 1977
  - Complete prototype production and field evaluation of the Edison base, magnetically activated fluorescent light bulb.
  - Initiate field evaluation of thermally activated heat pump systems for residential and commercial retrofit applications.
  - Implement results of the residual and distillate fuel oil programs.

Category	Actual FY 1975	Estimate FY 1976	Transition Quarter	Estimate FY 1977
A. Commercial Buildings	$ 0	$ 600	$ 160	$ 3310
B. Residential Buildings	0	400	100	2700
C. Performance Standards	0	1200	300	1200
D. Community Systems	0	1200	350	5700
E. Urban Waste	0	3170	500	1200
F. Appliances	0	300	90	1000
G. Technology	0	800	200	2800
H. Dissemination and Transfer	0	500	50	500
Total Buildings Conservation Subprogram	$ 0	$ 8170	$ 1750	$ 18410

A. Commercial Buildings.....$ 3,310

As used in this subprogram the term commercial building refers to all buildings other than those used for residences or those limited industrial cases where the building is an integral part of the industrial process. Hence the category includes, in addition to office and retail shopping space, schools, hospitals, restaurants, warehouses, garages, and public buildings. This category contributes needed data for the development of energy efficiency standards; is a user of technology developed within ERDA and by other Federal and non-Federal entities; dictates the RD&D needs for new technology which will allow for the more energy and cost-efficient operation of commercial buildings.

The following table summarizes the potential energy saving for Commercial Buildings as a result of specific projects.

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Summary of Potential Energy Savings for the Commercial Buildings Category
(Thousands BPDE)

	1977	1978	1979	1980	1985
First Impact: 1977					
Energy Conservation in Restaurants	0.8	1-2	2-3	2-5	5-10
First Impact: 1978					
Municipal Buildings	<.1	2-5	8-10	10-15	15-20
Energy Use in Office Buildings	<.1	2-4	8-10	15-20	35-50
First Impact beyond 1978					
Energy Related to Building Process	<.1	<.1-1	1-2	3-5	5-10
Others (include retail establishments, schools, hospitals)	0	0	16-30	70-90	110-140
Estimated Aggregate Energy Savings	.3-1	3-12	35-55	100-135	170-230

The cumulative savings by 1985 are 410,000,000 barrels equivalent. At an average cost between now and 1985 of $15 a barrel this amounts to a saving in energy costs of more than six (6) billion dollars, much of which would go outside the U.S. in contrast to small R&D expenditures made in the U.S. Of the $3,310,000 being requested for this category, $1,000,000 is to pay for those activities for which funds were obligated in FY 1976, but not costed; thus the request includes only $2,310,000 in new budget outlays.

Research and development efforts for materials, methods and processes involved in the retrofitting of commercial buildings were initiated in FY 1976. These efforts have involved private industry and other government agencies for the maximum leverage obtainable to introduce into the marketplace economically viable methods of improved operation and retrofit of existing commercial buildings such as offices, restaurants, medical facilities and city-owned buildings. In addition energy use data concerning commercial buildings has been collected and analyzed in order to assist in the planning and selection for future research and development contracts.

Implementation of results will be through building owners, professionals, municipalities, etc.

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In FY 1976 specific projects were established concerned with understanding and initiating the development and implementation of energy conservation technologies and methodologies. These projects include:

- Commerical buildings - office and retail
- Development of a Model Energy Council in the Building Process
- Energy Conservation in Restaurants
- Techniques for Retrofit and Operation of Municipal Buildings

During FY 1977 research activities for offices, restaurants and city-owned buildings will shift from the initial definition phase to the experimental, technical verification phase requiring an increase above the FY 1976 base.

A project of significant note, is one initiated in FY 1976 concerning the retrofit of municipal buildings-offices, schools, shops, etc. Of significance is the fact that the results will be applicable across the country and more important it is based on a program of dissemination and transfer initiated several years ago by another agency, the NSF. The NSF undertook an effort, at that time not directly concerned with energy problems, to determine whether or not the placing of 'technology agents' with the key local decision makers in cities, counties, etc., would be of assistance in problem solving at the local level. The office of Energy Conservation project for municipal buildings is within this 'technology agent' structure, and although the RD&D is being performed in one city, there is a built-in transfer to at least the twenty-seven agents in the NSF program. In FY 1976, a detailed analysis of buildings systems and subsystems was made of all municipal buildings in Jersey City, N.J. as to energy consumption and the potential for energy savings through retrofit with currently available technologies. Four buildings were selected and the necessary retrofits accomplished. In FY 1977 the evaluation of actual energy savings and cost benefits will be evaluated and the most promising applications will be documented in a manner which will expedite transfer to other local governments initially through the Urban Technology System and its twenty-seven member cities. Recommendations will be made for possible development of new technologies and for further demonstrations in municipal type buildings. All data collected will be utilized in the development of energy efficiency standards for buildings.

In FY 1977 the commercial buildings category will be expanded to include hospitals and nursing homes. These activities will be undertaken in conjunction with HEW and VA. Special efforts are planned for the development of training materials and operating procedures for owners and building operating personnel which will optimize the procedures used for the consumption of energy thereby effecting maximum savings. New research and development activities will be initiated during FY 1977 for the development of fuel conversions of existing buildings and reductions of energy use by more sophisticated building environmental controls. Specifically, in cooperation with ERDA's Office of Fossil Fuels, experiments in the Northeast will be undertaken leading to the establishment of a viable marketplace for the use of coal for providing space conditioning to buildings. Bench scale experimental projects, which incorporate the most promising technologies surfaced in FY 1976, will be initiated. Development of the energy aspects of life cycle costing of alternatives in the building

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process will be continued. New efforts will be initiated to obtain energy conservation data and application for the national building industry for public buildings, schools and new industrial construction.

B. Residential Buildings.....$ 2,700

This category covers all residential structures from mobile homes through multifamily high rise structures. All data developed by activities in this program area have double value, that is, data collected can be used in the "Performance Standards" program. In addition, technologies developed elsewhere are evaluated within the "Residential Buildings" program element and knowledge gained here establishes the requirements for pragmatic research to be undertaken elsewhere. The outlays for RD&D in this catagory are very modest considering the potential for reduction in energy requirements and cost.

The following table summarizes the energy savings as a result of specific projects in the residential buildings area.

Summary of Potential Energy Savings for the Residential Buildings Category
(Thousands BPDE)

	1977	1978	1979	1980	1985
First Impact: 1977					
None					
First Impact: 1978					
Annual Cycle Energy System (ACES).....	-	.5	0-1	0-2	0-5
Minimum Energy House.....	-	4-12	10-15	10-20	30-50
Local Control Retrofit.....	-	1-8	20-30	15-28	15-20
First Impact beyond 1978					
Others to include retrofit, waste heat, natural storage, etc.....	-	-	10-24	105-120	180-275
Estimated Aggregate Energy Savings.....	-	5-20	40-70	130-170	225-350

The cumulative savings by 1985 amount to 686,000,000 barrels equivalent. This amounts to over $10 billion in energy costs at $15 a barrel. Of the $2,700,000 being requested for this category $600,000 is to pay for those activities for which funds were obligated in FY 1976 but not costed; thus the request includes only $2,100,000 in new budget outlays.

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The primary thrust in FY 1976 was directed at establishing a data base to provide a rationale for undertaking specific development activities leading to early commercialization i.e., in FY 1976 the definition phase was undertaken. The activities included research and testing in connection with the retrofit of existing residential space and design construction and evaluation including marketability of minimum energy single family dwelling units. This effort was undertaken in conjunction with a gas company, who will function as the technology transfer agent. A major verification experiment in cooperation with the University of Tennessee, TVA and HUD was initiated in FY 1976. This is a field evaluation of the ACES - Annual Cycle Energy System. The ACES has the potential for reducing energy requirements for space conditioning in half by use of a heat pump and a water/ice storage system. Heat is removed from the water during the winter for space conditioning. In this process the water freezes. By melting the ice in the summer, air conditioning is provided. In FY 1977 a major effort to commercialize ACES will be undertaken.

Another significant project, in addition to the ACES activity, is a retrofit activity concerned with local control of heating systems. Centrally supplied heating systems utilizing hot water or steam are generally wasteful of energy since, when cost was the only consideration, local controls were not incorporated. In many cases this resulted in open windows to reduce the temperature within the living space and in extremes the utilization of individual air cooling equipment to compensate for the overheating. The program to be undertaken is based on the utilization of available technology and is directed at proving its value and developing low cost retrofit techniques. It has been estimated that this program can, within two years, result in annual savings of 28,200 BPDE. Two sets of high density, residential buildings having as near identical characteristics as possible will be selected for the evaluation element of the program. The identical characteristics include physical as well as human characteristics. One set of buildings will be retrofitted with promising, new systems and sub-system controls and the energy savings evaluated during the winter 76/77. As a result of the installation program, a parallel effort, cost shared by industry, will be undertaken to design and produce installation kits which minimize labor requirements. During the spring of 1977, maintenance techniques will be evaluated and a major information dissemination program initiated. This program may be particularly applicable to multifamily low income housing; thus it will be applicable to HUD's activities concerning public housing and will be closely coordinated with HUD.

The increase requested in FY 1977 reflects a substantial shift from the definition phase to the implementation phase. Research and development projects were initiated in FY 1976 to develop the methods, materials and processes for economic retrofit of single-family and low-density family housing units. To supplement RD&D programs affecting new and retrofitted residential buildings activities which were initiated in FY 1976, new programs will be undertaken in FY 1977 to fill in gaps in vital technical data uncovered and to provide further technological advances in energy utilization efficiency in this critical area which touches upon the lives of all of our citizens, and impacts their lives in an inverse ratio to their incomes. Since the dramatic increase in the cost of energy two years ago, the effect has been most pronounced on the lower income individuals required to yield an ever increasing portion of their income for the energy needed to light and heat their homes as well as for the energy content of purchased goods such as food.

Emphasis will be placed upon establishing and refining priority criteria employed as the guideline in supporting R&D efforts. Subjects qualifying for highest priorities will be so designated on the basis of inputs of special task force representing the homebuilding industry, equipment and building product manufacturers, the design professions, public interest groups and research institutions in universities and the National Laboratories. To the extent possible, maximum use will be made of the newly created National Institute of Building Sciences (NIBS).

Research projects will be initiated in FY 1977 to investigate, analyze and recommend applications of waste heat technology in residential buildings. In particular, attention will be focused on energy wasted through exhaust fans, vent hoods, combustion stacks, dryer vents, plumbing stacks and other mechanical equipments. A research program will be conducted to investigate; analyze and recommend applications of natural energy storage technology in residential buildings to reduce the need for energy intensive space heating and cooling.

A significant effort during FY 1977 will be the completion of analyses initiated in FY 1976 concerning the current financial and institutional restrictions to energy conservation in the residential buildings sector and the development of demonstration scenarios which can significantly contribute to changes in those residential practices.

C. Performance Standards.....$ 1,200

Legislation initially requested by the President in FY 1976 is currently under consideration. This mandates that ERDA undertake a program of RD&D leading to the development of energy efficiency performance standards for all buildings to be promulgated by HUD by December 1978. Mandatory energy efficiency performance standards for all new construction potentially can result in savings by 1985 of more than 500,000 BPDE.

The following table indicates the potential energy savings as a result of performance standards.

Summary of Potential Energy Savings for Performance Standard Category
(Thousands BPDE)

Performance Standards*	1977	1978	1979	1980	1985
o Model training programs for states and localities o Case Studies of State Energy Codes o Computer Program in public domain					
Estimated Aggregate Energy Savings.....	9-11	23-27	105-120	275-290	400-520

* Unlike the other categories, it is not possible to itemize savings for specific projects as each project is necessary to feed into the development of standards which when implemented account for savings shown.

- o Test methods
- o Model solution
- o Develoment of energy budgets

The request for $1,200,000 in budget outlay for this category is to allow for continuation of those activities initiated in FY 1976, and thus allow for a rapid acceleration of RD&D activities in FY 1978 and FY 1979 which are required to meet the timetable of the legislation.

In FY 1976 a program was initiated at the NBS to formulate a plan leading to the development of performance standards. Performance standards are preferred by all segments of the industry since they do not restrict the designer or purchaser by specifying the way a wall of building must be constructed, rather an overall energy target is established and can be met in many different ways.

Although most preferred, the performance standard approach is the most difficult to specify. First, a detailed knowledge of how each type of building in each and every climatic condition behaves must be known so that the standards established do indeed result in an achievable goal which does save energy. In order to implement such performance standards a computer program in the public domain must be available to both the design professional and the code official. Furthermore, for the smaller builder, manuals of accepted practice must be made available. These manuals contain design solutions which are accepted by all parties as meeting the standards. In order to implement energy standards, local code officials must be trained. Historically, codes have not been concerned with energy utilization.

In addition to the activity at NBS, a contract was executed with the National Conference of States on Building Codes and Standards (NCSBCS) in cooperation with all model code groups, to develop a model training program to be utilized in training programs related to energy conservation standards among building code officials throughout the United States. Furthermore several states have moved in the direction of adopting energy conservation standards with varying degrees of success and with various levels of problems. Three case studies were initiated in FY 1976 and the studies will be completed in FY 1977. The results are to be disseminated to all units of state and local government as well as to be used by the Federal government as guidance prior to the implementation of Federally developed standards. Work will continue, in FY 1977 to develop a computer program in the public domain for energy analysis which is simple to use and low cost to operate.

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D. Community Systems.....$ 5,700

Buildings and the people that occupy buildings function together in a community, and the form of that community and/or the inter-relationships between the elements of the community afford new opportunities for energy savings without curtailment or regulation. For example, by examining the utility functions needed to maintain a society, electric energy for lighting and appliances, thermal energy for space conditioning; waste collection and disposal; and potable water supply, it is seen that there are numerous oportunities to combine (integrate) these functions with benefits of energy savings, reduced environmental impacts and cost reductions. If we also study community form, information can be made available to local decision makers which will help to achieve on the local level, planning and zoning which allows for the goals and objectives of the community to be met at a lower input of energy. As one example, if buildings can be located in such a way that it is economical to move thermal energy (e.g., hot water) between buildings then the waste heat from an industrial process can be the input for heating commercial buildings without the need to consume additional fuel.

In total, the activities within this category, Community Systems, include community design, integrated systems and municipal systems. The following table indicates savings potential from this category.

Summary of Potential Energy Savings for the Community System Category
(Thousands BPDE)

	1977	1978	1979	1980	1985
First Impact 1977					
None	0	0	0	0	0
First Impact 1978					
Grid Connected Total Energy	0	.6	0-2	2-4	4-10
Commercialization Community Systems	0	.4	8-10	20-37	120-150
First Impact Beyond 1978					
Advanced Systems Total Energy	0	0	1-2	1-2	6-10
Community Design	0	0	1-2	7-9	75-100
Others (District heating and cooling advanced systems)	0	0	29-36	110-138	295-430
Estimated Aggregate Energy Savings	0	0-1	39-52	140-190	500-700

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Of the $5,700,000 being requested for this category, $1,900,000 is to pay for those activities for which funds were obligated in FY 1976, but not costed; thus the request includes only $3,800,000 in new budget outlays.

In FY 1976 a spectrum of activities were undertaken each interrelated within community systems and integral with all activities in the Buildings Conservation program. Certain data obtained from activities classified as Community Systems will feed directly into certain phases of the standards activity as well as establishing research needs to be undertaken elsewhere. The FY 1976 activities included analyses to determine technology mixes which would provide for the most energy and economic efficient integrated utility system; an evaluation of the feasibility of substituting coal for natural gas and fuel oil on a community scale; a determination of the feasibility and real payoff of energy load leveling on a community scale. This last item is being done in conjunction with the owner of five large commercial buildings in one city and with the contractor of the local power company. The first phase of a major effort to investigate, analyze and describe the community as an energy consuming system was initiated, as was an evaluation of the applicability of European community development methodologies to the U.S. institutional environment.

An energy centered comprehensive community planning activity was initiated in FY 1976 by undertaking the development of a generalized methodology and funding several specific case studies, e.g., Clarksburg, West Virginia and Hobbs, New Mexico.

It is essential to the success of the national energy conservation effort that effective direct actions and long range programs be adopted by local authorities throughout the U.S. for management and planning of energy consumption within their geopolitical boundaries. Such actions and programs, in order to be of the required broad coverage and effectiveness, must be derived from a comprehensive plan and methodology, such as was undertaken under this program area in FY 1976. The methodology being developed is for a ready-to-use and complete set of technical and institutional guidelines and methods, valid and relevant data, example inputs, procedures, etc., all of which can guide the local decision maker. The plan covers energy source conservation, development, and substitution as well as increased effectiveness in primary energy conversion for the production and delivery of services and all related issues. Integrated systems, where the wastes of one process are used in another, have potentially large payoffs on a community scale.

The relatively simple grid connected total energy system for example shows a clear potential in the mid-term of significant savings in primary energy consumption. A cumulative total in excess of 2.5 billion barrels equivalent by the year 2000, means a reduction in environmental degradation due to consuming fuels. What is a grid connected total energy system? First consider a total energy system, which is an electrical generation system located close enough to the user so that the waste heat produced by consuming fuel to generate electricity can be captured and economically transported to the user to heat and cool buildings and to generate domestic hot water for human consumption. Without using exotic technologies this type of system offers the potential for delivering to the user 75% of the energy content of the fuel. This is contrasted with 25% for an all electric system and 50% for a system using fossil fuel directly for heating and hot water and electricity for all other applications. There is a problem however in realizing the potential 75% efficiency. The problem

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is simply that the demands for electricity and thermal energy are not necessarily coincident, thus since it is necessary always to have electricity the waste heat cannot always be utilized. If, however, the total energy system were to be operated as part of a large electrical generating and distribution system then it could be controlled on a thermal demand only with electricity flowing to and from the larger grid as needed. This is the Grid Connected Total Energy Concept. In FY 1976 in cooperation with the City of Pasadena and the Pasadena Power Company an engineering feasibility analysis of the concept was undertaken and completed concerning the application of a grid connected system to a major segment of the downtown renewal area consisting of a shopping center, office buildings and residential space. In FY 1977 constructon will be initiated by the City. ERDA may fund the additional expenses relating to this innovative project. These costs are primarily associated with special instrumentation and controls due to the research nature of the project.

In cooperation with other ERDA programs, i.e., Fossil Energy, a small coal-fired total energy system feasibility analysis will be completed and an experimental site selected. Efforts to define fundamental impacts of alternative approaches to community design will be completed and evaluation programs designed and initiated. Advanced community design concepts development will be initiated to prepare standard analytical modes which can be utilized to evaluate the energy efficiency potential of innovative shelter designs and community forms. Research leading to the development of innovative management and financing techniques for integrated utility systems will be initiated. A feasiblity analysis of engineered heat pump systems coupled with district heating and cooling for buildings will be undertaken.

E. Urban Waste.....$ 1,200

Closely integrated with the Community Systems category is the Urban Waste category. Community waste, both solid and liquid put a strain on the community resources of dollars and land for disposal and energy (for collection and disposal). Yet the wastes themselves have an energy content and could be utilized economically on a community scale for fuel substitution, thus providing increased revenues to the community rather than burdening an already overburdened local tax base, and simultaneously reducing demand for new energy. The buildings sector in the U.S. which consumes one-third of all energy also produces 135 million tons per year of refuse having an average energy content of 4500 Btu/pound which totals 5% of the energy demand of the sector producing the trash. If trash were to be used for fuel, the residual volume to be disposed of by municipalities would be negligible compared to the present volume which must be disposed of. Several problems could be solved simultaneously for the Nation as a whole and very specifically for state and local governments. The cost of disposing of trash would be decreased by reducing the volume, and by selling byproduct energy and other recovered materials. Increased energy availability could help maintain or create jobs locally and thus increase the local tax base. Imports of fuel oil could be reduced by three billion dollars annually thus making that money available for other purposes within the U.S. It is also important to note, solid waste, i.e., municipal trash is a clean fuel. The objectives of the activities in this category are, in addition to assisting state and local governments and utilities, to formulate a National program of resource recovery, both energy and materials, from urban waste. Energy will be recovered in various forms such as electricity, high-grade process heat and heat for space conditioning of buildings.

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FY 1977 activities will establish the groundwork for the initiation in FY 1978 of major demonstration projects, if required, to expedite the diffusion of the technology into the non-Federal sectors of society. Savings projected from this category are shown in the following table.

Summary of Potential Energy Savings for the Urban Waste Category
(Thousands BPDE)

	1977	1978	1979	1980	1985
First Impact 1977					
None	0	0	0	0	0
First Impact 1978					
Combustion	0	0-1	1-3	3-8	35-65
First Impact Beyond 1978					
Other (pyrolysis, bioconversion, land fill)	0	0	<.1	0-2	15-35
Estimated Aggregate Energy Savings	0	0-1	1-3	3-10	50-100

In FY 1976 certain assessments for the use of urban waste as a fuel both for production of electricity and use directly for large central heating systems were made. There were evaluations of power production by the Nashville, Japanese and European technologies (Munich municipal size system, Swedish), and heating and hot water production for use in larger development (such as Co-op City, Rosedale, etc.) The assessments were undertaken to assist other state and local governments utilities, and major developers in decision making as to which route if any to take in utilizing waste as an urban resource. Certain processes were investigated such as enzyme hydrolysis in cooperation with the U.S. Army Natick Laboratories. Work continued on the waste to methane process (Pompano Beach Project). This is a solid waste treatment project utilizing urban waste at the rate of 50 to 100 tons per day for the production of methane through anaerobic digestion. Solid Waste is shredded, magnetically separated and finally the suitable material for anaerobic digestion is extracted through an air classifier. The remains that are not suitable for anaerobic digestion will be either dryed through centrifuge and filtering and then burned or will be disposed of in a landfill. The feasibility study was completed by Dynatech with the sponsorship of NSF at the end of 1974. The design started in June 1975 and it is due to be completed early 1976. Construction will follow and is expected to be finished by June 1977. This will then be followed by the demonstration phase.

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
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In FY 1977, the methane production demonstration will be continued. Other methods to produce methane and methanol will be evaluated. In addition activities will be accelerated in FY 1977 to assist communities in selecting that waste disposal, energy recovery combination which best suits local needs while meeting the national goal of energy conservation without curtailment.

F. Appliances.....$ 1,000

Of the $1,000,000 being requested for this category, $450,000 is to pay for those activities for which funds were obligated in FY 1976, but not coated; thus the request includes only $ 550,000 in new budget outlays. Appliances, refrigerators, water heaters, window air conditioners, etc. They are all around us, are an integral part of our life, yet these appliances are taken for granted. Only recently, due to rapidly rising energy costs and massive advertising campaigns by utility companies and government bodies, has the consumer been made aware of the energy consumption of appliances and the meaning to him in terms of cost that selection of one appliance over another has. Voluntary labeling has been initiated and the Congress in the Obmibus Energy Bill has mandated labeling and the development of standards for appliances. The following table summarizes the potential energy savings from this category.

Summary of Potential Energy Savings for Appliances Category
(Thousands BPDE)

	1977	1978	1979	1980	1985
First Impact 1977					
Residential Electric Water Heater Retro-Insulation.....	10-18	20-35	20-35	25-35	40-50
First Impact 1978					
None.....	0	0	0	0	0
First Impact beyond 1978					
Integrated Appliances.....	0	0	2-5	15-20	130-150
Residential and Commercial Appliances.....	0	0	8-10	30-50	105-200
Estimated Aggregate Energy Savings.....	10-18	20-35	30-50	70-105	275-400

(Dollars in thousands, except whole dollars in narrative material)

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How much energy do appliances consume? Examine one appliance - the residential water heater and examine only electric residential water heaters. In 1975 electric residential water heaters accounted for a consumption of 579,000 BPDE of oil. One in five domestic water heaters are electric. Retrofit technology being developed in FY 1976 and strategies to implement these developments can begin to have measurable savings in 1977.

An area that also shows promise is integrated appliances. What is an integrated appliance? Like integrated utility systems the combination of two or more functions with synergistic benefits constitutes an integrated appliance. For example a refrigerator and water heater can be integrated. The heat given off from the refrigeration process, which in many cases requires additional environmental cooling, can be used to preheat domestic hot water, reducing the requirement for new energy. The initial opportunities for integrated appliances appear to be in the mobile home market where, under factory assembly conditions, the technology of integrating appliances can be nurtured. Mobile homes account for a large number of residential units being built each year in this country -- about 400,000 units annually. It has been estimated that integrated appliances may reduce the energy consumption by 40% below conventional appliances performing the same function, In FY 1976 contracts were awarded to evaluate the potential and to undertake initial designs for integrated appliances.

During FY 1977 a demonstration of promising integrated appliance technology will be undertaken and the results of the demonstration used to evaluate the actual market strategy to be employed to effect wide scale implementation of integrated appliance technology. Other activities which were undertaken in the appliance category area in FY 1976 included joint government/industry seminars which allowed for the development of a sound program base. In cooperation with the Federal Energy Administration and the Federal Trade Commission, a program was developed to meet the mandate of the Omnibus Energy Bill sections concerned with the development and promulgation of appliance efficiency standards by the Federal government. In FY 1977, in addition to the major activities described above, the efficiency standards activity will consume a share of the resources in the appliance area of activity.

G. Technology.....$ 2,800

The technology category of activity is quite broad, and covers the development and evaluation of materials for thermal control of buildings (e.g., insulation) and thus supports directly those activities termed standards development; covers the evaluation of components and systems for the environmental conditioning of buildings which will later become part of the buildings conservation activity in the commercial and/or residential buildings activities; covers that research concerned with consumer behavior and motivation as related to energy conservation, etc.

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Summary of Potential Energy Savings for the Technology Category
(Thousands BPDE)

	1977	1978	1979	1980	1985
First Impact 1977					
Fuel Oil	5-10	35-37	55-80	105-110	80-120
First Impact 1978					
Efficient Light Sources	0	0-1	10-15	20-22	75-90
Building Systems Controls	0	4-5	10-15	23-25	60-75
Insulating and Optical Materials	0	0-1	5-10	18-20	30-40
Consumer Motivation	0	8-10	15-20	96-100	75-100
First Impact beyond 1978					
Thermally Activated Heat Pump	0	0	5-10	20-23	60-75
Estimated Aggregate Energy Savings	5-10	47-54	100-150	282-300	380-500

Of the $2,800,000 being requested for this category, $800,000 is to pay for those activities for which funds were obligated in FY 1976, but not costed; thus the request includes only $2,000,000 in new budget outlays.

One project is the evaluation of new products for environmental conditioning such as oil burners and those activities concerned with the development of instrumentation and course materials which allow for the proper adjustment of oil burning equipment to conserve energy. There are approximately 14,000,000 space heating installations in the United States which utilize distillate fuel oil (No. 2). These are located in single family and other small buildings where routine maintenance is minimal and the requirement for a trained service man to adjust a unit and/or upgrade a unit is a costly procedure which places undue burden on the individual. The total amount of distillate fuel consumed in this market is in excess of 1.5 million barrels of oil per day (MBPD). The program is directed at increasing the efficiency through the first heat exchanger, from a present average of about 60% to an average of 75%. Also related to this program is the establishment of an evaluation capability for oil burning equipment, both for distillate and Number 6 fuel oils. As a result of those activities, a major undertaking in FY 1977 will be the development of improved equipment and procedures for adjustment of oil burners.

In FY 1976 the Center for Environmental Studies at Princeton University initiated an activity to explore the application of behavioral science theory and findings to the task of assisting consumers in the more efficient utilization of energy. Development of feedback devices e.g., real time reporting of the results of an action taken, is one such strategy. Theory predicts and research to date indicates that giving people information about results and implications of their own behavior is an effective way of changing that behavior. Before applying this finding to energy related activities however, it is important to determine: (a) At what intervals of time is feedback most effective? (b) What information should be given in the feedback process? (c) Should information be supplied for individual uses or for the whole house? These and other possible strategies were explored during the first year of activity.

Emphasis in FY 1977 will be on refining those approaches which have been effective in the test community and continuing to address the question of how they can best be transferred throughout society as a whole. Effects on lifestyle and consumer acceptance of change will be investigated. A cooperative program with the local utility company to provide consumers with monthly feedback as part of their bill is being considered for FY 1977. Although done elsewhere on a scattered basis the past few years, this program provides an opportunity to compare utility billing feedback with other methods evaluated during FY 1976.

A major activity has been going on in the private sector to develop and market heat pumps, but all of these activities have been directed at replacement or new construction using electricity. What is being done for those consumers currently using natural gas or fuel oil for heating? What technology is being brought into the marketplace that will help reduce the consumption of these vital resources while slowing down the rate of growth of consumers utility bills? One answer is the thermally activated heat pump, which is a heat pump driven by thermal energy, instead of by an electric motor. The unit has the potential to cut in half the energy input to a building required for heating. In FY 1976 contracts were negotiated with private industry, utility company, trade association consortia to bring the technology to the marketplace on an accelerated timetable, i.e., work had been going on in the private sector but at a slow pace. In FY 1977 the first prototype units will be installed and evaluated in the field.

Lighting accounts for about 20% of all electricity consumed in the U.S. Estimates of possible energy savings by implementing more effficient lighting technology and control systems range up to 40%. One of the most promising technical options is development of a cost-effective, reliable, and efficient fluorescent lamp suitable for retrofit replacement of existing the large residential and commercial incandescent lamps. In FY 1976 a contract was initiated to optimize an electrodless, magnetically excited, screw in fluorescent lamp suitable for the large residential and commercial incandesent replacement market. In partnership with industry a project was started to bring into the marketplace by 1978 a new lightbulb with the following characteristics. It is a flourescent unity rather than incandescent, hence there is a 3:1 advantage in efficiency. The bulb however, looks like a common incandescent bulb and can fit into existing lamp bases. Because of the particular design, and operating temperatures there does not appear to be a life limit other than physical damage from external sources. It is estimated that this light source will retail for between $10 and $15 per unit.

(Dollars in thousands, except whole dollars in narrative material)

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Consider a typical 200 watt light in the home providing light for eight hours a day. On the national scene, 1.3 barrels of oil equivalent are consumed in generating the electricity required for that 200 watt light. If the power company is relying on foreign oil this is an outflow of about $16 from the U.S. The energy of slightly under one barrel ends up as waste heat that must be discarded into the environment. The consumer purchases power and at a rate of 4 /kilowatt hour pays $23.36/year for the light supplied by that one bulb. This is in addition to the two bulbs consummed during the year at an additional cost of $1. The new technology results in the following. The annual cost to the consumer for elecricity is reduced to $7.78 (a savings of $15.58) which pays, for the cost of the bulb in the first year, and the consumer saves that amount each succeding year. The consumption of energy is reduced by almost a barrel reducing the outflow of cash from the U.S. by $12 and reducing the impact on the environment by an equivalent amount. In FY 1977, demonstrations and evaluations will be undertaken and wide scale commercialization initiated.

H. Dissemination and Transfer.....$ 500

The objective of this category is to promote the acceptance of new and existing means to improve the efficiency of energy usage. There are various reasons for the need for Federal involvement in Technology Transfer. These include the fact that competitive forces in many cases are insufficient to cause adoption of energy conserving technologies as soon as they are available and Federal support will accelerate the onset of these technologies; user and consumer needs differ by location thus there may not be enough incentive for large marketing efforts by the private sector; and individual consumers lack sufficient market force to precipitate action. Various barriers which impede the adoption of energy-conserving technologies include lack of information on available techniques, lack of information to assess costs and benefits as usual aversion to risk, lack of capital, limited technical resources to assist in assessing and adopting energy saving technologies and user preferances for lower first cost versus lower long-range operating costs. While the Dissemination and Technology Transfer Category cannot remove all of the above barriers, it can effectively provide the user the means necessary to make intelligent decisions.

The overall strategy is to disseminate information on energy savings measures to energy consumers through a variety of channels. These include presently operational programs, such as the Cooperative Extension Service, state university outreach programs, and other existing Fderal information transfer programs, e.g., FEA, HUD, NBS, and the Federal laboratories.

In FY 1976 an analyses was performed to determine the feasibility of implementing a program for increasing energy conservation through the establishment of Energy Action Centers in each state. This would focus on meeting the state's specific energy conservation needs. The Centers would be established and operated through a Federal/state/university partnership. The target audiences for each state center would be small and medium-sized businesses, architects, engineers, builders, utilities, city and state governments, homeowners and the general public (including individual consumers, civic groups, and school children).

In FY 1977 as additional research results become available for implementation, technical manuals and guidebooks (on topics such as materials, methods and processes involved in retrofitting commercial buildings, retrofit of family housing units, water heaters, integrated utility systems, etc.), research newsletters, seminars and workships, etc., will be added to the products developed for active dissemination of information, requiring an increase above the FY 1976 base. The inclusion of material on the captive and beneficial utilization of waste heat in buildings and the development of model programs on buildings conservation and local governments will account for a substantial portion of the funding increase.

This category supports and will help to assure that technology developed as part of the Buildings and Conservation subprogram achieves the energy savings projected.

Foreign sources constitute an available base for improved and new technology. Active participation in widely recognized international organizations such as the International Energy Agency (IEA), the Organization for Economic Cooperation and Development (OECD) and the NATO Committee on the Challenges of Modern Society (CCMS) occurs.

Specific international projects currently being developed are: Thermal Characteristics of Buildings, Heat Pumps, Thermal Storage, Heat Transfer/Heat Exchange, Energy Conservation in Existing Buildings, Climatic Conditions and Reference Year and Integrated Utility Systems. Participation in these projects has led to exchange of information and data which has enabled this program to eliminate some projects. For example, the Austrians are applying the ACES concept with a storage system other than water. The Germans are applying the system to a combination swimming pool/ice skating rink.

This category supports and will help to assure that technology developed as part of the Buildings Conservation subprogram is transferred to achieve the energy savings projected.

(Dollars in thousands, except whole dollars in narrative material)

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3. Transportation Energy Conservation $20,190

The Transportation Sector consumes 25% of the total U.S. energy. In 1973 the sector consumed 15.9 Quads (1Q=500,000 BPDE) and virtually all of this energy was derived from petroleum. The sector is the largest single consumer of petroleum amounting to more than half of the total petroleum used in the Nation annually. In recent years the excess of demand compared to available U.S. domestic supply has required imports amounting to an astonishing 35% of the total petroleum consumed. This percentage appears to be increasing. The purpose of the Transportation Energy Conservation (TEC) subprogram is to find the means to reduce this consumption in the Transportation Sector, to implement the means and to achieve maximum petroleum energy savings in the shortest possible time.

The elements of the U.S. transportation system can be conveniently divided into highway vehicles and non-highway systems (aircraft, rail, ship and pipeline). Highway vehicles consume 75% of the total energy used in the sector. The 75% figure can be further subdivided into 54% consumed by autos, 20% by trucks and 1% by buses. There is enormous leverage for petroleum energy savings and numerous targets of opportunity for savings in highway vehicles and specifically for autos and trucks. For example, a 1 mpg improvement in fuel economy for all autos on the road would result in a petroleum savings of 400,000 BPDE. A similar improvement in fuel economy for long haul Diesel trucks amounts to 83,000 BPDE. Priorities have been defined accordingly.

Specific objectives in terms of reducing petroleum energy consumption are tied into three timeframes as indicated in the tabulation which follows:

Near Term: To reduce petroleum energy consumption by:

(1975 - 1980)	(Thousand BPDE)
	.001 in 1976*
	15 in 1977
	50 in 1978
	97 in 1979
	247 in 1980

* Actual reductions in petroleum energy consumption are expected in 1976. Although small (1 BPDE) in number the savings is worthy to note herein. This figure is based on getting a minimum of 10 long haul Diesel trucks to use drag reduction devices starting in August. Vigorous publicity and marketing of these units savings is expected to significantly increase use of available but virtually unused technology. For simplicity in the following presentation the figure is not carried through all tabulations of energy savings.

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Mid Term: (1980 - 1985) 1,018 in 1985

Long Term: (1985 - 2000) To eliminate by 2000 the dependence on petroleum energy while substituting other energy resources available in abundance domestically.

The TEC subprogram is divided into five categories, each emphasizing a different aspect of the work needed to meet the stated objectives. One category addresses itself to the processes by which new technologies and operational procedures, etc. are to be implemented in the marketplace. Three of the categories specifically cover new technology development in elements of highway and non-highway systems. The remaining category focuses on studies to assess social and economic impacts of implementing the new technologies and in investigating energy savings through changes in operation procedures etc., as well as providing other support (in the form of an energy data base) to the technology development activities.

The FY 1977 program activities are aimed at expanding the scope of the ongoing work in engine development, non-petroleum base fuels, etc., for earlier implementation of available technologies (emphasis on quicker information dissemination to appropriate industry, labor and consumer groups). Emphasis will also be placed on increasing the pace of work on improving electric vehicle efficiencies and performance, for improving the basic energy data base and for providing increased funding for individuals, universities, etc., who provide innovative energy saving concepts warranting development.

A summary tabulation relating each category to the energy savings objectives follows:

(Dollars in thousands, except whole dollars in narrative material)

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POTENTIAL ENERGY SAVINGS
TRANSPORTATION ENERGY CONSERVATION SUBPROGRAM
(Thousand BPD)*

	Category	1977	1978	1979	1980	1985
A.	Implementation	10-15	45-50	70-80	100-120	300-380
B.	Heat Engine Highway Systems	0	0	10-15	90-110	490-530
C.	Electric & Hybrid Highway Systems	0	0	0	2	70-90
D.	Non-Highway Transport Systems	0	0	2	2	10
E.	Technology Studies	0	0	0	0	0
	Estimated Aggregate Energy Savings (BPDE)	10-15	45-50	80-90	150-180	480-710

A breakdown of operating costs including the FY 1977 request for each category is summarized as follows:

	Category	Actual FY 1975	Estimate FY 1976	Estimate Transition Quarter	Estimate FY 1977
A.	Implementation	$ 0	$ 460	$ 120	$ 1,180
B.	Heat Engine Highway Systems	8,068	7,285	1,910	12,800
C.	Electric & Hybrid Highway Systems	0	925	300	3,940
D.	Non-Highway Transport Systems	0	250	100	500
E.	Technology Studies	375	1,080	270	1,770
	TOTAL TRANSPORTATION ENERGY CONSERVATION	$8,443	$10,000	$ 2,700	$ 20,190

*All savings are in thousands of barrels of petroleum per day except the summary line which is aggregate energy savings in barrels of petroleum equivalents per day. This eliminates redundancy and fuel switching problems and is applied to the Heat Engine Highway Systems and Electric & Hybrid Highway Systems energy savings tables which follow.

(Dollars in thousands, except whole dollars in narrative material)

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A. Implementation $1,180

The development of marketing technology which emphasizes petroleum energy reductions in the shortest possible time in our Nation's transportation system is a vital part of the TEC program. This is a newly formed category and its mission is a formidable one. It is intended to take the findings obtained in the other categories of the program (including hardware) and make them desirable both for the consumer and industry. Its success determines the outcome of the TEC program. The work will entail several activities: 1) Determining the factors which influence industry decisions to produce energy saving devices; 2) Determining whether a market exists and public reaction to specific new technologies as well as to known but unused technologies; 3) Finding ways to stimulate the process of commercialization of devices, approaches, vehicles, etc.; 4) Providing financial support to industry to facilitate the commercialization process and, 5) Providing effective information dissemination on the work of the TEC program to the public, industry and Congress; and 6) Conducting demonstration projects which will influence the marketplace as well as to provide useful technical information to the program. Although this work category is new, it has one significant accomplishment to its credit during the past year.

- Agreement was reached with a major component manufacturer to demonstrate truck drag reduction devices and to initiate production of those fuel saving devices for marketing to the truck industry - 20% improvement in fuel economy is expected for long haul Diesel trucks.

Specific objectives for FY 1977 include:

- Complete studies and define strategies for implementing energy saving devices such as: retrofit auto engine electronic computer, miles per gallon meter and retrofit auto engine stratification (clean burning) process.
- Conduct cross country demonstrations of energy efficient, clean new auto engines - gas turbine and Stirling cycle systems in small fleets.
- Complete evaluations of energy-emissions relationships and make recommendations regarding impact of current standard setting procedures.
- Continue to pursue the truck drag reduction marketing work by industry, ensure that institutional barriers do not hinder success.
- Expand ongoing testing and demonstration of electric vehicles in urban environments.

The FY 1977 funding request provides a realistic amount that can be spent effectively considering personnel buildup and current scope of this category.

(Dollars in thousands, except whole dollars in narrative material)

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The estimated payout, in terms of energy savings, from this category is as follows:

Summary of Potential Savings by Project For Implementation Category
(Thousands BPD)

	1977	1978	1979	1980	1985
First Impact: 1977					
Truck Drag Reduction	2	8	15	31	147
Increase Auto Tune Up	11	24	36	60	129
Fuel Economy Gauge	2	5	9	13	17
First Impact: 1978					
Stratified Charge Retrofit	0	1	2	2	56
Computer Retrofit-Auto	0	10	16	20	28
Energy-Emissions Relationships	0	2	2	2	11
First Impact: Beyond 1978					
None*	0	0	0	0	0
Estimated Aggregate Energy Savings(BPD)	10-15	45-50	70-80	100-120	300-380

* As development projects come close to fruition, the responsibility for demonstrating and commercializing the hardware will be transferred to the Implementation category. Projected energy savings for the development projects appear in their respective categories for 1978 and beyond for purposes of this presentation.

B. Heat Engine Highway Systems $12,800

This category is oriented toward developing new energy saving technologies for autos, trucks and buses which use combustion processes on the vehicle as the primary source of energy. Engines such as the conventional internal combustion engine (ICE), the gas turbine and those employing the Stirling cycle are examples of heat engine systems which use this source of energy. The work in this category focuses on projects which complement the work of industry and which offer the potential of appreciable energy savings if development and commercialization is successful.

Heat Engine Systems - Hardware development of the most promising alternative engine systems is one important aspect of work in this category. Specifically, the two engine systems receiving primary emphasis in development are the gas turbine and the Stirling cycle system. The current gas turbine work is building on the engine development funded by the

U.S. auto industry in the 50's and 60's and turbine developments of the NASA for aircraft applications. The fundamental problems with past attempts to produce a gas turbine for the automotive application have been its poor fuel economy, relatively high nitrogen oxide emissions and high cost; the latter caused by the need for expensive high temperature metal throughout the engine. The concept of a Stirling cycle uses a low molecular weight gas (hydrogen or helium) which is alternately heated and expanded to move pistons and therefore do work. Although the concept is not new, its application to an automobile is relatively new. A successful Stirling engine development project in the current TEC program will strengthen availability of an advanced version of the technology in the U.S. for many applications where very high engine efficiency is desirable. The work on both engine systems focuses on development for a compact size auto (3000 lb. or less). These two engine systems were selected over all new and competing systems because they offer the potential of being virtually pollution free (meeting original Clean Air Act Standards), of being very efficient (40-50% improvement in fuel economy compared to the ICE), and each has the capability of using any gas or liquid as fuel as long as it is combustible.

There have been a number of significant accomplishments in this category over the past year for these two systems, for a modified ICE and for a steam engine. The latter engine development was initiated in 1971 when elements of the current heat engine systems development activity began in the EPA. This project was completed in FY 1976. Highlights of the past year's accomplishments include:

- Durability and performance of a new ceramic heat exchanger have been proven and demonstrated in tests for over 3000 hours of thermal cycling. This component is a key element in a low cost, highly efficient gas turbine for autos and trucks.

- Completion of testing of a steam engine system, developed earlier in the program, showing emissions less than the original and stringent standards in the 1970 amendments to the Clean Air Act.

- System design studies have been initiated for the advanced Stirling cycle engine.

- Engine dynamometer testing has begun to verify performance of a new form of ICE with pistons of variable displacement. Fuel economy improvements of the current ICE are projected to be more than 30%.

- System designs for the new gas turbine have been completed; energy saving features have been verified in test and the system is being fabricated and assembled, to be ready for test in February 1976.

In FY 1977 the systems development work for the Stirling cycle system will carry forth the design work initiated in FY 1976 and will proceed with hardware development. The past development work on the gas turbine will be brought together in FY 1977 with road test of the complete system in three autos. The test results are expected to be highly

publicized. The small test fleet for the turbine will be enlarged from 3 to 10 for public demonstrations, as noted in the objectives of the Implementation category.

Specific objectives for FY 1977 relating to heat engine systems developments include:

- Complete engine testing of the new gas turbine and proceed to road test three vehicles powered by the engine. Fuel economy better than current ICE, better road performance (acceleration, etc.) and emissions which meet the original Clean Air Act Standards are expected from these tests. Fuels to be consumed in the tests include hydrogen, gasoline, Diesel fuel and vegetable oil.

- Complete system and component designs for improved Stirling cycle engine; initiate hardware development of key components.

- Initiate technology development in important areas of ceramics for the gas turbine and Stirling cycle engines.

Starting in FY 1977 the engine development activity will concentrate solely on the turbine and the Stirling cycle systems. By the end of FY 1977 it is expected that the turbine will be at the point where the mostly metallic turbine will have been proven to be energy efficient (6% better than ICE), clean and durable. The need for its continued development lies in fulfilling its potential for up to 50% improvement in fuel economy compared to the ICE and this will come mainly with use of ceramics to replace the metal in the high temperature rotating machinery. The successful ceramic heat exchanger development noted earlier in FY 1976 achievements, is one important step in the right direction; however, the more difficult task is to learn how to design components such as turbine wheels which rotate at high speed (60,000 rpm), while at high temperature (2300°F) and to fabricate the components out of cermaic materials with proven reliability and durability.

Current plans call for cost-sharing the development work with industry on both engine systems. Further, the needed technologies for each engine are expected to be in a state of readiness by the early 1980's to permit initiation of mass production of either engine by industry by the mid 1980's.

Vehicular Systems - The hardware development of energy efficient propulsion system components other than the engine is a second important aspect of work in this category. Included is work on new transmissions, accessory drive systems and waste heat utilization for autos and trucks. This work has two characteristics worthy of noting: 1) component improvements offer the potential of being produced and introduced to the marketplace early relative to production of a completely different engine, and 2) successful development efforts will be applicable to any auto engine produced whether it be the ICE, the Diesel, the gas turbine or Stirling. Highlights of accomplishments over the past year in the area of vehicular systems developments include:

65-300 O - 76 - 33

(Dollars in thousands, except whole dollars in narrative material)

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- Completion of designs for an improved engine accessory drive system offering a 10% improvement in fuel economy compared to current drive systems.

- Completion of designs and key component fabrication of a continuously variable transmission offering up to a 20% improvement in fuel economy compared to current conventional transmissions.

- Completion of tests which prove that a waste heat utilization system in conjunction with a Diesel truck engine can improve truck fuel economy by 13%. This system is commonly called a "bottoming cycle" system and operates using the heat normally appearing in the exhaust of Diesel trucks.

In FY 1977 the ongoing work on accessory drives, transmissions and waste heat utilization will be carried forth to testing in vehicles on the road. Specific objectives include:

- Test accessory drive system in autos to verify estimated efficiency improvements.

- Test continuously variable transmission in autos to verify estimated efficiency improvements.

- Complete improved design of waste heat utilization system, test on engine dynamometers and on the road in a truck to verify estimated efficiency improvements.

Current plans call for the next step to be the integration of all the developed hardware into autos and trucks for road testing as opposed to testing of each individual component separately in these earlier development phases appearing in FY 1977.

Alternative Fuels - Fuels for use in highway vehicles and which are not derived from petroleum are categorized herein as alternative fuels. The purpose of work in this area is to understand and to solve the practical problems associated with use of these fuels in highway vehicles. Past overview studies on this subject indicate that the most promising fuels are: methanol from coal, synthetic gasoline and distillate from coal and shale, and hydrogen. Priorities have been placed on work with the fuels in the order presented. The ranking is based on estimates of the state of technologies relating to their production, costs and time when available in the marketplace. These alternative fuels are inherently compatible with the gas turbine and Stirling cycle systems. Highlights of accomplishments over the past year in alternative fuels include:

- Completion of tests determining exhaust emissions, efficiencies and performance of ICE's with pure methanol fuel.

- Initiate similar testing of selected methanol/gasoline blends.

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
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. Complete detailed report summarizing all known test results on hydrogen as a fuel for highway vehicles.

Specific objectives for FY 1977 include:

. Complete testing of methanol/gasoline blends.

. Initiate testing of synthetic gasoline and distillates.

The projected petroleum energy savings from successful development and implementation of the Heat Engine Highway Systems category are shown below. Note that the time phasing is later than for savings that appear for the Implementation category. As development proceeds into demonstrations in the two Highway Vehicle Systems categories, projects will be transferred to the Implementation category as indicated earlier. For purposes of the present budget presentation, the energy savings appear in the category where development activities begin.

Summary of Potential Savings by Project for Heat Engine Highway Systems Category
(Thousands BPD)

	1977	1978	1979	1980	1985
First Impact: 1977					
None	0	0	0	0	0
First Impact: 1978					
None	0	0	0	0	0
First Impact: Beyond 1978					
Gas Turbine Engine - Auto	0	0	0	0	30
Continuously Variable Transmission	0	0	0	10	43
Waste Heat Utilization - Diesel Truck	0	0	0	29	68
Accessory Horsepower Reduction - Auto	0	0	0	15	60
Other (Alternative Fuels, etc.)	0	0	15	61	333
Estimated Aggregate Energy Savings(BPDE)	0	0	0	50-60	150-250

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
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C. Electric and Hybrid Highway Systems.....$3,940

This category focuses on improving existing and developing new propulsion systems for autos, trucks and buses which employ complete or partial electrification as the energy source stored on-board the vehicle. Work on battery powered electric vehicles and hybrid power systems such as those using an array of batteries or a flywheel in conjunction with a small heat engine for autos are included under this budget category. The primary reason for conducting development on these types of systems is that they are rechargeable from electric energy sources in homes or industry, etc. Since only 17% of our Nation's electricity generation uses petroleum energy these new systems would permit the current major consumer of petroleum energy, the auto, in effect to use any alternative energy source (solar, geothermal, etc.). Other potential advantages with use of the electric and hybrid systems include quiet operation, extremely low emissions and compatibility with a load leveling function favored by electric utilities.

The overall plan for the electric systems development calls first for taking the current commercially available, limited range, electric vehicles as a baseline or reference point for the state of the art technology. Projected improvements above the baseline on a component and system basis form the performance and cost objectives for the electric vehicle program. Then, a set of electric vehicle specifications will result. As the development program proceeds toward meeting the objectives (or the spec) the improved components will be tested and performance verified on a baseline electric vehicle with vehicle performance continually upgraded. Not every improved component can be tested on the baseline vehicle. A system development effort will be conducted in parallel with the component development efforts to ensure that the end product of the component improvements will result in a completely new electric vehicle of high performance and reliability, low life cycle costs and having the potential for low cost production. The completion of testing and initiation of demonstrations of this advanced electric vehicle is planned for 1980. This same basic approach of using a baseline vehicle as a test bed for verifying component improvements while running a completely new system development in parallel is similar to that which has been successfully used on the TEC gas turbine program.

The plan for hybrid system development takes a different approach because the technologies need for a practical hybrid system have not been developed and integrated into a reasonable baseline hybrid vehicle. As a result, the plan calls for a step-by-step development of certain key components (e.g. practical and efficient flywheels) and verification testing before commitment is made to procure expensive system hardware.

Although this category is new, some work was initiated in FY 1976. Highlights include:

. Complete purchase and initiate testing of three electric autos to provide initial baseline performance data.

. Initiate reviews of state of the art with auto, battery and electric vehicle manufacturers.

(Dollars in thousands, except whole dollars in narrative material)

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. Complete program planning for the budget category.

. Initiate procurement of flywheel component designs, fabrication and test.

Technology support for this electric and hybrid category comes from the Energy Storage subprogram described elsewhere in the ERDA budget. Specifically, the support is in the form of battery development and flywheel development.

Specific objectives in FY 1977 for the Electric and Hybrid Highway Systems category include:

. Purchase and complete testing of at least five U.S. manufactured and foreign electric vehicles for baseline testing.

. Formulate and document component and system performance specification for the advanced electric vehicle - battery life, cost, acceleration, range, top speed, etc.

. Initiate electric vehicle component development contracts - controls, motor, transmission, etc.

. Select systems contractor for advanced electric vehicle.

. Complete systems analysis of candidate hybrid systems.

. Complete initial test and evaluation of non-metallic flywheel design.

The funding request for next year is a best estimate at this time recognizing such practical aspects as the time needed to build up personnel and procurement lead times.

The projected energy savings from a successful Electric and Hybrid category are noted below. In this particular category savings for 2000 are presented because the nature of the work dictates major payout after 1985.

(Dollars in thousands, except whole dollars in narrative material)

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Summary of Potential Savings by Project for Electric and Hybrid Highway Systems Category
(Thousands BPD)

	1977	1978	1979	1980	1985	2000
First Impact: 1977						
None	0	0	0	0	0	0
First Impact: 1978						
None	0	0	0	0	0	0
First Impact: Beyond 1978						
First Generation - Proved but limited Performance System - Assumes some commercialization	0	0	0	2	30	0
High Performance Systems - Assumes commercialization initiated by 1984	0	0	0	0	56	870
Estimated Aggregate Energy Savings (BPDE)	0	0	0	2	30-80	300-600

D. Non-Highway Transport Systems $500

Work in this category addresses itself to reducing energy consumption in all transport modes other than the highway mode through technology advancement, mode shift, operational change or through change in institutional barriers. Current assessment of the air, water, rail and pipeline modes indicate that these consume 25% of all energy used by the Transportation Sector, and of this approximately 25% appears to be a realistic target for achieving improvement in consumption which relates to 2.1 million barrels/day by the year 2000. The difficulty faced in proceeding with significant work in this category is that other Federal Agencies have been working for many years in certain modes, aircraft and rail in particular. At a minimum the TEC must have: technical competence of each transport mode, responsibility for setting energy saving goals in each mode and for either carrying out the research directly or ensuring that the appropriate Federal Agency is seriously working toward meeting agreed upon goals.

The budget request for FY 1977 will enable the TEC to:

. Investigate the applications of available bottoming cycle and heat exchanger technology to pumping stations for an oil and gas pipeline and if assessed practicable, initiate demonstration project.

(Dollars in thousands, except whole dollars in narrative material)

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. Analyze the most cost effective approaches to save fuel (including operational, regulatory, and new technology) identified in FY 1976 by the American Association of Railroads.

. Initiate a lightweight rail car study to determine possible energy savings, executed in conjunction with DOT.

. Determine in cooperation with the Navy and Maritime Administration total ship energy savings possible through a total energy system analysis.

. Continue air transport operational study to minimize energy usage.

. Continue aeronautical research overview of all agencies to insure that all reasonable research opportunities for technology gain are undertaken.

E. Technology Studies $1,770

There is a firm need for an activity within the TEC subprogram to support the technology oriented categories and to provide objective evaluations of the merits of non-technology oriented means to reduce petroleum energy consumption. These activities appear under the Technology Studies category. The end product of this category is information. More specifically the activities in this category include: conducting technology assessment studies to determine the consequences with the widespread use or commercialization of certain new technologies (e.g., electric vehicles); formulating and evaluating changes in operational procedures and impacts of changes in institutions which might impede achieving energy reductions (Federal rebates on engine tune-ups); evaluating new concepts to save energy proposed by individuals, universities and small firms, and providing credible and consistent data base on energy consumption in all modes of transportation and projecting effects of reductions expected in the TEC program on nationwide petroleum total energy consumption for future years.

Accomplishments in this category in FY 1976 include:

. Completion of a study to determine the social, economic, environmental and energy impacts of introduction of electric vehicles into the cities of Philadelphia and St. Louis.

. Publication of a transportation energy source data book - first draft.

. Evaluations of more than 100 new energy saving concepts offered by the public.

(Dollars in thousands, except whole dollars in narrative material)

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Objectives for FY 1977 include:

1. Complete ongoing studies (currently half completed) to assess the impacts of the use of alternative fuels.

2. Update periodically the data book on transportation energy usage.

3. Continue evaluations of new concepts; fund most promising.

4. Improved Conversion Efficiency..... $4,300

The goal of this subprogram is to develop critical technology and improved energy conversion techniques for use in electric energy systems, transportation, buildings and industry. The technology and improved techniques are mandatory for the successful completion of major systems and therefore are key elements in the energy conservation program. The benefits of improved energy conversion are improved efficiency and reliability, fuel substitution, utilization of waste heat from inefficient processes, and a reduced dependence on petroleum. It is estimated that the technologies being developed in the energy conversion subprogram, when implemented by the private sector, can result in an energy savings of 620,000 barrels of oil per day by 1985 and a cumulative energy savings of 330,000,000 barrels. Specific objectives of this program include the development of materials and fabrication techniques; development of techniques for increasing the efficiencies of combustion devices; development of systems which utilize low and high grade heat for industrial and utility applications including waste heat utilization; development of components such as heat exchangers, motors, pumps and generators of improved efficiency and reliability and development of new systems capable of improved conversion efficiencies for stationary and mobile applications. These areas of development will be continuously examined in terms of technology availability, economic feasibility and potential payoff.

Worldwide technology development relating to this program will be monitored to determine if its implementation is possible and will contribute to reducing energy usage. The FY 1977 Energy Conversion request does not include cost ceiling for the wood waste program initiated in FY 1976.

The objectives and program descriptions of the specific energy conversion categories are continued below. Estimates of specific oil savings which could result from implementation of the technology in this program are shown in the following tables:

(Dollars in thousands, except whole dollars in narrative material)

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Summary of Potential Savings for Improved Conversion Efficiency Subprogram
(Thousands BPDE)

	1977	1978	1979	1980	1985
1. HEAT UTILIZATION SYSTEMS	0	1-2	5-9	15-19	80-100
2. IMPROVED COMPONENT EFFICIENCY/RELIABILITY	0	0	0-1	1-3	15-20
3. ADVANCED CYCLES TECHNOLOGY	0	0	0	1-3	435-450
4. MATERIALS AND FABRICATION TECHNOLOGY	0	0	0	8-10	30-40
5. COMBUSTION TECHNOLOGY	*	*	*	*	*
6. ALTERNATIVE FUELS TECHNOLOGY	*	*	*	*	*
Estimated Aggregate Energy Savings	0	1-2	5-10	25-35	560-610

* THE ENERGY SAVINGS ATTRIBUTED TO THESE EFFORTS IS INCLUDED IN OTHER CONSERVATION PROGRAMS WHICH RECEIVED THEIR SUPPORT AND TECHNOLOGY INPUT.

(Dollars in thousands, except whole dollars in narrative material)

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Summary of Potential Savings by Project for Energy Conversion Subprogram
(Thousands BPDE)

	1977	1978	1979	1980	1985
First Impact: 1977					
None	-	-	-	-	-
First Impact: 1978					
Rankine Waste Heat Recovery Large Diesel Engines	-	1-2	2-5	6-7	15-20
First Impact: Beyond 1978					
Fuel Cells	-	-	-	3-5	200-230
Other Programs	-	-	3-5	16-23	345-360
Estimated Aggregate Energy Savings	0	1-2	5-10	25-35	560-610

(Dollars in thousands, except whole dollars in narrative material)

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Heat Utilization Systems - The programs in this category are concerned with the technology development for more efficient, reliable, low and high grade heat utilization systems. These systems represent one of the few conservation technology areas in which a substantial, near term reduction in the consumption of gas and petroleum can be realized. The FY 1976 effort is supporting the start of several high priority near term payoff programs and the conduct of the necessary market, systems and design analysis to develop cost-effective, size and temperature range applications for the various heat utilization systems.

Low Grade Heat Systems - Historically, very little development work has been accomplished by the private sector because low fuel costs have effectively blocked market penetration by new technologies on a cost/benefit basis; and because of the diverse and therefore vague nature of the potential markets. This situation has begun to change due to the rapid increase in fuel costs, but manufacturers are still reluctant to undertake high risk development programs, and field validation tests of performance and reliability in the present economic climate. If these energy saving systems are to be quickly implemented by the private sector, it is urgent that ERDA provide the necessary incentives by identifying and demonstrating cost-effective applications. Fortunately, a great deal of existing technology can be quickly adapted to the development of "low grade" heat recovery systems for application to a broad range of end-use sectors. Closed Rankine systems are most quickly and economically implementable and they, therefore, will receive the greatest near-term emphasis. Typical low temperature (800°F and below) systems under development for near term (2-10 years) implementation during FY 1976 are:

1. Organic Rankine Bottoming Cycles utilizing single or dual working fluids for application to large diesel engines and industrial gas turbines; and,
2. Waste heat recovery systems for industrial waste heat streams.

Typical longer term programs are the development of systems to utilize lower temperature heat (below 200 F) than is presently practical, via improved component performance and new technology.

Three Rankine type waste heat programs will have been initiated in FY 1976 and full scale, field evaluation tests will begin in the next twelve to eighteen months on several of these. Feasibility demonstration of these programs will continue into FY 1977-78 and 1979. These systems will initially be installed on large industrial diesel engines typically used for electrical generation, marine propulsion, and industrial process power. There are about 70,000 of these engines as a potential market. These same systems can be scaled up or down in size and adapted to industrial and marine gas turbines. These same systems can be adapted to a number of industrial processes rejecting low grade waste heat. One of these programs is being transferred from the National Science Foundation and another has already been initiated, and at least one more is planned. The successful development of these systems can have a substantial impact on the conservation goals. It is estimated that the potential the previous charts are due to implementation of these low grade heat cycles. The FY 1977 funding will enable these systems to come to fruition and show the already mentioned significant oil savings.

(Dollars in thousands, except whole dollars in narrative material)

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High Grade Heat Systems - In the high temperature (800 F and above) heat range, the recovery potential is also great. However, appropriate systems, e.g. open and closed Brayton cycle engines must have improved heat exchanger technology, materials, and particle tolerance developed into them. These systems will, therefore, require a greater time to implementation.

The objectives of this effort are, broadly, twofold, 1) to provide conversion machinery capable of operating at higher source temperatures, with less clean up thereby making combined cycle systems more practical and improving the Carnot potential; and 2) to provide systems capable of accepting high temperature heat at low pressure and performing useful work.

Traditionally, uneconomical closed Brayton systems are thermodynamically suitable for the second application. However the high temperature materials and component efforts are expected to improve the economics of both closed Brayton and thermionic systems as specific examples of the mutually interacting programs in this area. A comprehensive effort to coordinate heat transfer technology has been initiated which will initially place great emphasis on the high temperature problems. Likewise, jointly supported programs have been initiated to develop terrestrial thermionics applications.

Typical high temperature heat recovery systems planned or under development during FY 1976 include:

1. Thermionic converters for the utilization of both primary and waste heat at high temperatures.

2. Helical expanders and other direct fired conversion machinery for operation with any fuel source and minimum gas clean-up.

The FY 1977 effort will continue the resource, technology and cost/benefit studies and hardware programs as well as initiate a number of program actions such as:

1. Conduct experiments aimed at reducing thermionic conversion technology to good engineering practice for terrestial applications. These experiments will address high temperature heat transfer problems, thermionic device output coupling, and development of large thermionic heat exchanger modules.

2. Fabricate a prototype helical expander for material and design evaluation based on a design completed during FY 1976.

It is estimated that an energy savings of 40,000 barrels of oil per day could be achieved by 1985 by implementation of these technologies by the private sector.

(Dollars in thousands, except whole dollars in narrative material)

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Improved Component Efficiency & Reliability - Among the key national goals adopted by ERDA is to increase efficiency and reliability of the processes used in energy conversion and delivery systems. To accomplish this, technology required for the improvement of component efficiencies and reliability of equipment such as heat exchangers, compressors, pumps, motors, generators, bearings and boilers is being developed. The effort is directed primarily to the large conversion systems since appreciable savings can be made by improvements to electric utility and large industrial plants. Current utility plants, for example, operate in the 30 to 35% efficiency range with a few super-critical units operating close to 40% efficiency. Similar efficiencies are prevalent in industry. However, both groups are subject to forced outages in excess of 15% and total down time is in excess of 25%. Because large utility plants require 8 to 10 hours from start up to become operational, with upwards of 100 tons of fuel per hour consumed in the heat-up phase, considerable energy savings will occur with improved efficiency and reliability.

FY 1976 efforts have been initiated with EEI (Edison Electric Institute), EPRI (Electric Power Research Institute), and FEA (Federal Energy Administration) to collect and review operational data on large fossil fuel fired and nuclear fired plants. This operational data will identify those components which have contributed to the low reliability and efficiency of the large utility plants. Contracts will be let in FY 1976 to investigate causes of boiler inefficiencies and primary heat exchanger inefficiencies which will result in FY 1977 programs to improve technology in these areas.

In addition, the potential energy savings resulting from energy-efficient utilization of pumps will be investigated via a survey initiated to identify priorities for research, development and demonstration programs directed to more efficient and reliable component design and development.

Also, a new high-efficiency power conversion cycle is being investigated which will convert almost 90% of high-grade thermal input to electricity. The regenerative closed Brayton-like cycle utilizes a chemical compressor (metal hydride system) and two thermal inputs: a conventional high-grade input, i.e., nuclear reactor, or fossil combustor, and a low-grade input such as solar or geothermal sources. The FY 1976 effort will result in a series of conceptual designs for metal hydride chemical compressors using different modes of heat input and removal.

The FY 1977 effort will continue the fact finding and data gathering, but the priority will trend towards cost effectiveness and beneficial technology development most suited to the short-term time frame, which requires the incentive of government sponsorship to eliminate the risk hazard to industry. Typical examples of the programs to be undertaken are high temperature ceramic heat exchangers, high temperature heat pipes, more efficient water treatment and scale control, improved descaling methods and the development of efficiency standards for components and subsystems. It is estimated that when the technologies being developed in this category have been implemented by the private sector, it would result in a cumulative energy savings of 20 million barrels of oil by 1985.

(Dollars in thousands, except whole dollars in narrative material)

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Advanced Cycles - The development of new energy conversion equipment, based on advanced cycles is a high risk, high cost operation which few commercial organizations are willing to undertake in the present economic situation. It is the purpose of this program to provide the funding and incentive for industry to develop new, highly efficient, cost effective conversion equipment which will show appreciable energy savings in the near term.

The advanced cycles program consists of four main thrusts, each of which has a projected high payoff in terms of lowering energy cost and reducing the use of petroleum fuels. These four areas are:

1. Fuel Cells - Development of fuel cell technology through commercialization is estimated to save 275,000 barrels of oil per day by 1985 and save the taxpayer over $1 billion per year in lower electric costs, beginning in the early 1980's. The fuel cell potential efficiency is exceptionally high since it is an electrochemical device, not limited by heat engine or Carnot efficiencies.

2. Industrial Gas Turbine Engines - Development of gas turbine engines specifically for industrial use, rather than modifying aircraft engines and selling them to industry and the utilities, is expected to improve operational efficiency markedly. It is estimated that 30,000 barrels of oil per day could be saved by 1983, with the savings increasing significantly after that time. The new class of engine is expected to operate in simple cycle at around 35% conversion efficiency.

3. Stirling Cycle Engines - The theoretical efficiency of an engine based on the Stirling cycle is nearly the highest possible. In addition, Stirling engines are clean burning, and use a multiplicity of fuels. Estimated savings, for all Stirling applications, exceed 150,000 barrels of oil per day saved by 1985.

4. Power Electronics - Advanced, efficient, low cost power electronics are required for power conditioning circuitry in both conversion and energy storage systems. Efficient conditioning between AC and DC power is needed for further enhancement of system conversion efficiencies.

Due to the high potential benefits to the taxpayer, a strong development program has been initiated in FY 1976 with the goal of commercializing fuel cells by 1980. The FY 1976 program consists of technology programs addressing first, second, and third generation candidate systems as well as advanced studies further defining markets and benefit.

For first generation systems, a proof of concept program is underway to define candidate materials and fabrication techniques for a fuel cell system which will be demonstrated in about two years. A competitive industrial base has been initiated by starting development programs with several industries and national laboratories aimed at producing coal-using, low cost fuel cell systems by the early to mid 1980's.

(Dollars in thousands, except whole dollars in narrative material)

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The FY 1977 program will continue to expand the development programs for future competitive systems as well as to expand and continue a major advanced development effort aimed at first generation installations by 1980. The major program leading to near-term demonstration will include advanced design and fabrication techniques, technology characterization and improvement, manufacturing methods and techniques, advanced fuel processing for a wide range of fuels, and fuel cell stack testing for performance characterization.

Other programs will utilize fuel cells in combination with, a) waste hydrogen for industrial applications; and, b) with coal gasification products as fuel. In FY 1977, the Conversion subprogram will have $10,000,000 in obligational authority to initiate a contract with an industrial firm to demonstrate a 4.8 MW module.

The gas turbine engine program is beginning two design and analysis contracts in FY 1976 aimed at prototype development within three years. These designs are aimed at high efficiency with low cost, and include radically different compressors and turbines compared to presently installed systems. Higher turbine inlet temperature will be achievable through advanced, thicker blade designs and new cooling techniques. Compressors are being designed in axial-centrifugal configurations including new, low cost fabrication techniques. Structural design for longer life and higher reliability is being addressed. In FY 1977 these contracts will be continued, and initial component fabrication and testing will take place. At the end of FY 1977, an RFP will be let for a single, advanced design gas turbine engine incorporating the advanced industrial turbine technology instead of being aircraft engine derived. The final product is expected to be capable of utilizing methanol and synfuels in addition to petroleum derived fuels.

Engines based on the Stirling cycle have been previously examined only by, or under license to, a single European corporation. A Stirling cycle R&D program is being initiated which will promote competition and infuse aerospace technology into advanced Stirling engine designs in the United States. The engine designs are aimed at using a multiplicity of fuels with low environmental impact. In FY 1976 a development program is being initiated which will produce the basic information required to demonstrate viable commercial 1000 HP Stirling engines for electric power generation by 1982. Also, two smaller programs are being initiated to design and develop low horsepower Stirling cycle engines; one using the sun as a heat source and the other to be employed as a low power energy source.

A systems analysis and cost-effectiveness study is being contracted in order to examine the possibility of using a Stirling-driven total energy system in conjunction with a single-family dwelling. In FY 1977, these programs will be continued and expanded. As results are forthcoming and evaluated, appropriate program changes will be made in the projected design. This will lead into advanced designs for concept validation by 1980.

The power electronics program is aimed at developing power conditioning circuitry such as inverters and converters, for industrial, utility, and transportation needs. This type of circuitry is needed for DC to AC conversion (Batteries/Fuel Cells/

Photovoltaic Cells) and for AC to DC conversion for energy storage. To this end, the FY 1976 effort includes fact finding, assessment of the present state of the art, assessment of future needs and problems in reduction of advanced concepts to engineering practices, and evaluation of potential high risk/high payoff development programs. The FY 1977 effort will continue the data gathering and evaluation efforts, and include initiation of the most cost effective, high payoff development programs. Typical examples of the programs will include development of bidirectional multi-megawatt converters, development of quick battery charge circuits for electric vehicles, and development of advanced control circuitry for power converters utilizing micro electronic technology. This program is expected to develop advanced power conditioning technology, reduce this technology to engineering practice, and result in more reliable, less costly power conditioning circuitry.

Materials and Fabrication Technology - The primary function of materials and fabrication technology is to support various R&D programs by providing the technology advances in the time frame needed for the major systems under development. Since the work involves government, university and industrial laboratory programs, ERDA's coordinating role is an important function. ERDA will coordinate the implementation of the recommended programs on a national scale.

In several Conservation programs and in other ERDA programs, development and fabrication problems require the attention of materials specialists. Furthermore, there is a commonality of problems in some areas. An example in the FY 1976 and FY 1977 program plan is high temperature materials for energy conversion equipment, which includes tubomachinery, heat exchangers, and combustors.

In addition to cooperative programs with engineering groups in fuel cell technology, energy storage, and heat utilization systems, independent programs are underway in FY 1976 in the following areas:

1. Development and evaluation of ceramic components for diesel engines. Ceramic components should lead either directly or indirectly to higher operating temperatures, higher efficiency, lower cost, and cleaner exhaust emissions.
2. Development of new processing techniques for advanced ceramic materials (Silicon carbide, silicon nitride and sialons). Examples are preparation of ultrafine powders and hot pressing of powders to final shape. These programs should lead to greatly improved properties and lower cost of advanced ceramic hardware.
3. Development of new coating and cladding processes for combustion hardware and waste heat utilization systems. Corrosion protection can be provided without incurring the high cost of monolithic corrosion-resistant materials.
4. Planning studies to define high payoff areas in the reclamation of metals and plastics. Both metal and plastic production processes are energy-intensive.

(Dollars in thousands, except whole dollars in narrative material)

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All of the areas listed above with the exception of item (d) will be continued in FY 1977. The following work will be initiated in FY 1977:

1. Development of new plastic and metal reclamation processes. Examples are processes for producing oil from plastic waste and a new refining process for making commercially pure aluminum from impure aluminum separated from mixed waste streams.
2. Development of fuel additions to passivate structural materials in combustion hardware from corrosion. This approach is an inexpensive and effective way to achieve high reliability.
3. Development of laser welding technology for large hardware. Laser welding shows great promise for improving the metallurgical structure and properties in welded joints.
4. Development of new alloys to minimize the use of alloying elements in short supply. Examples are non-noble metal catalysts and low-chromium stainless steel.

These programs and others, to be started in future years, should provide direct benefits not only to major systems under development by the Conservation programs but also to many other ERDA programs.

Combustion Technology - The combustion of fossil fuels provides for virtually all the U. S. energy needs and will continue to supply over half the energy demand through the turn of the century. In many areas of the private sector, conversion systems operate with low efficiency. Typical examples of these are found in the older commercial installations and building heating units where efficiencies are in the order of 50 to 55 percent compared with modern installations operating around 85 percent efficiency.

In all cases, there is a potential for significant improvement in combustion efficiency, 12 to 18 percent when considered on an overall energy demand basis. Realization of this potential while maintaining and improving the environmental quality requires advances in combustion technology for conventional and alternate fossil fuels and synthetic fuels.

Because of the commonality of combustion related problem areas in virtually all end-use sectors, it is economic and more efficient to place the development of a combustion technology base under one agency. ERDA is developing a national program to advance this technology. Key elements of the program are the following:

65-300 O - 76 - 34

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1. Utilization of industrial manufacturers, Government agencies and research organizations to identify combustion-related problem areas of high conservation potential in end-use sectors.
2. Establishment of applied research programs in university, industrial, and Government laboratories in those identified areas where advances in the technology are constrained by limits on understanding of combustion processes or limits upon supporting methodologies.
3. Establishment of technology development programs in university, industrial and government laboratories to assess the potential of innovative improvements in combustion devices.
4. Coordination with other divisions within ERDA, other Federal agencies and organizations in areas of overlapping interest in order to capitalize on the results and momentum of existing programs to insure a well balanced national R&D effort, and to initiate and monitor the technology transfer to end-use sectors.

The applied research programs are directed toward development of rational methods of combustion equipment design using advanced diagnostic and modeling techniques. The FY 1976 effort includes development of advanced optic and acoustic instrumentation for diagnostic and performance measurements in combustion processes, formulation of improved numerical modeling methods for predicting combustion system performance, and development of a chemical kinetics data base to support combustion performance modeling. The technology development programs are directed toward development and evaluation of innovative and advanced concepts for combustion device design and operation. The FY 1976 effort includes investigations of stratified charge combustion processes and components, and catalytic combustion processes. It is expected that the combustion programs began under the sponsorship of the NSF/RANN program which had a funding base of approximately $3.0 million in FY 1976, will be transferred to this program.

The FY 1977 applied research programs will include the development of laser doppler, scattering, and fluorescence diagnostic instruments; modeling of fundamental combustion processes; further development of the chemical kinetics data base; and investigations of pollutant formation processes as they relate to energy conservation methods.

The FY 1977 technology development programs will be directed toward the following combustion applications:

1. Transportation
   a. spark-ignition engines
   b. diesel engines
   c. continuous combustion engines
2. Electric Power
   a. steam boilers
   b. fluidized bed boilers
   c. gas turbines

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
CONSERVATION RESEARCH AND DEVELOPMENT
END USE CONSERVATION AND TECHNOLOGIES TO IMPROVE EFFICIENCY: OPERATING COSTS - continued

3. Buildings and Industry
   a. furnaces and boilers
   b. appliances
   c. industrial processes

In each combustion application category, concepts for improving efficiency while maintaining emission control effectiveness will be identified and evaluated for the following system components:

1. Fuels: modifications including additives, emulsification, and physical property changes; substitution of alternate fuels.
2. Combustion chambers: configuration, surface properties, fuel and air injection, and ignition techniques.
3. Performance monitors: combustion efficiency, pollutant emission, and noise emission.
4. Process controls: performance sensing, control mechanisms, and control logic development.

Planning of the FY 1977 applied research and technology development program is being coordinated with EPA to insure that proper consideration is given to maintaining pollutant and noise emission control.

Alternative Fuels Technology - The primary objective of this effort is to determine the characteristics peculiar to specific synthetic or substitute fuels in order to obtain the data necessary for optimizing the design of suitable combustion devices and processes. Due to the relatively low energy return ratio associated with the use of these fuels, the potential impact of modest efficiency improvements is very large.

The FY 1976 effort is primarily concerned with the further development of the wood waste conversion plant in Albany, Oregon. Emphasis will be placed on the energy-economics of the conversion process and the combustion characteristics of the derived fuels. The use of methanol in gas turbine combustors, and the use of hydrogen as a fuel in various combustion processes will also be initiated.

In FY 1977 an effort will be initiated to characterize the low BTU gas typically obtained from coal gasification plants for firing gas turbine combustors and the property data necessary for the design of devices utilizing this fuel. A specific goal of this effort is the development and application of in-situ diagnostic techniques to quantitatively study critical minor species, e.g. vanadium, whose presence is anticipated to adversely affect component lifetime and thus overall system efficiency.

During FY 1977 these efforts in waste conversion technology will be consolidated into a unified program on the basis of specific problem areas identified in the early phases of the individual efforts.

U.S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
FY 1977 Budget Estimates
Appropriation - Plant and Capital Equipment
(Dollars in thousands, except whole dollars in narrative material)
RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
CONSERVATION RESEARCH AND DEVELOPMENT

END USE CONSERVATION AND TECHNOLOGIES TO IMPROVE EFFICIENCY - PLANT AND CAPITAL EQUIPMENT OBLIGATIONS

PROGRAM STATEMENT

	Actual FY 1975	Estimate FY 1976	Estimate Transition Quarter	Estimate FY 1977
A - Obligations for Construction Projects.....	$ 0	$ 0	$ 0	$ 0
B - Obligations for Capital Equipment Not Related to Construction.....	0	600	40	2,000
Total Obligations for Plant and Capital Equipment.....	$ 0	$ 600	$ 40	$ 2,000

Obligations for the End Use Conservation and Technologies to Improve Efficiency Program for FY 1977 are estimated at $2,000,000 of which:

a. $0 is for construction projects.
b. $2,000,000 is for Capital Equipment Not Related to Construction justified in Section B below, requested for authorization in the proposed Authorization Bill.

Section B - Obligations for Capital Equipment Not Related to Construction

Subprogram	Actual FY 1975	Estimate FY 1976	Estimate Transition Quarter	Estimate FY 1977
1. Industry Conservation.....	$ 0	$ 0	$ 0	$1,000
2. Buildings Conservation.....	0	0	0	0
3. Transportation Energy Conservation...	0	400	40	500
4. Improved Conversion Efficiency.....	0	200	0	500
Total End Use Conservation and Technologies to Improve Efficiency.....	$ 0	$ 600	$ 40	$2,000

CR/U-73

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH DEVELOPMENT AND DEMONSTRATION PROGRAMS
CONSERVATION RESEARCH AND DEVELOPMENT
END USE CONSERVATION AND TECHNOLOGIES TO IMPROVE EFFICIENCY - PLANT AND CAPITAL EQUIPMENT OBLIGATIONS

JUSTIFICATION

1. Industry Conservation.....$ 1,000

This will provide supporting capital equipment for programs described. The majority of the funding will be used towards purchase of controls and instrumentation to improve utilization of energy in the specific processes and for automated controls such as microcomputer/slave chip arrangements, approximately $90,000 per arrangement, to automatically sequence process equipment balancing loads in in-plant power and process steam generation experiments. For example, equipment is needed to monitor the steps in specific processes (e.g., iron and steel, paper making) to determine the improvement due to new energy conservation methods.

2. Transportation Energy Conservation.....$ 500

Laboratory equipment procured during FY 1977 will be directed toward the testing and evaluation of new concepts and technologies in advanced engines and fuels for various transportation systems such as battery-electric vehicles, gas turbines, Stirling engines and hydrogen, methanol, ethanol, and other non-petroleum fuels. The principle objective of this testing program will be to determine the practicability of new concepts and technologies and the performance, energy economy, emissions, safety and compatibility of these advanced engines and fuels. The total capital equipment request for this testing and evaluation for FY 1977 is estimated at $500,000. An equipment list is presented below.

Equipment for testing advanced engines and fuels will be adapted from existing equipment, where possible. Some test equipment is presently available only on specialty order, while other equipment is not presently available commercially. For these reasons, it is not possible to attach cost numbers to each of the items separately. The total FY 1977 equipment budget is based upon an engineering estimate of the premium cost of test equipment specially adapted to the testing of advanced engines and fuels.

LABORATORY EQUIPMENT
FY 1977

a. Electric Vehicle Test Bay..... 1
b. Engine Dynamometer (computer controlled, modified)..... 1
c. Fuel Test Laboratory (Modified)..... 1
d. Cryogenic Fuel Storage Facility with Liquefaction Capability..... 1
e. Petroleum Product Test Bay..... 1
f. Lubricating Oil Test Bay..... 1
g. Gas/Liquid Chromatograph..... 1
h. Heated Flame Ionization Detector..... 1

(Dollars in thousands, except whole dollars in narrative material)

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAMS
CONSERVATION RESEARCH AND DEVELOPMENT
END USE CONSERVATION AND TECHNOLOGIES TO IMPROVE EFFICIENCY - PLANT AND CAPITAL EQUIPMENT OBLIGATIONS

i. Dedicated Computer for Engine Dynamometer 1
j. Misc. Test Equipment ..... -

3. Improved Conversion Efficiency ..... $ 500

The capital equipment required to support the energy conversion subprogram includes laboratory equipment for special testing and initial setup of components as well as equipment required to fabricate prototype systems being developed.

U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
TRUST FUNDS
COSPONSOR FUNDS

Program and Financing (In Thousands of Dollars)

Identification code: 19-00-8575-0-7-305	FY 1975 Actual	FY 1976 Estimate	Transition Quarter Estimate	FY 1977 Estimate
Program by Activities:				
(a) Coal				
1. Cosponsor Funds - contract research	$ 12,999	$ 10,000	$ 2,500	$ 10,000
10. Total obligations	12,999	10,000	2,500	10,000
Financing:				
60. Budget authority (appropriation) (permanent, indefinite)	12,999	10,000	2,500	10,000
Relation of Obligations to Outlays:				
71. Obligations incurred, net	12,999	10,000	2,500	10,000
90. Outlays	12,999	10,000	2,500	10,000

(Dollars in thousands, except whole dollars in narrative material)

TRUST FUND

ADVANCES FOR COOPERATIVE WORK
COSPONSOR FUNDS

American Gas Association

This account provides for those funds made available by the American Gas Association (A.G.A.) as its cosponsored portion of a combined ERDA/A.G.A. program for accelerated research and development of high-Btu gasification projects. In 1971 industry and Government joined in a cooperative effort to establish a viable coal gasification industry by means of a joint, accelerated research and development program. Major projects associated with this program include the pilot plant efforts for the HYGAS, Bi-Gas and Carbon Dioxide Acceptor gasification processes, and the Steam-Iron process for the production of hydrogen.

The agreement with A.G.A. provides for joint funding of two-thirds by Government and one-third by industry for high-Btu gasification projects, beginning in FY 1972, and all funds committed each year are available until expended. Total A.G.A. contributions committed for the program through FY 1976 amount to $49,950,000.

The joint Government/industry gasification program is directed and administered by two program directors, one representing the Government and the other from the American Gas Association, whose functions include the preparation of the annual program and budget, preparation of contract work statements, concurrence of contracts, allocation of funds, and the staffing and direction of operations of the Operating Committee.

Estimate of advances to be used for this effort in FY 1977 is $10,000,000 on an obligations basis.

Listed below is a summary of funding for the joint program.

Fiscal Year	Amount	
1972	$ 2,119	actual expenditure
1973	3,471	" "
1974	7,341	" "
1975	15,822	" "
1976	10,000	estimated obligations
Transition Quarter	2,500	" "
1977	10,000	" "

U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
TRUST FUNDS
CONTRIBUTED FUNDS

Program and Financing (In Thousands of Dollars)

Identification code: 19-00-8575-0-7-305	FY 1975 Actual	FY 1976 Estimate	Transition Quarter Estimate	FY 1977 Estimate
Program by activities:				
Direct program:				
1. Fossil energy development (b) Petroleum, natural gas, and in situ technology	$ 22	$ 59	$ 10	$ 40
Total program costs	22	59	10	40
Change in selected resources (undelivered orders)	10	-15	-	-
10. Total obligations	32	44	10	40
Financing:				
21. Unobligated balance available, start of period	0	-4	0	0
22. Unobligated balance transferred from other accounts	-7	0	0	0
24. Unobligated balance available, end of period	4	0	0	0
60. Budget authority (permanent)	29	40	10	40

U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
TRUST FUNDS
CONTRIBUTED FUNDS

Program and Financing (In Thousands of dollars)

Identification code: 19-00-8575-0-7-305	FY 1975 Actual	FY 1976 Estimate	Transition Quarter Estimate	FY 1977 Estimate
Relation of obligations to outlays:				
71. Obligations incurred, net	$ 32	$ 44	$ 10	$ 40
72. Obligated balance, start of period	0	15	0	0
74. Obligated balance, end of period	-15	0	0	0
90. Outlays	17	59	10	40

TRUST FUND

ADVANCES FOR COOPERATIVE WORK

CONTRIBUTED FUNDS

Petroleum, natural gas, and oil shale - contributed funds

Funds contributed by states, counties, municipalities, and private sources are used to conduct research and investigations to promote the conservation, evaluation, and development of energy resources. Activities include composition and characterization of petroleum, engine testing of petroleum fuels, and oil shale development.

Estimates of advances to be used for these purposes are $40,000 for fiscal year 1976 and $40,000 for fiscal year 1977.

CNF-3 END

U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION

SPECIAL FOREIGN CURRENCY PROGRAM

Program and Financing (In Thousands of dollars)

Identification code: 19-00-0102-0-1-305	FY 1975 Actual	FY 1976 Estimate	Transition Quarter Estimate	FY 1977 Estimate
Program by Activities:				
Fossil Energy Research (program costs, funded) (object class 25.0)	$ 0	$ 3,150	$ 500	$ 0
Change in selected resources (undelivered orders)	0	3,500	-500	0
10. Total obligations	0	6,650	0	0
Financing:				
21. Unobligated balance, start of period	0	0	0	0
24. Unobligated balance, end of period	0	0	0	0
40. Budget authority (appropriation)	0	6,650	0	0
Relation of obligations to outlays:				
71. Obligations incurred, net	0	6,650	0	0
72. Obligated balance, start of period	0	0	3,500	3,000
74. Obligated balance, end of period	0	-3,500	-3,000	-1,000
90. Outlays	0	3,150	500	2,000

U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION

PROPOSED APPROPRIATION LANGUAGE CHANGES - SPECIAL FOREIGN CURRENCY PROGRAM

(Dollars in thousands, except whole dollars in narrative material)

The proposed changes in language are indicated as follows: language enclosed in brackets [ ] indicates proposed deletions, and underscoring _____ indicates proposed insertion of new language.

[Special Foreign Currency Program]

[For payments in foreign currencies which the Treasury Department shall determine to be excess to the normal requirements of the United States, for necessary expenses of the Energy Research and Development Administration, as authorized by law, $6,650,000, to remain available until expended: Provided, That this appropriation shall be available, in addition to other appropriations, to such office for payment in the foregoing currencies.] (7 U.S.C. 1704; Department of the Interior and Related Agencies Appropriation Act, 1976, and the period ending September 30, 1976.)

U.S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
FY 1977 Budget Estimates
Appropriation - Special Foreign Currency Program
(Dollars in thousands, except whole dollars in narrative material)

SUMMARY TABLE BY SUBPROGRAM

Operating Expenses	FY 1975 Actual		FY 1976 Estimate		Transition Quarter Estimate		FY 1977 Estimate	
	B/A	B/O	B/A	B/O	B/A	B/O	B/A	B/O
Coal								
1. Extraction/Hydrogenation of Coal..	$ 0	$ 0	$ 5,350	$ 2,520	$ 0	$ 400	$ 0	$ 1,700
2. Production of Clean Gas for Use in MHD Power Systems.....	0	0	1,300	630	0	100	0	300
Total Coal Program.....	$ 0	$ 0	$ 6,650	$ 3,150	$ 0	$ 500	$ 0	$ 2,000

PROGRAM STATEMENT

Estimate FY 1977.....$2,000
Estimate FY 1976..... 3,150
Decrease.....$1,150

The Energy Research and Development Administration (ERDA) requested funding in the FY 1976 budget to support a three year program for selected research on extractive hydrogenation of coal, and on a study to gasify coal to produce a suitable plasma for use in MHD generators. Payment for these projects will be made in currencies of those nations in which the research projects are taking place, and which the U. S. Treasury determines to be in excess of our nation's normal requirements. The programs described above will take place in the Republic of Poland. No new budget authority is requested for FY 1977. The estimated costs for the budget year are $2,000,000.

Poland has a large and growing coal industry, with extensive reserves but only small amounts of oil and gas. This has led to a strong research program to develop the needed technology for the conversion of coal to liquids and gases, as over 40 percent of Poland's energy requirements are furnished by imported oil and gas.

Work on liquefaction of coal in Poland was started in 1966 and within four years a 5 kilogram (11 pounds) per hour development unit was operational. During a subsequent testing program, 15 types of coals have been studied. The specific goal of this program will be to utilize through international cooperation the technological expertise developed by Polish Government specialists in the areas of coal conversion and magnetohydrodynamics. These studies will corroborate or complement similar research and development activities conducted by ERDA.

(Dollars in thousands, except whole dollars in narrative material)

SPECIAL FOREIGN CURRENCY PROGRAM - continued

SUMMARY OF ESTIMATES BY SUBPROGRAM

Page No.	Subprogram	Actual FY 1975	Estimate FY 1976	Estimate Transition Quarter	Estimate FY 1977
SF/C-2	1. Extraction/Hydrogenation of Coal	$ 0	$ 2,520	$ 400	$ 1,700
SF/C-2	2. Production of Clean Gas for Use in MHD Power Systems	0	630	100	300
	Total Special Foreign Currency	$ 0	$ 3,150	$ 500	$ 2,000

JUSTIFICATION OF SUBPROGRAMS

1. Extraction/Hydrogenation of Coal ..... $ 1,700

Operating costs in FY 1977 for this program are estimated to be $1,700,000. Poland's Ministry of Heavy Industry has completed laboratory facilities at the Institute of Carbochemistry for investigation of two-stage liquefaction involving coal extraction, solid-liquid separation and hydrogenation of extract. The one-ton-per-day pilot plant under construction will permit evaluation of the basic liquefaction process as well as alternative solid-liquid separation. The applicability of centrifugation and filtration will be investigated. The hydrogenation section will contain three ebullating bed hydrogenation reactors.

As the work proceeds, a plant concept will be established and preliminary engineering will be completed to determine projected plant operating and product costs. Alternate plant concepts will be studied and evaluated. This work will require a minimum of three years.

2. Production of Clean Gas for Use in MHD Power Systems ..... $ 300

It is proposed to enlarge studies underway at the Institute of Nuclear Research in Swierk aimed at producing a clean hot gas from coal for use in an MHD channel. A technique known as two-stage combustion will be investigated as a way to burn (gasify) coal to produce suitable plasma for MHD generation of electricity.

The study will benefit the U.S. MHD effort by providing information on the removal of ash and control of ash carry-over into the MHD generator, on ways to minimize loss of alkali seed added to the plasma, and on the durability and reliability of equipment operating at extreme conditions.

SF/C-4 END

U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
OPERATING EXPENSES
FOSSIL FUEL AND RELATED PROGRAMS
OBJECT CLASSIFICATION (In Thousands of Dollars)

Identification code: 19-00-0100-0-1-999		FY 1975 Actual	FY 1976 Estimate	Transition Quarter Estimate	FY 1977 Estimate
Personnel compensation:					
11.1	Permanent positions	$ 10,377	$ 13,234	$ 3,830	$ 14,777
11.3	Positions other than permanent	1,300	1,100	350	1,300
11.5	Other personnel compensation	125	130	35	135
	Total personnel compensation	11,802	14,464	4,215	16,212
Personnel benefits:					
12.1	Civilian	1,120	1,390	400	1,575
21.0	Travel and transportation of persons	461	585	152	1,050
25.0	Other services	133,247	334,667	62,326	443,853
	Total costs, funded	146,630	351,106	67,093	462,690
94.0	Change in selected resources	127,700	174,967	39,476	30,540
	Total direct obligations	274,330	526,073	106,569	493,230

U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
OPERATING EXPENSES
FOSSIL FUEL AND RELATED PROGRAMS
OBJECT CLASSIFICATION (In Thousands of Dollars)

Identification code: 19-00-0100-0-1-999	FY 1975 Actual	FY 1976 Estimate	Transition Quarter Estimate	FY 1977 Estimate
Reimbursable obligations:				
Personnel compensation:				
11.1 Permanent positions	$ 100	$ 775	$ 200	$ 800
Personnel benefits:				
12.1 Civilian	70	75	20	80
21.0 Travel and transportation of persons	20	20	5	20
25.0 Other services	18	468	145	850
Total costs, funded	208	1,338	370	1,750
94.0 Change in selected resources	82	-73	0	0
Total reimbursable obligations	290	1,265	370	1,750
99.0 Total obligations	$ 274,620	$ 527,338	$ 106,939	$ 494,980

U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION

PLANT AND CAPITAL EQUIPMENT

FOSSIL FUEL AND RELATED PROGRAMS

OBJECT CLASSIFICATION (In Thousands of Dollars)

Identification code: 19-00-0103-0-1-999		FY 1975 Actual	FY 1976 Estimate	Transition Quarter Estimate	FY 1977 Estimate
31.0	Equipment	$ 198	$ 939	$ 190	$ 1,740
32.0	Lands and structures	625	9,000	3,500	30,300
	Total cost, funded	823	9,939	3,690	32,040
94.0	Change in selected resources	4,187	19,336	4,550	25,180
99.0	Total obligations	5,010	29,275	8,240	57,220

65-500 O - 76 - 35

U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION

FY 1977 Budget Estimates
Permanent Positions
End of Year Ceilings

Fossil Energy Development	FY 1975	FY 1976	FY 1977
Direct Employment - Energy Research Centers			
Coal Program	350	385	385
Petroleum and Natural Gas Program	200	225	225
In Situ Technology Program	151	159	159
Total Direct Fossil Energy Development	701	769	769
Reimbursable Work	76	63	63
Trust Fund	2	2	2
Total Full-time Employment - Energy Research Centers	779	834	834

Construction Project Data Sheet
(Dollars in thousands, except whole dollars in narrative material)

Headquarters

Research, Development and Demonstration Programs
Fossil Energy Development - Coal

1. Title and Location of Project: Modifications and additions to Energy Research Centers

2. Project No. 77-1-a

3. Date A-E Work Initiated: 1st Qtr., FY 1977
3a. Date Physical Construction Starts: 3rd Qtr., FY 1977
4. Date Construction Ends: 4th Qtr., FY 1979

5. Previous Cost Estimate:
Date: None
6. Current Cost Estimate:
Date: 12/75 $6,900,000

7. Financial Schedule:

Fiscal Year	Obligations	Costs
1977	$ 6,900	$ 1,200
1978	0	3,000
1979	0	1,600
1980	0	1,100

8. Brief Physical Description of Project:

This project provides for modifications required at the five Energy Research Centers (ERC) located in Pittsburgh, Pennsylvania; Bartlesville, Oklahoma; Grand Forks, North Dakota; Laramie, Wyoming; and Morgantown, West Virginia; that are necessary to comply with the requirements of the Occupational Safety and Health Act (OSHA) of 1970, or are required to minimize potential fire losses; improve monitoring and control of pollutants entering the environment as required by the Federal Water Pollution Control Act; and in general to attain and maintain the level of protection of personnel, property and the environment consistent with Federal and ERDA policies and requirements.

Preliminary surveys completed to date indicate that sprinkler systems and improvements in water supply will be required at all five locations to provide for fire protection. Required OSHA corrections include modifications to working surfaces and passageways, material handling and storage facilities and gas equipment, operating machinery to provide protective guards and other personal protection equipment.

Corrective work, which is required to meet applicable environmental standards and regulations at the ERC's, include improvements to the sewage plants, installation of neutralization facilities, chlorinating and trapping equipment, and diking around fuel storage tanks to prevent accidental release of fuel to nearby surface or ground water. In addition, effluent monitoring and other similar equipment will be required at the Morgantown, Laramie, and Pittsburgh ERC's.

Corrective work identified in these surveys will be prioritized and those projects with the largest impact on personal safety and environmental protection will be started first. The total estimated costs for these projects is estimated to be $5,100,000.

Construction Project Data Sheet
(Dollars in thousands, except whole dollars in narrative material)

77-1-a Modifications and additions to Energy Research Centers

Research, Development and Demonstration Programs
Fossil Energy Development - Coal

In addition to the Fire, Safety and Environmental Protection projects discussed above, selected modifications and rehabilitation of Morgantown Energy Research Center to provide a proper work setting is required. FY 1977 funding of $1,800,000 is required to provide for the repair of the existing heating system and permit extensive overhaul to replace piping. Upgrading of the heating system will combine the heating ventilating and air conditioning for increased efficiency and will be done to meet energy conservation and safety standards.

9. Purpose, Justification of Need for, and Scope of Project:
These projects will permit necessary modifications at the ERC's to upgrade the facilities to a level consistent with ERDA's existing guidelines for fire safety, compliance with OSHA regulations and standards and reduction of environmental pollution from onsite operations. In addition, ERDA's Morgantown Energy Research Center is in need of rehabilitation of existing facilities to provide a proper work setting conducive to the efficient handling of the research projects conducted at this site.

10. Details of Cost Estimate[1/]

	Item Cost	Total Cost
a. Engineering, design and inspection at 15%-25% of construction costs	$	$ 1,050
b. Construction Costs		4,700
(1) Building and Modifications	1,200	
(a) Repair Heating - MERC	$1,200	
(2) Utilities and Other	3,500	
(All Five Sites)		
(a) Fire Protection	2,600	
(b) OSHA	500	
(c) Environemntal Protection	400	
SUBTOTAL		$ 5,750
c. Contingency at 20% of above costs		1,150
TOTAL PROJECT COST		$ 6,900

1/ Based on preliminary studies only.

11. Method of Performance:
Design will be on the basis of negotiated architect-engineering contracts. To the extent feasible, construction and procurement will be accomplished by fixed-price contracts awarded on the basis of competitive bidding.

CPD-2 END

U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
FY 1977 Budget Estimates
Five-Year Budget Commitment Projections
(Dollars in Thousands)

TOTAL PROGRAM SUMMARY

	FY 1977		FY 1978		FY 1979		FY 1980		FY 1981	
	B/A	B/O	B/A	B/O	B/A	B/O	B/A	B/O	B/A	B/O
Operating Expenses, Plant and Capital Equipment										
Fossil Energy Development.	$ 477,250	$ 441,670	$ 675,410	$ 568,335	$ 566,430	$ 650,100	$ 603,680	$ 683,140	$ 538,180	$ 590,940
Coal	408,944	388,644	606,800	493,785	493,020	560,450	530,150	599,370	464,590	511,110
Petroleum and Natural Gas	37,175	32,405	36,980	36,900	36,980	45,230	37,000	47,240	37,010	43,260
In-Situ Technology	31,131	20,621	31,630	37,650	36,430	44,420	36,530	36,530	36,580	36,570
Solar Energy Development	160,000	115,950	161,000	133,350	161,000	147,000	118,000	112,500	118,000	121,400
Geothermal Energy Development	50,100	45,500	58,400	53,000	58,000	56,000	58,000	58,000	58,000	58,500
Conservation Research and Development - End Use Conservation and Technologies to Improve Efficiency	73,200	53,060	68,900	63,300	68,900	68,900	68,900	68,900	68,900	68,900
Total Outlays	0	656,180	0	817,985	0	922,000	0	922,340	0	839,740
Total Budget Authority	$ 760,550	$ 0	$ 963,710	$ 0	$ 854,330	$ 0	$ 848,580	$ 0	$ 783,080	$ 0
Other Federal Funds										
Special Foreign Currency Program	$ 0	$ 2,000	$ 0	$ 1,000	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Trust Funds										
Advances for Cooperative Work	10,040	10,040	10,040	10,040	10,040	10,040	10,040	10,040	10,040	10,040
Offset	-10,040	-10,040	-10,040	-10,040	-10,040	-10,040	-10,040	-10,040	-10,040	-10,040
Net Trust Fund	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

(Dollars in Thousands)

Five-Year Budget Commitment Projections - continued

	FY 1977		FY 1978		FY 1979		FY 1980		FY 1981	
OPERATING EXPENSES SUMMARY	B/A	B/O	B/A	B/O	B/A	B/O	B/A	B/O	B/A	B/O
Fossil Energy Development..	$ 422,030	$ 410,530	$ 558,530	$ 515,120	$ 559,730	$ 569,130	$ 601,830	$ 640,430	$ 536,330	$ 589,130
Coal	354,494	358,194	491,100	441,700	487,600	480,700	529,700	558,000	464,200	510,700
Petroleum and Natural Gas	36,905	32,205	36,700	36,700	36,700	45,000	36,700	47,000	36,700	43,000
In-Situ Technology	30,631	20,131	30,730	36,720	35,430	43,430	35,430	35,430	35,430	35,430
Solar Energy Development ...	141,800	110,500	146,500	123,500	154,300	137,200	112,000	105,900	112,000	111,400
Geothermal Energy Development	48,600	44,300	56,000	51,000	56,000	54,000	56,000	56,000	56,000	56,000
Conservation Research and Development - End Use Conservation and Technologies to Improve Efficiency	71,200	52,160	66,900	61,700	66,900	66,900	66,900	66,900	66,900	66,900
Total Outlays	0	617,490	0	751,320	0	827,230	0	869,230	0	823,430
Total Budget Authority.	$ 683,630	$ 0	$ 827,930	$ 0	$ 836,930	$ 0	$ 836,730	$ 0	$ 771,230	$ 0
CAPITAL EQUIPMENT SUMMARY										
Fossil Energy Development..	$ 1,020	$ 840	$ 1,680	$ 1,540	$ 1,700	$ 1,570	$ 1,650	$ 1,810	$ 1,850	$ 1,810
Coal	250	150	500	410	420	350	450	470	390	410
Petroleum and Natural Gas	270	200	280	200	280	230	300	240	310	260
In-Situ Technology	500	490	900	930	1,000	990	1,100	1,100	1,150	1,140
Solar Energy Development ..	5,700	2,800	6,500	3,800	6,700	4,000	6,000	6,600	6,000	10,000
Geothermal Energy Development	1,500	1,200	2,400	2,000	2,000	2,000	2,000	2,000	2,000	2,500
Conservation Research and Development - End Use Conservation and Technologies to Improve Efficiency	2,000	900	2,000	1,600	2,000	2,000	2,000	2,000	2,000	2,000
Total Outlays	0	5,740	0	8,940	0	9,570	0	12,410	0	16,310
Total Budget Authority	$ 10,220	$ 0	$ 12,580	$?	$ 12,400	$ 0	$ 11,850	$ 0	$ 11,850	$ 0

(Dollars in Thousands)

Five-Year Budget Commitment Projections - continued

PLANT SUMMARY	FY 1977 B/A	FY 1977 B/O	FY 1978 B/A	FY 1978 B/O	FY 1979 B/A	FY 1979 B/O	FY 1980 B/A	FY 1980 B/O	FY 1981 B/A	FY 1981 B/O
Fossil Energy Development - Coal	$ 54,200	$ 30,300	$ 115,200	$ 51,675	$ 5,000	$ 79,400	$ 0	$ 40,900	$ 0	$ 0
Solar Energy Development	12,500	2,650	8,000	6,050	0	5,800	0	0	0	0
Geothermal Energy Development	0	0	0	0	0	0	0	0	0	0
Conservation Research and Development - End Use Conservation and Technologies to Improve Efficiency	0	0	0	0	0	0	0	0	0	0
Total Outlays	0	32,950	0	57,725	0	85,200	0	40,900	0	0
Total Budget Authority	$ 66,700	$ 0	$ 123,200	$ 0	$ 5,000	$ 0	$ 0	$ 0	$ 0	$ 0

FYF-3 END

FEDERAL ENERGY ADMINISTRATION

Congressional Budget Submission
Fiscal Year 1977

GENERAL STATEMENT

Introduction:

The era of abundant, inexpensive energy ended abruptly for the United States late in 1973 with the imposition of the embargo by oil exporting nations. Our production of domestic energy has been decreasing: coal production peaked in 1947, domestic exploration for oil and natural gas began to decline a decade later, and, since 1970 oil and gas production has been decreasing. But, for most Americans, the embargo provided the first sign that the United States was no longer self-sufficient in energy and that it was, in fact, vulnerable to supply interruptions.

It was in this atmosphere of crisis that the Federal Energy Administration came into being, first, by Executive Order, as the Federal Energy Office and, later, by Congressional action, as a new agency of the Federal Government.

At the outset, FEA dealt with the emergencies of the moment -- emergencies that arose from the embargo and the resulting shortages of petroleum products. At the same time it began to address the equally difficult problems of the Nation's energy future. For the short-term those problems involve consevation of energy to lessen our dependence on imported oil and to reduce the deficits that have resulted from dramatic increases in oil prices during the past year. For the mid-term-- the next decade-- those problems involve continued and improved conservation as well as increased domestic production of conventional forms of energy, such as coal, oil and natural gas, to eliminate that dependence by 1985. For the long-term -- the last quarter of the century -- those problems involve development of new energy sources to enable the Nation to become an energy exporter by the year 2000.

As it addresses these problems of energy conservation and energy development the FEA must operate within the context of our many national aspirations and goals. While we as a Nation must strive to attain energy independence, we must do so without causing social, environmental or economic jeopardy. Conservation measures must be realistic and equitable. Development efforts must be rational and balanced. Similarly, activities of the FEA must be consistent with international realities and U.S. foreign policy goals.

General Statement - continued

Americans are becoming increasingly aware that their days of energy profligacy are over and that they will for years and decades to come be grappling with problems that have never before contronted them. The FEA's fundamental mission now and in the future will be to formulate energy policies that will most effectively solve those problems. At the same time it must continue to be the coordinating agency within the Federal Government that assures the coherent and consistent execution of our national energy policies and that supplies to other segments of the Government, such as the Energy Resources Council, that support which is necessary to their effective functioning.

FEA's near-term goals require immediate action to increase our domestic energy supplies while reducing demand. We are limited in the steps that can be taken to increase domestic production in the near-term. Therefore, Federal, State, and local governments, industry and the American people must form a partnership dedicated to the elimination of wasteful uses of energy by a day-to-day commitment to conserve in every way possible energy resources now available to us.

We must continue our comprehensive compliance program through fiscal year 1977 to protect the integrity of this and future Federal regulatory programs assuring compliance with any existing regulations, as well as the regulations in force from February 1973 through December 15, 1975. In addition, we must provide continuous contingency planning capability to review, develop and up-date National Energy Contingency Plans.

In supporting our goal of greater energy independence we must promote and assist the effort to expand domestic energy production, conversion and distribution in ways consistent with accepted environmental standards. We must also develop and implement projects and programs to insure and encourage the development of required energy resource and support facilities.

From an operational standpoint, the Agency has the following basic missions.

- Through its policy and analysis programs, it is responsible for the continued review, coordination and evaluation of national energy policies and proposed legislation providing statistical/analytical studies/systems on which to base the formulation of energy policy, by providing quantitative analyses of various policy alternatives, and by assessing the economic and social impacts of these alternatives.

- Through its regulatory program, it is responsible for the continued execution of those audit and enforcement activities

General Statement - continued

required to assure compliance with any existing regulations, as well as the regulations in force from February 1973 through December 15, 1975, in accordance with the mandate of the Emergency Petroleum Allocation Act.

- Through its conservation programs, the Agency is responsible for reducing the energy demand growth rate in the United States, developing and overseeing the implementation of voluntary and mandatory energy conservation programs that promote the efficient use of energy, and ensuring that environmental concerns are balanced with national energy goals.

- Through its resource development programs, the Agency collects information, develops plans and projects, and determines needed assistance with regard to the expanded domestic production of energy sources including coal, oil, natural gas, oil shale, nuclear, electricity, solar, geothermal, and other sources.

- Through its international programs, the Agency develops, analyzes, evaluates, monitors, coordinates and implements policies and programs associated with the international aspects of energy, including trade, special relationship development, investment in resource development and interdependence, and participates in the activities of the International Energy Agency and other international agreements concerned with energy issues.

Objectives and Program Plans

The following objectives and program plans have been established by the Federal Energy Administration for Fiscal Year 1977. These include:

1. Economic impact analyses of energy developments required by Executive Order 11821 and Section 18(a) of the FEA Act to prepare inflation impact evaluations and to provide information about the impact of energy developments on low and middle income families as well as on a regional and state basis.

2. Improved forecasting of international developments and an an analysis of the nature and extent of competitive behavior within the energy industry thus permitting analysis of the impact of changing energy policies on the economy as a whole.

General Statement - continued

3. Pursuit of an accelerated Compliance Program to assure the American public that it was not paying unlawful prices for products during the period the regulations were operative, and to assure the majority of firms that have complied voluntarily with the regulations that all others have been made to comply as well.

4. Maintenance of a small standby force to monitor energy situations and functions as a cadre of professionals to permit rapid resumption of allocation programs in the event of an emergency or new legislative authority.

5. Performance of regulation development activities associated with the Oil Import Program and other mandates of the FEA as well as other legislation.

6. Performance of contingency planning to incorporate policy options; to identify potential alternatives; to amend, as changing circumstances apply, various contingency plans adopted, such as the Embargo Contingency Plan; and to participate in the development of interagency energy planning efforts.

7. Execution of the Oil Import Program through the issuance of licenses and the implementation of voluntary or mandatory allocation operations for imported crude oil or other products.

8. Transfer of technological data in order to dessiminate specific information to industries and governmental units affecting industry. Included are the:
   - Waste Oil Utilization Program
   - Waste Heat Management Initiatives
   - Program target on two million farmers to encourage conservation in agriculture
   - Training program for 30,000 boiler operators

9. Encouragement for the development and the reliance on domestic fossil fuel sources.

General Statement - continued

10. Assessment of the nuclear regulatory process, specifically licensing, at all levels, (Federal, State and local) to determine existing overlap and barriers to development and initiating action to alleviate the problems.

11. Acceleration of the implementation of coal conversion programs.

12. Implementation of a series of efforts designed to help private enterprise accelerate energy resource development projects by working with local, state and Federal agencies to overcome and eliminate obstacles. If necessary, to suggest legislation which will help eliminate reoccurring and unnecessary delays in the development of the Nation's energy resources.

13. Maximization of the efficient utilization of the Nation's electricity industry and increased availability of natural gas to the public.

14. Implementation of efforts to overcome the major delays in the selection and approval of energy facility sites and decrease the government paperwork required of energy companies.

15. Development and analysis of policy strategy, and program options relating to producer-consumer relations and their impact on the energy objectives of the United States, prosecutes United States energy policy through a variety of formal and informal bilateral, as well as multilateral arrangements, ensuring the development of United States access to and transportation of reliable foreign energy supplies in normal as well as emergency times, and assures that the United States national and international energy objectives are understood abroad and domestically.

Strategic Petroleum Storage Planning

This is a new program activity in the fiscal year 1977 budget presentation. The objective of this program is to increase our national security by providing insurance for our military and economy

General Statement - continued

from any interruptions of oil imports that are caused by military action or a political embargo. The development of storage facilities for a crude petroleum and product reserves and the filling of these facilities are the primary goals of the program.

The funds requested here provide for the planning necessary to implement a national strategic petroleum storage program. The funds for the site acquisition, construction of the storage facilities and actual oil purchase and filling of storage areas are not included in this FEA submission but are proposed for later transmittal, proposed legislation.

Allocation of Resources

The Federal Energy Administration program is composed of seven budget activities. A description of these activities with the appropriation request for each is as follows:

1. Executive direction and administration. This activity comprises the executive, managerial and support personnel whose functions are applicable to the proper execution of the responsibilities of the Administration as a whole. These positions and functions include: the Administrator and Deputy Administrators and their direct office staffs, all legal, financial, personnel and procurement services, as well as public affairs, Congressional affairs, and intergovernmental and field activity coordination.

   To carry out the responsibilities under this activity will require 707 positions and $26,367,000 in fiscal year 1977. There are no funds included for reimbursement for State energy programs.

2. Energy policy and analysis. This activity includes the coordination of Federal energy policy studies and analyses, both short- and long-range. It also includes, for example, continuation of an independent Federal center for gathering and assessing energy data, short and long-range supply/demand forecasting, coordination of energy-related programs, policies, and legislation, development of deregulation and decontrol strategies, and provisions for all ADP support for FEA, including such things as energy statistics, allocation data systems, and providing a national energy data clearinghouse.

   These responsibilities require 415 positions and $29,242,000 in fiscal year 1977.

General Statement - continued

3. Regulatory Programs. This activity is responsible for; the execution of those audit and enforcement activities required to assure compliance with any existing regulations, as well as the regulations in force from February 1973 through December 15, 1975, in accordance with the mandate of the Emergency Petroleum Allocation Act; the provision of a standby force to perform regulation development and operational readiness responsibilities in accordance with the mandate of the FEAA. Finally, this activity provides a continuous contingency planning capability to review, develop and up-date National Energy Contingency plans.

   In FY 76, the Allocation Programs and the Regulation Development Program are to be phased out with a standby cadre force established to provide the minimum required resources for possible implementation of full allocation and/or pricing programs in the event of new legislation. In FY 77, therefore, resources are not requested for either Allocations Programs (those associated with the EPAA) or a major Regulation Development Program. Requirements under this activity are 112 positions and $18,392,000.

4. Energy Conservation and Environment. This activity responds to the original charter of the FEA to reduce the rate of energy demand growth in the United States, develop and oversee the implementation of voluntary and mandatory conservation programs that promotes the efficient use of energy, and insure that environmental concerns are balanced with national energy goals. Requirements under this activity are 207 positions and $11,204,000.

5. Energy Resource Development. This activity involves the creation, development, and implementation of programs to increase domestic availability of energy through greater domestic production, implementation of the Energy Supply and Environmental Coordination Act of 1974 (coal conversion), reduction of production bottlenecks, increased efficiency of energy conversion, development of financial incentives for energy, and the appropriate planning for energy facility needs, consistent with environmental requirements. It also develops the integrated program management activities associated with the domestic energy fuel mix necessary to satisfy the national policy objectives of energy self-sufficiency.

   This is accomplished by identifying action plans to expand domestic production of each fuel source, development of

General Statement - continued

incentive programs to encourage the expansion of national energy sources and conversion facilities, assisting in the accelerated development of domestic resources through the mitigation or removal of impediments imposed by Federal regulations. Monitors, analyzes, and assesses the impact of present and prospective energy supply alternatives, technologies, and resource requirements, consistent with energy supply policy objectives.

The resources required in this activity are 284 positions and $13,232,000 in fiscal year 1977.

6. International Energy Affairs. This activity deals with general policy review and coordination of all FEA international activities, National Security Council matters, international agreements, multinational energy negotiations, transportation of energy from abroad, and liaison with defense and nuclear energy agencies. This includes the development of policy options for oil sharing, mandatory conservation, energy supply, and encouraging multinational conservation, multinational energy programs, and development and evaluation of United States export-import options.

   To carry out the responsibilities under this activity will require 36 positions and $1,416,000 in fiscal year 1977.

7. Strategic Petroleum Storage Planning. This activity provides for the planning necessary to implement a national strategic petroleum storage program. Requirements under this activity are 30 positions and $1,544,000.

Summary

A summary comparison of the positions, man-years, and obligations for Fiscal Year 1975-77 is presented below:

Item	1975 Actual	1976 Estimate	Change Amount	Change %	1977 Estimate	Change Amount	Change %
Positions	3,245	3,200	- 45	- 0.1	1.791	- 1,409	-44.0
Man-Years	3,148	3,320	+ 172	+ 5.5	2,583	- 737	-22.2
Obligations	126,871	142,992	+16,121	+12.7	101,397	-41,595	-29.1

General Statement - continued

Note: The amounts above do not include the full impact of the recently enacted Energy Policy and Conservation Act, Public Law 94-163, approved December 22, 1975. Additional funds necessary to implement this Act will be requested in a forthcoming Fiscal Year 1976 Supplemental request and a Fiscal Year 1977 Budget Amendment.

Budget Justification by Program Activity

The detailed budget justification for each program activity follows this section beginning with page ED-1 and ending with page IEA-5. The budget justification for each budget activity includes:

- A comparison of positions, man-years, and obligations for FY 1975, 1976 and 1977.
- A statement of each organization's missions, accomplishments, and objectives.
- An analysis of requested contract authority for FY 1977.
- Obligations by object class for FY 1975, FY 1976 and FY 1977.

Language

The language requested in the regular appropriation request is as follows:

SALARIES AND EXPENSES

For necessary expenses of the Federal Energy Administration established by Public Law 93-275, dated May 7, 1974, including hire of passenger motor vehicles, and services as authorized by 5 U.S.C. 3109, but at rates for individuals not to exceed the per diem equivalent of the rate for grade GS-18; and not to exceed $2,000 for official reception and representation expenses; $101,397,000: Provided, that advances or repayments or transfers from the appropriation may be made to any department or agency for expenses of carrying out such activities.

Summary of Positions, Man-Years and Obligations. On the following page is an analysis by budget activity of positions, man-years and obligations for fiscal years 1975, 1976 and 1977.

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General Statement - continued

FEDERAL ENERGY ADMINISTRATION
Summary of Positions, Man-Years and Obligations
Fiscal Years 1975-77

	1975 actual	1976 estimate	1977 estimate	Increase or decrease (-)
		Positions		
Executive direction and administration	952	991	707	- 284
Energy policy and analysis	401	400	415	15
Regulatory programs	1,287	1,125	112	- 1,013
Energy conservation and environment	282	316	207	- 109
Energy resource development	282	305	284	- 21
International energy affairs	41	42	36	- 6
Strategic petroleum storage planning	...	21	30	9
Total - Positions	3,245	3,200	1,791	- 1,409
		Man-Years		
Executive direction and administration	982	991	937	- 54
Energy policy and analysis	366	400	430	30
Regulatory programs	1,220	1,245	615	- 630
Energy conservation and environment	255	316	251	- 65
Energy resource development	284	310	286	- 24
International energy affairs	41	42	36	- 6
Strategic petroleum storage planning	...	16	28	12
Total - Man-Years	3,148	3,320	2,583	- 737
		Amount ($000)		
Executive direction and administration	44,580	31,374	26,367	- 5,007
Energy policy and analysis	21,769	22,761	29,242	6,481
Regulatory programs	29,520	28,693	18,392	-10,301
Energy conservation and environment	17,020	46,761	11,204	-35,557
Energy resource development	12,691	11,379	13,232	1,853
International energy affairs	1,291	1,595	1,416	- 179
Strategic petroleum storage planning	...	429	1,544	1,115
Total - Obligations	$126,871	142,992	101,397	-41,595
Unobligated balance lapsing	164	...	...	...
Total Budget Authority	127,035	142,992	101,397	-41,595

FEDERAL ENERGY ADMINISTRATION

Congressional Budget Submission
Fiscal Year 1977

Executive Direction and Administration

($000)

Item	FY 1975 Actual	FY 1976 Estimate	Change Amount	Change %	Trans. Qtr.	FY 1977 Estimate	Change Amount	Change %
Positions.....	952	991	39	4.1	991	707	- 284	-28.7
Man-Years.....	982	991	9	0.9	248	937	- 54	- 5.4
Obligations ...	$44,580	$31,374	-13,206	-29.6	$6,968	$ 26,367	-5,007	-16.0

Justification

Executive Direction and Administration includes the responsibilities of the Administrator as well as the supporting services necessary to the proper execution of the Administrator's responsibilities. The Administrator, under responsibilities set forth in Public Law 93-275 of May 7, 1974, advises the President and the Congress with respect to the establishment of a comprehensive National Energy Policy and, in coordination with the Secretary of State, the integration of domestic and foreign policies relating to energy resource management. The Administrator further provides the leadership for energy programs mandated by the President and the Congress.

The supporting services necessary to the proper execution of the Administrator's responsibilities include legal, financial, personnel, organization management and procurement functions, as well as public affairs, congressional affairs, and maintaining relationships with the States on energy matters.

The major accomplishments for these supporting services in FY 76 include:

- The "energy-wise" education of the American people concerning energy problems through an increased volume of speeches by the Administrator, two Deputy Administrators, and Assistant Administrators, who transmitted the Presidential direction for increased efforts in reaching consumer groups on conservation.

- The provision of public affiars support to the Energy Resources Council as well as the FEA.

- Liaison with the Congress and the handling of approximately 1,000 telephone inquiries per week.

- Conduct of an extensive communications and public affairs program which included the management of a public reading room averaging 15-20 patrons per day; the handling of over 6,000 telephone inquiries per month; issuing 60 press releases per month; the preparation of an average of five briefing books per week for the Administrator and Senior Staff; and the drafting of speeches for the Administrator and Deputy Administrators on an average of one per working day.

- The fostering of a greater degree of competition in FEA's procurement process and the increase of minority and small business participation in the award of contracts.

- The provision of project management staff training to improve project planning, direction and control.

- The provision of legal support for FEA initiatives in the international area and, under Project Independence, in the areas of energy resource development, conservation, and the environment.

- The disbursement of $5,000,000 to the States to fund State energy office programs; thereby ensuring their continued involvement in the development and implementation of national energy policy and programs.

- The development of recommendations on new or modified Federal, State, and local programs to alleviate the adverse effects of energy shortages on consumers, the poor, the elderly, and the handicapped.

- The continuation of input from FEA on the formulation and coordination of substantive energy legislation.

- Provide staff work, including policy statements, for the Intergovernmental Coordinating Committee.

- Established an Office of Internal Review as an independent program review activity. The primary objective was to insure that internal controls over agency operations were communicated and followed. This permitted efficient, effective policies that were consistent with current laws, regulations, and rulings. The office reviewed internal operating and financial procedures within the agency and reported to executive management on recommendations to improve procedures.

The major FY 1977 objectives for the supporting services in Executive Direction and Administration include:

- Increased program evaluation studies for better program control and direction, and to eliminate duplication of effort among the program areas.

- Continued training of top management staff through executive development seminars.

- Continue to provide the public with FEA decisions and policies, statistical, economic and general energy information, and whatever other reports which are necessary to keep the public fully and currently informed of actions taken by the Executive Branch toward formulation and implementation of a National Energy Policy.

- Increase efforts to represent the views of small and minority businesses in the FEA policy process.

- Increase participation of consumers, low-income families and the aged in public hearings related to energy matters.

- Provision of legal support on a wide and complex range of energy matters.

- Continue to respond to Congressional requests in developing all possible information on Congressional interest and activities in the field of energy.

- Congress at present has over 33 full committees and 65 sub-committees dealing with some form of energy legislation or investigatory oversight. It is expected that nearly 2,000 energy related bills will be introduced in Congress during the 1977 fiscal year, which will require intensive preparation for possible hearings on these bills.

- Continue to provide the special redress relief and extraordinary assistance function contemplated by Section 21 of the FEA Act of 1974.

- Develop a computerized property control system which will permit an evaluation of physical property inventory and staff requirements.

EXECUTIVE DIRECTION AND ADMINISTRATION

Positions

	1975 Actual	1976 Estimate	1977 Estimate
Administrator.....	70	72	72
Management and administration.....	416	436	278
General counsel.....	144	152	110
Communications and public affairs.....	139	127	111
Congressional affairs.	49	53	48
Private grievance and redress.....	51	54	38
Intergovernmental, regional & special programs.....	83	97	50
Total	952	991	707

Man-Years

Administrator.....	74	72	72
Management and administration.....	441	436	428
General counsel.....	136	152	152
Communications and public affairs.....	137	127	111
Congressional affairs.	52	53	50
Private grievance and redress.....	48	54	54
Intergovernmental, regional & special programs.....	94	97	70
Total	982	991	937

Amount($000)

Administrator.....	$ 9,526	$ 1,946	$ 1,619
Management and administration....	13,534	7,691	12,315
General counsel....	1,723	3,022	3,491
Communications and public affairs....	2,550	3,458	4,237
Congressional affairs	736	827	1,080
Private grievance and redress.....	832	1,175	1,239
Intergovernmental, regional & special programs.....	10,827	7,225	2,386
Logistical support.	4,852	6,030	...
Total	$44,580	$31,374	$26,367

FEDERAL ENERGY ADMINISTRATION

Congressional Budget Submission
Fiscal Year 1977

Executive Direction and Administration

Analysis of Contracts

Management and Administration

	($000) Cost
° Program evaluation study with a view toward providing a formal centralized program evaluation providing the Administrator with an independent evaluation of proposed and on-going programs	200
° Collateral EEO investigations. With the phase-down of the compliance program, some employees will be involuntarily returned to their former agencies. In order to insure that re-employments are conducted as fairly as possible, funds must be available to permit an independent assessment of discrimination complaints that may result	20
° Auditing of potential contractors. Federal Procurement Regulations require that all cost plus contracts involving more than $100,000 will be audited prior to, or after, the award of the contract. These monies will permit adherence to that requirement and will allow auditing of other selected contracts	100
° Guard service for FEA buildings	400
° Health Units. To establish and maintain health facilities for headquarters and regional personnel	196
° Seminars for executive development. Civil Service regulations require that executives in certain grade levels maintain their skills through attendance at executive development seminars	34
° Field investigation of employees. The updating of present clearances and the investigation necessary for the issuance of clearances to new employees will be obtained through collateral investigations by Civil Service Commission personnel	125
Subtotal of Management and Administration	$1075

Communications and Public Affairs

	($000) Cost
° Bi-Weekly "Energy Facts" for Radio, TV Stations and Newspapers. To provide steady flow of information to media, this program will consist of provocative facts about energy, fillers, and program ideas distributed nationwide	150
° Evaluation & Analysis. Includes pre-testing educational and media materials, and evaluating and analyzing FEA multi-media information programs. Also pre-testing public awareness plans and resource development education programs	250
° School Film Loops. Original graphics will be developed as part of the school's curriculum on energy awareness and resource development. These single concept film loops cover such topics as oil, coal and other conventional energy sources in addition to the development of alternate power sources for the future -- such as solar energy and photovoltaic cells	200
° Miscellaneous small contracts	200
Subtotal of Communications and Public Affairs	$800

Intergovernmental, Regional and Special Programs

	($000) Cost
° Contracts with the National Governors' Conference, the National Association of Counties and the National League of Cities to collect information on energy programs, conducting analytical studies of energy activities, disseminating information on proposed Federal energy programs to the Governors, State Legislators, etc., and to solicit their views	500

° Consumer Impact Analysis. Design regional utility rate structure monitoring system; conduct cross-sectional regional income distribution studies of CA/SI target population; conduct regional surveys to obtain primary energy consumption data to supplement CHRDS data deficiencies; Special Impact Analysis: Access impact of Resource Development Programs on reservations: Consumer Conservation Programs: Develop pilot project to analyze energy consumption patterns of various lifestyle scenarios based on socio-economic matricies in order to determine impact of various conservation alternatives on different groups	300
Subtotal Intergovernmental, Regional and Special Programs	$ 800
GRAND TOTAL EXECUTIVE DIRECTION AND ADMINISTRATION	$ 2,675

STANDARD FORM 304-T
June 1975, Office of Management and Budget Circular No. A-11, Revised.
304-103T

FEDERAL ENERGY ADMINISTRATION
Executive Direction and Administration

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code	19 actual 75	19 76	19 TQ estimate	19 77 estimate
Personnel compensation:				
11.1 Permanent positions	15,190	14,053	4,765	15,613
11.3 Positions other than permanent	1,294	70	84	66
11.5 Other personnel compensation	826	949	32	1,036
~~11.8 Special personal services payments~~				
Total personnel compensation	17,310	15,072	4,881	16,715
Personnel benefits:				
12.1 Civilian	1,537	1,222	430	1,754
13.0 Benefits for former personnel	1	...	...	...
21.0 Travel and transportation of persons	1,085	585	157	723
22.0 Transportation of things	307	21	5	198
23.0 Rent, communications, and utilities	8,916	4,693	707	2,194
24.0 Printing and reproduction	1,286	1,223	95	623
25.0 Other services	1,688	837	388	983
Contracts	10,936	6,805	104	2,675
26.0 Supplies and materials	907	609	147	415
31.0 Equipment	603	307	54	87
~~32.0 Lands and structures~~				
~~33.0 Investments and loans~~				
~~41.0 Grants, subsidies, and contributions~~				
42.0 Insurance claims and indemnities	4	...	...	...
~~43.0 Interest and dividends~~				
~~44.0 Refunds~~				
99.0 Total obligations	44,580	31,374	6,968	26,367
(Mono cost: 22.13)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5)

FEDERAL ENERGY ADMINISTRATION

Congressional Budget Submission
Fiscal Year 1977

Energy Policy and Analysis

($000)

Item	FY 1975 Actual	FY 1976 Estimate	Change Amount	Change %	Trans. Qtr.	FY 1977 Estimate	Change Amount	Change %
Positions	401	400	- 1	-0.3	400	415	15	3.8
Man-Years	366	400	34	9.3	98	430	30	7.5
Obligations ...	$21,769	$22,761	992	4.6	$3,012	$29,242	6,481	28.5

Justification

The Office of Policy and Analysis is responsible for all policy and analysis and coordination of energy related legislation and programs which will culminate in a national plan to meet the energy needs of the Nation. To achieve this objective, the office's primary activity is the review, coordination and evaluation of energy policy and legislation by providing statistical and analytical studies and systems on which to base the formulation of energy policy by providing quantitative analysis of various policy alternatives and assessing the economic and social impacts of those alternatives. This activity, therefore, is responsible for developing a family of econometric models to perform impact analysis, analyzing long-term energy supply and demand and producing short-term and long-range energy forecasts. To support these efforts, this activity also includes all data collection, processing, and ADP systems design for Policy and Analysis as well as for all of FEA. It also serves as the national energy data clearinghouse for FEA, other State and Federal government agencies, for Congress and the general public.

The Core Policy and Analysis Program

The requested increase will be devoted to economic impact analyses of energy developments required by Executive Order 11821 and Section 18(a) of the FEA Act to prepare inflation impact evaluations and to provide information about the impact of energy developments on low and middle income families as well as on a regional and state by state basis. The remainder of the increase will be devoted to the development and operation of a state by state forecasting effort, to an expansion of energy accounts to regions, states and the international sector to improve forecasting of international developments, and to an analysis of the nature and extent of competitive behavior within the energy industry thus permitting analysis of the impact of changing energy policies on the economy as a whole.

Data Services Support to Other FEA Programs

The increase in this area is a direct result of significant program growth in Conservation and Environment and Energy Resource Development and the increased data requirements of the compliance effort of Regulatory Programs which completely offset any reduction expected through the termination of their allocation programs.

Resources made available for data services support during FY 1976 were approximately 36 percent less than necessary to accommodate valid requirements of FEA's program offices. Consequently, many programs were operated on a curtailed basis, and the only data systems fully supported were those having highest program office priority. Other data systems (e.g., market shares, energy indicators) were suspended completely early in FY 1976. The requirements cited herein for FY 1977 data services support are considered the absolute minimum essential resources necessary to support the FY 1977 program of FEA's data service users.

The major accomplishments of Policy and Analysis in FY 1976 include:

A. Core Program

Energy Forecasting and Statistical Analysis

Improved short-term forecasts through:

- Development of a petroleum model operated on a regional basis and extended forecasts to include substitution between fuels.
- Development of a natural gas forecasting system to evaluate alternatives on a regional basis in order to respond to policy options.
- Development of price modeling and forecasting capabilities for crude petroleum and petroleum products.
- Development of a basic electric utility and coal forecasting model.
- Publishing of quarterly demand forecasts by region for the various fuels.
- Conducting numerous analyses of energy policy options under consideration by the Administration and by Congress such as short run impacts of decontrol of oil and gas, potential import quotas, seasonal fuel shortages and support of emergency embargo contingency planning.

- Performing analyses of the differential impacts of economic activity, relative energy prices, and weather on post-embargo energy consumption.

- Publishing of documentations of FEA short-term energy supply/demand forecasting procedures.

- Monitoring of current energy consumption in support of the Energy Resources Council's Biweekly Progress Report to the President.

- Support of data collection and data analysis efforts to identify the size and geographic distribution of natural gas shortages for the calendar year 1975-1976 winter.

Improved long range forecasts through:

- Refinement and updating of the revised Project Independence long-term energy forecast through 1990 and preparation of the energy report for annual submission to the Congress.

- Development of a sector-specific, region-specific model of the fuel and power demands for energy which can be used to forecast energy demands through 1990 as a function of prices and other economic variables.

- Development of a structural model of the demand for fuels in the transportation sector. This model allows analysis of many energy conservation options applied to the transportation sector.

- Initiation of the development of a model of energy demand in the household sector with sufficient structure to allow analyses of the demand impacts of conservation options in this sector.

- Revision and updating of the oil and gas supply model to include the effects of removal of the oil depletion allowance and the new USGS reserve estimates.

- Participation in cost-effectiveness and feasibility analysis of special policies which affect long-term supply and demand, including the strategic storage program for petroleum and synthetic fuels commercialization.

- Initiation of the development of a detailed coal model which is sensitive to policies affecting supply, demand and price.

Improved international models and forecasts through:

- Completion of and documentation of a price-sensitive, region-specific, sector-specific international energy demand model and integration of this system into the annual FEA energy report.

- Development of an international energy model to integrate supply and demand estimates and forecast international energy trends in the 1980-1990 time frame.

- Preparation of international supply and demand forecasts to predict the demand for OPEC crude oil as a function of its price.

- Operation of the international energy model to support analysis of IEA operations and policy studies.

- Development of preliminary versions of dynamic market models to predict the supply of OPEC oil and the world oil prices over time under several basic assumptions of cartel behavior.

- Examination of the impact of domestic policy options on international crude prices and import costs. Domestic policy options include:

  - Strategic storage facility development
  - Import quotas
  - Natural gas demand curtailments

Improved energy statistical analysis through:

- Development and maintenance of data bases providing current statistics on refined petroleum products, market shares analysis, consumption data, and accumulated data concerning State conservation efforts.

- Research, preparation, and publication of reports on various facets of energy including Monthly Energy Review, Weekly Summary of Energy Significant Information, Monthly Petroleum Statistics Report, Biweekly Progress Report, Monthly Petroleum Market Shares, and Quarterly Report on Energy Information.

Energy economic impact analysis

Improved analysis of competition, market structure and regulations through:

- Market structure and price impact studies of basic energy producing industries (petroleum, natural gas, coal, nuclear) and the major energy conversion industry (electric utilities).

- Operational data bases on Market Shares. Developed indices of market concentration, horizontal concentration and vertical integration.

- Development of statistical models relating time series and cross section data measures of competition. Analyzed the impact of competition (industry structure and performance) on the development, production, and distribution of energy resources.

- Analysis of the impact of government policies on competition. Developed the capability to analyze the impact of energy policy on investment behavior, capital information and finance behavior within energy producing industries.

Energy policy development

Coordinated and developed policy for natural gas contingency planning as well as supporting contingency plans for the emergency storage program. Directed the policy coordination of Project Independence follow-on analysis and revision.

B. Support to Others

Data support for Policy and Analysis programs

- An in-house, on-line information storage and retrieval system was initiated to make more extensive use of available data bases.

- Standard terms and methods for energy-oriented vocabulary control and indexing were developed.

- A National referral system was initiated.

- Data bases on coal production and patterns of past energy consumption were developed.

- Forecasting and economic analyses were formulated to support the establishment of a Project Independence Evaluation Revision and model development of petroleum flow from producers to consumers, oil and gas production, energy supply and demand, electrical generation and distribution, international flows, and refiner capacity utilization.

Major objectives of Energy Policy and Analysis in FY 1977 include the following:

- Annual documentation of the FEA forecasting procedures and quarterly supplements to the fuels supply and demand forecasts will be published.

- State by state analyses and forecasts will be more frequently and thoroughly developed. Particular state analysis will include state/Federal conservation programs, energy facility siting analyses, nuclear moratorium analyses, and regional impacts of load supply constraints.

- Emphasis will be focused on natural gas demands, supplies, and curtailments under alternative regulatory, price, and weather conditions.

- Update the basic electric utility and coal forecasting models to increase reliability and improve the capability for analyzing fuel substitution options.

- Integrate the interfuel substitution forecasting models for petroleum, coal and natural gas in response to price changes, economic environment changes, and conservation options.

- Explicitly model the relationships between energy demand and economic conditions so as to improve the reliability of the forecasts for petroleum, coal, natural gas and electricity.

- Development of state-by-state long-run energy forecasting models. Application of these models to examine energy facility siting operations, state/Federal energy conservation program options, regional constraints and energy supply.

- Initiation of detailed studies of specific energy intensive industries.

- Development of a long-range supply assessment for coal, oil, natural gas, solar, nuclear, and special fossil fuel requirements and assessed constraints on the supply of energy: environmental, price regulation, material and equipment requirements, financial availability.

- Refinement of the utility generation and transmission and the transportation submodels to include regulatory phenomenon and applications to studies of price controls.

- Complete an analysis of the future of the electric utility industry and the impacts of policy alternatives on that industry.

- Application of the long-range forecasting model to an analysis of many policy options including:

- Natural gas deregulation
- Crude oil decontrol
- Crude oil price caps
- Energy facility siting program
- Conservation alternatives
- Nuclear moratorium
- Acceleration of energy supply
- Restrictions on gasoline production
- Energy taxes

. Refine and update the annual long-term energy forecasts to comply with legislative mandate.

. Develop a new model of the supply for natural gas and petroleum for the various regions of the United States. This model must be reliable enough to be used for long-run forecasting of supplies and must be flexible enough to serve as a tool for examining a wide range of policy issues.

. Completion of the development of a model of energy demand in the household sector with sufficient structure to allow analysis of the demand impacts of conservation options in this sector.

. Examination of the long-run relationship between economic growth and energy consumption and supply.

. Application of long-run forecasting models to the analysis of the wide range of energy policy options under consideration by Congress and/or the Administration at the time.

. Completion of the development of the long-term coal model and apply it to the analysis of policy options.

. Improving the state of international energy data represented in the forecasting system, particularly related to world coal, natural gas, and natural energy resources as alternatives to petroleum, and effects of R&D to develop these.

. Completion of dynamic market models of international oil trade to predict the supply of OPEC oil under various cartel scenarios as a simple means of analyzing the long-term effects of fluctuations in market prices.

. Examining the international impacts of the wide range of U.S. domestic options and R&D on the international energy market.

. Examining the international role of the U.S. in its relations with the IEA and OPEC using the detailed international energy modeling capability to evaluate alternate policy proposals and international developments.

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- The coal assessment program is an on-going program designed to meet technical and analytical requirements of coal-related projects. This includes development of a Coal Data Base which will consists of an automated data base with statistics, including, but not limited to: coal reserves, coal productions, coal distribution, coal consumption, coal pricing and processing.

- To determine and select a number of energy related series to be used as proxies of leading indicators of energy consumption.

- Development of those data bases to support analysis of international energy issues to support the International Energy Agency.

- Providing those data bases necessary to meet the requirements of the Strategic Petroleum Reserve Program. The Strategic Reserve System must be able to provide large amounts of crude or refined products to areas of need on a timely basis during an energy shortage situation. Data and Analysis requirements must provide input to the required environmental impact statements, site specific storage engineering studies, reports to Congress, and proposed implementation of the early storage program.

- Provide data for planning and evaluating state conservation efforts. This includes providing a means for assessing/analyzing state programs in terms of National energy goals, and providing feedback for State and Federal government policies and analysis.

- Administer and operate data bases relating to the electric power generation and distribution industries. Prepare draft reports on a periodic and ad hoc basis for distribution.

- Administer and operate data bases and information systems relating to financial, capital stocks, and other accounting matters applicable to all energy, and energy intensive industries. Conduct analyses of the data and information collected and prepare draft reports on a periodic and ad hoc basis.

- Respond to major public policy issues related to energy consumption. This requires determination of information needed to analyze these policy issues, recommending strategy/approach to obtain these needed date, developing priority data areas, and analyzing data.

- Continue datasupport of FEA program offices as necessary.

FEDERAL ENERGY ADMINISTRATION

Congressional Budget Submission
FY 1977

Energy Policy and Analysis

Analysis of FY 1977 Contracts

DATA SUPPORT SERVICES	($000) Cost
. FEA/BOM Monthly Reporting System - Increase elements and range within the industry combining the reporting requirements of the Bureau of Mines, FEA and FPC	$ 115
. Market Shares - Increased collection and analysis of data to monitor and understand changes in competition in the petroleum industry	150
. Profits - Design and implementation of a system to monitor petroleum industry profits	200
. Petroleum Reporting System - Completion of programming and implementation of PRS subject to new and expanded requirements in data elements and compliance interface	150
. Data Entry Support - Preparation, transcription, verification of input data to support policy development, statistical and economic analysis	400
. ADP Facility Operation and Management - Policy development, statistical and economic analysis support for operation and maintenance of data collection and processing efficient, industry source data preperation devices, computers, peripherals, terminals, micrographics and communications interfaces, and of associated software	2,000
Total - Data Support Services	$3,015

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Energy Policy and Analysis

Analysis of FY 1977 Contracts

ENERGY FORECASTING AND STATISTICAL ANALYSIS	($000) Cost
. Short-term Forecasting - Modeling of State detail to include the following:	
Interfuel substitution	$ 100
Computer simulation modeling projected demand by product, by appliance type with simulation to include regional appliance mix	150
. Long-range Forecasting - Improve, test and validate new oil and gas supply model	150
. Statistical Analysis - Data validation to validate statistical data series, assumptions and data used in modeling, analysis and regulation. Develop data validation procedures for FEA	250
. Implementation of a comprehensive financial information system for analysis of energy industry profitability and other aspects of industry response to energy policy	90
. Provide support for short-term electricity consumption forecasting and backcasting	125
. Develop structional model of oil market to analyze short-run price effects	125
. Data development on capital stock	150
Total - Energy Forecasting and Statistical Analysis	$1,140

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Energy Policy and Analysis

Analysis of FY 1977 Contracts

ECONOMIC IMPACT ANALYSIS	($000) Cost
. Integration of three distinct econometric models to combine impact assessments of energy policies on the household sector with urban/rural breaks	$ 200
. Update data bases and provide systems assistance for analyses of impacts on regional earnings, state and local government fiscal integrity	175
. Develop and improve industry input/out models at state and regional levels	300
. Impact of transportation regulations on price of energy	200
. Profits and investments in coal industry	150
. Develop specific energy content of macro model to assess impacts, particularly on regional unemployment	200
Total - Economic Impact Analysis	$1,225

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Energy Policy and Analysis

Analysis of FY 1977 Contracts

POLICY DEVELOPMENT	($000) Cost
. Group of Policy development contracts to further goals of energy independence in the following areas: conservation, nuclear and coal programs, OCS, LNG, electric utilities and international policy	$ 275
. Evaluation of price, non-allocation regulations to meet changing demand and supply conditions	125
Total - Policy Development	$ 400

FEDERAL ENERGY ADMINISTRATION

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Energy Policy and Analysis

Analysis of 1977 Contracts

EXECUTIVE DIRECTION	($000) Cost
. Contract for economic and environmental impact assessment to develop policy options to meet changing energy conditions in compliance with Section 18a of the FEA Act	$ 200
. Contract for the collection, evaluation and analysis of selected energy information required by Section 13 of the FEA Act and the policy development needs of the Energy Resources Council	200
Total - Executive Direction	$ 400

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Energy Policy and Analysis

Analysis of FY 1977 Contracts

DATA SERVICES SUPPORT - Regulatory Programs	($000) Cost
. ADP facility operation and management	$1,475
. Data entry support	225
Other Contracts:	
. Develop and implement improvement to propane information system	212
. Develop and implement non-utility residual fuel information system	185
. Develop and implement improvements to utility residual fuel information system	80
. Develop and implement enhancement to refinery yield model	55
. Develop and implement system to support allocation of Alaskan crude oil	75
. Develop enhancement to mandatory oil imports accounting system	137
. Implement modification to audit target ranking system responsive to program changes	75
. Implement modifications to audit ranking effectiveness system responsive to program changes	37
. Develop and implement long lead data system to support priority contingency plans	227
Total DSS - Regulatory Programs	$2,783

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Energy Policy and Analysis

Analysis of FY 1977 Contracts

DATA SERVICES SUPPORT - Conservation & Environment	($000) Cost
. ADP facility operation and management	$1,372
. Data entry support	275
Other Contracts:	
. Conservation analysis	23
. Air transportation	45
. Industrial conservation	120
. Technology transfer	35
. Electric utility demonstration	45
. Natural gas	40
. State-Federal program	12
. Interagency	110
. Marketing research	45
. Technology assessment	25
. Resource policy	10
. Data acquisition	183
. Cross sectoral	25
. Program coordination	15
. Miscellaneous data support	375
Total DSS - Conservation & Environment	$2,755

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Energy Policy and Analysis

Analysis of FY 1977 Contracts

DATA SERVICES SUPPORT - Energy Resource Development	($000) Cost
. ADP facility operation and management	$1,519
. Data entry support	304
Other contract support:	
. Financing incentives	101
. Fossil fuels	126
. Facility siting	96
. Environmental impact	176
Total DSS - Energy Resource Development	$2,322

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Energy Policy and Analysis

Analysis of FY 1977 Contracts

DATA SERVICES SUPPORT - International Energy Affairs	($000) Cost
. ADP facility operation and management	$ 40
. Data entry support	10
Total DSS - International Energy Affairs	$ 50

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Energy Policy and Analysis

Analysis of FY 1977 Contracts

DATA SERVICES SUPPORT - Other Agency Support	($000) Cost
. ADP facility operation and management	$2,073
. Data entry support	415
Other Contracts:	
. Management and Administration	950
. Intergovernmental, Regional & Special Programs	197
. Private Grievances and Redress	170
. General Counsel	80
. Congressional Affairs	37
. Regional Support	145
Total DSS - Other Agency Support	$4,067

STANDARD FORM 304–T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.
304-103T

FEDERAL ENERGY ADMINISTRATION
ENERGY POLICY AND ANALYSIS

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code	1975 actual	1976 Estimate	TQ estimate	1977 estimate
Personnel compensation:				
11.1 Permanent positions	6,123	6,913	1,575	7,568
~~11.3 Positions other than permanent~~				
11.5 Other personnel compensation	805	707	34	226
~~11.8 Special personal services payments~~				
Total personnel compensation	6,928	7,620	1,609	7,794
Personnel benefits:				
12.1 Civilian	544	645	140	681
~~13.0 Benefits for former personnel~~				
21.0 Travel and transportation of persons	194	206	84	207
22.0 Transportation of things	57	23	10	3
23.0 Rent, communications, and utilities	319	484	133	2,120
24.0 Printing and reproduction	279	180	51	47
25.0 Other services	115	169	83	73
Contracts	12,986	13,077	862	18,157
26.0 Supplies and materials	237	263	28	141
31.0 Equipment	110	94	12	19
~~32.0 Lands and structures~~				
~~33.0 Investments and loans~~				
~~41.0 Grants, subsidies, and contributions~~				
~~42.0 Insurance claims and indemnities~~				
~~43.0 Interest and dividends~~				
~~44.0 Refunds~~				
99.0 Total obligations	21,769	22,761	3,012	29,242
	(Mono cast: 22.13)	(Mono cast: 5.9)	(Mono cast: 5.9)	(Mono cast: 5)

FEDERAL ENERGY ADMINISTRATION

Congressional Budget Submission
Fiscal Year 1977

Energy Regulatory Programs

($000)

Item	FY 1975 Actual	FY 1976 Estimate	Change Amount	Change %	Trans. Qtr.	FY 1977 Estimate	Change Amount	Change %
Positions	1,287	1,125	-162	-12.6	1,125	112	- 1,013	-90.0
Man-Years	1,220	1,245	25	2.0	311	615	- 630	-50.6
Obligations	$29,520	$28,693	-827	- 2.8	$5,988	$18,392	-10,301	-35.9

Justification

The Energy Regulatory activity is responsible for; the execution of those audit and enforcement activities required to assure compliance with any existing regulations, as well as the regulations in force from February, 1973, through December 15, 1975, in accordance with the mandate of the Emergency Petroleum Allocation Act, the provision of a standby force to perform regulation development and operational readiness responsibilities in accordance with the mandate of the FEAA. Finally, this activity provides a continuous contingency planning capability to review, develop and up-date National Energy Contingency plans.

Recent enactment of the Energy Policy and Conservation Act has resulted in a 40 month extension of Petroleum Price and Allocation Controls. Adequate time was not available to determine the amount of resources necessary to continue this regulatory program in FY 1977. In FY 77, resources have not been requested for an ongoing Price and Allocation Program.

The major accomplishments of Energy Regulatory Programs in FY 1976 include:

- The investigation and audit of petroleum producers, refiners, wholesalers and resellers pursuant to the statutes and regulations governing the allocations and pricing programs.
- The continuation of on-site audits, investigations, and inspections of the refinery level. The validation and review of actual product costs and profits between different marketing areas and levels.
- The operation of the petroleum allocation programs, primarily through the Regional Offices, to assure an equitable distribution of available supply of fuel on a geographical basis and to ameliorate the effects of the fuel shortage on the public community. Principal accomplishments were protection of market shares of independent marketers and provision of alternate fuels to curtailed natural gas shortages.

- The development of an embargo contingency plan in the event that future fuel shortages again necessitate the more tightly controlled allocation of products. This consisted of evaluating the regulations of the Mandatory Petroleum Allocation Program and assimilating this data into a contingency program for future use.

- The continued review of current regulations and proposed revisions to adjust to varying conditions of supplies. As petroleum products became more plentiful, it was necessary to make adjustments in the regulations. Additionally, clarification of the current regulations and response to inquiries concerning policy changes have been made.

- The revision of allocation regulations as required to correct defeiciencies noted in operation of FY 75 allocation programs, removing unintended effects and permitting increased operation of market forces. Adjustments of regulations to cope with natural gas curtailments were also achieved.

The objectives for FY 1977 of the Energy Regulatory Programs include the following:

- The pursuit of an accelerated Compliance program to assure the American public that it was not paying unlawful prices for products during the period the regulations were operative, and to assure the majority of firms that have complied voluntarily with the regulations that all others have been made to comply as well.

- The continued maintenance of a small standby force to monitor the energy situation and function as a cadre of professionals to permit rapid resumption of allocations programs in the event of an emergency or new legislative authority.

- The performance of regulation development activities associated with the Oil Import Program and other mandates of the FEAA as well as other existing legislation.

- The performance of contingency planning to incorporate policy options, to identify potential alternatives, to amend as changing circumstances apply, various contingency plans adopted, such as the Embargo Contingency Plan and to participate in the development of inter-agency energy planning efforts.

- The continued execution of the Oil Import Program through the issuance of licenses and the implementation of voluntary or mandatory allocation operations for imported crude oil or other products.

FEDERAL ENERGY ADMINISTRATION

Congressional Budget Submission
Fiscal Year 1977

Energy Regulatory Programs

Analysis of FY 1977 Contracts	($000) Cost
. Develop reporting forms required with a view towards simplification and collecting the basic information required to provide FEA with meaningful information on the supply and demand of petroleum and other energy products to provide a basis for formulation of standby allocation programs.	$ 200
. Assist in the preparation of contingency plans to support the requirements of the FEAA to provide for energy supply shortages or disruption as well as other contingency planning requirements as they become known.	400
. Provide review and maintenance of the following contingency measures to keep them current in light of changing market conditions.	550
a. Gas Rationing Contingency Plan b. Embargo Contingency Plan c. Fuels Substitution Alternatives Plan d. Emergency Storage Program e. Mandatory Conservation Measures, i.e., gas, electricity, other energy products	
. Conduct essential analyses and studies of the economic conditions which exist in the petroleum, coal and other energy markets to foresee cost potential distortions or disruptions in the marketing sectors which could impact on independent market shares, consumers, and other special interest groups.	500
. Develop a separate allocation program for Alaskan crude oil. Because of the impact of the Canadian policy dealing with Canadian crude oil imports, and the uniqueness of the Alaskan production and economic environment, it will be necessary to have a separate set of allocation regulations to allocate Alaskan crude oil.	200
Total FY 1977 Contracts	$1,850

STANDARD FORM 304-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised
304-10ST

FEDERAL ENERGY ADMINISTRATION
Energy Regulatory Programs

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code	1975 actual	1976	19 TQ estimate	19 77 estimate
Personnel compensation:				
11.1 Permanent positions	21,486	19,648	3,996	10,805
11.3 Positions other than permanent	623	--	84	--
11.5 Other personnel compensation	293	245	27	323
~~11.8 Special personal services payments~~				
Total personnel compensation	22,402	19,893	4,107	11,128
Personnel benefits:				
12.1 Civilian	2,183	1,847	352	994
~~12.2 Benefits for former personnel~~				
21.0 Travel and transportation of persons	1,664	1,716	319	984
22.0 Transportation of things	90	285	65	42
23.0 Rent, communications, and utilities	335	408	130	3,137
24.0 Printing and reproduction	79	444	100	88
25.0 Other services	146	276	65	70
Contracts	2,448	3,523	813	1,850
26.0 Supplies and materials	84	210	25	71
31.0 Equipment	89	91	12	28
~~32.0 Lands and structures~~				
~~33.0 Investments and loans~~				
~~41.0 Grants, subsidies, and contributions~~				
~~42.0 Insurance claims and indemnities~~				
~~43.0 Interest and dividends~~				
~~44.0 Refunds~~				
99.0 Total obligations	29,520	28,693	5,988	18,392
(Mono cost: 2, 13)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5)

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FEDERAL ENERGY ADMINISTRATION

Congressional Budget Submission
FY 1977

Energy Conservation and Environment

($000)

Item	FY 1975 Actual	FY 1975 Estimate	Change Amount	Change %	Trans. Qtr.	FY 1977 Estimate	Change Amount	Change %
Positions ...	282	316	34	12.1	316	207	-109	-34.5
Man-Years ...	255	316	61	23.9	79	251	- 65	-20.1
Obligations .	$17,020	$46,761	29,741	174.7	$7,004	$11,204	-35,557	-76.0

Justification

The Office of Energy Conservation and Environment was established to: (1) reduce the energy demand growth rate in the United States; (2) develop and oversee the implementation of voluntary and mandatory energy conservation programs that promote the efficient use of energy; and (3) ensure environmental concerns are balanced with national energy goals.

In FY 1976 there was a major shift toward identifying specific energy/environmental areas where the greatest potential for energy savings existed. Several major energy conservation programs were expanded in order to effectively market these opportunities to various sectors of the Nation's economy. The criterion of cost-effectiveness and opportunity costs were applied to all conservation/environmental efforts. Specifically, in the conservation area, only those actions that could save energy at a cost per barrel lower than the equivalent amount of energy that could be produced were considered relevant opportunities.

Our energy conservation program efforts were designed to achieve maximum reduction in energy consumption considering program costs, the difficulty of implementation, and use of available technology. Program implementation was concentrated on those demand sectors, individuals and institutions that showed the greatest need and opportunity for reduction of energy demand.

The major accomplishments for the Office of Energy Conservation and Environment in FY 1976 include:

Transportation Programs

. Vanpooling - FY 1976 activities focused on evaluating the potential of ride-sharing to save energy and alternative strategies for

increasing the use of carpools and vanpools. Vanpool test-marketing projects were completed in four cities to ascertain the effectiveness of various marketing and assistance techniques in promoting vanpooling.

New Car Efficiency - In FY 1976, an estimated 7.2 million labels were placed on 1976 new cars and 4 million pamphlets listing comparative auto fuel economies were distributed for use by new car buyers.

- Truck and Bus Programs - DOT and EPA worked with industry to develop acceptable techniques and procedures to measure truck and bus fuel economy. FEA published a series of pamphlets and brochures describing ways truck drivers and fleet operators could reduce their fuel consumption.

- Transportation Conservation Analysis - Transportation Conservation Analysis in FY 1976 was oriented toward providing technical support for policy and program implementation and providing base information used in monitoring and evaluating energy conservation programs.

Industrial Programs

- Voluntary Program - FEA organized and held meetings and technical workshops with industrial firms and trade associations representing the bulk of the production capacity within ten energy-intensive industries to assess their energy conservation potential and to establish industry energy conservation programs. Follow-up meetings at Chief Executive Officer level were then held and top-level management commitments obtained to implement industry-wide and company-specific energy conservation programs.

  During FY 1976 FEA and industrial trade associations worked to expand the number of companies who were participating in the voluntary conservation program. The Department of Commerce, meanwhile, reached 50 other industries during FY 1976 over which FEA performed a policy and review function.

- Technology Transfer - This program involved the publication and dissemination of information useful to specific industries or across industry lines. This aspect of the program helped meet the need to disseminate, to and among industries, information of technological developments thereby enabling such information to be used by industry executives, plant managers, engineers, etc. Direct exchanges of information, conservation techniques, practices and programs and technological advances between the government and individual companies were made dealing with Waste Oil Utilization, Waste Heat Management, and Boiler Efficiency.

- Industrial Conservation Analysis - In this program area, FY 1976 and prior efforts were made to identify existing and potential constraints on industrial energy conservation and to develop policy and operational initiatives that would spur energy conservation efforts and insure that energy would be considered in the decision-making process vis a vis other national priorities. Specific examples of identified deterrents include the following: capital formation difficulties due to the large capital expenditures which are sometimes needed to accomplish energy conservation objectives involving process and technological improvement; environmental impositions which may preempt available captial and in many cases consume energy; and public regulatory policies such as those relating to transportation, fuel suppy and price, and health and safety.

Buildings Program

- Presented decision-makers with information on noncapital, energy conservation actions (Lighting and Thermal Operations Guidelines) and retrofit actions requiring cost-effective capital expenditures (Energy Conservation Manuals for Existing Buildings), which will result in reduced operating as well as energy costs.

- Provided detailed residential conservation guides to 10 million homeowners. One million of the guides included questionnaires on the characteristics of their home, such as the type of construction, the amount of existing insulation and the number of storm windows. Data from the questionnaires was run through a computerized model and the result shows the potential dollar and energy savings to be realized from five energy conserving actions that can be taken by the homeowner. The program was implemented through State governments.

- Established product improvement goals for the following appliances: water heaters, refrigerators, refrigerator-freezers, freezers, ranges, TV sets, room air-conditioners, clothes washers and dryers, and dishwashers.

- Implemented a support program directed at assisting individual States in adoption of a voluntary thermal standards.

- Also jointly developed test procedures by NBS and the appliance industry to measure the energy consumption of the following specific home appliances: clothes washers and dryers, ranges, dishwashers, TV receivers, and space heating equipment.

Utilities Program

- This office, in cooperation with local regulatory commissions, funded demonstrations of innovative electric rate strucutres and load management techniques. The demonstrations assessed consumer

response to the new rate structures, showed the effectiveness of load management practices and technologies, and promoted electricity conservation. The projects included experimental peak pricing, "lifeline" rates, approximating long run incremental costs, various load control technologies, and utility sponsored conservation education activities.

- Implemented Utility Conservation Action Now (UCAN) with the mailing on August 5, 1975, of the Administrator's invitation to potential participants throughout the utility, regulatory, consumer and environmentalist sector. This resulted in a program aimed to increase the efficiencies of generation, transmission, distribution, and end-use of electricity and natural gas, and to encourage electric utilities to reduce their reliance on scarce fossil fuels in generating power.

  Initial agreement to participate was obtained from the following percentages of organization contacted: 80 percent of electric and combination utilities, 59 percent of gas utilities, 63 percent of State regulatory commissions, 35 percent of State energy agencies, and 25 percent of public interest groups.

  In conjunction with the above, FEA filed testimony with the California Public Utilities Commission, the New York State Public Service Commission, and the Colorado Public Utilties Commission, and testified before the Rhode Island Public Utilities Commission. FEA also accepted invitations to participate in rate design proceedings of the North Carolina Utilities Commission, the Minnesota Public Service Commission, the Virginia State Corporation Commission, the Massachusetts Department of Public Utilities, and the Wisconsin Public Service Commission.

Marketing Research Program

- Studies were conducted to determine consumer attitudes toward various energy conservation program strategies. Specific efforts included: bi-weekly national opinion surveys; testing creative materials and concepts through focus groups across the country; pre-and post-testing all energy conservation education program materials.

Cross Sectoral Program

- During FY 1976 this office, working with GSA, completed the Multi-Year Action Plan in response to Presidential directive. This plan is a means of stating identified initiatives, establishing mechanisms for development of additional initiatives, and institution management tools for integrating the energy management of the Federal government known as FEMP.

  The initiatives, covering aspects of buildings, gasoline and transportation fuels, education and motivation, energy efficient procure-

ment and solar and natural gas use have a potential collective impact of achieving an additional savings of 150,000 barrels per day oil equivalent by 1985. With some exception, all actions taken under the initiatives were cost-effective.

- Also the following were completed: (1) synthesis of a C&E response into an updated and revised version of the PIB as part of the Project Independence Evaluation System (PIES); (2) development and coordination of one regional training seminar to acquaint and instruct regional personnel with C&E programs; (3) preparation of comments and recommendations on 20 pieces of testimony and 150 bills and legislative reports; (4) analysis of proposed C&E programs and procurement requests to assure internal integrity; and (5) effectiveness and utility of C&E policy studies.

Major objectives in FY 1977 in Energy Conservation and Environment include:

The majority of our resources will be for evaluating the effectiveness of our FY 1976 programs and for developing new policy options.

Transportation Programs

- New Car Efficiency - By increasing sales of more fuel efficient vehicles, the improvements can be anticipated in the range of two miles per gallon in new car fleet fuel economy (from the 1976 base of 17.6 to 19.6). The saving which would be realized from a new car fleet averaging 19.6 mpg are approximately 49 million barrels/gasoline over the lifetime use (100,000 miles) of the vehicles, as compared to the 1974 fleet which averaged 14 mpg. Objectives are to:

    - Print and distribute approximatley five million Guides.

    - Ensure that an estimated eight million labels will be displayed on 1977 vehicles.

    - Continue follow-on evaluations to measure effectiveness of the 1977 program.

- Other Transportation Programs - Available manpower and resources will be utilized to evaluate the effectiveness of our FY 1976 initiatives.

Industrial Programs

- FY 1977 funds will be used to continue, on a limited basis, and to review the effectiveness of the following: Voluntary Industrial Conservation, Industrial Conservation Analysis and Technology Transfer.

- Provide policy review and audit functions for the industries/companies which are participating in the voluntary conservation program in cooperation with the Department of Commerce.

- Complete evaluation of the technology transfer programs designed to improve waste heat management, waste oil recovery and boiler efficiency. A boiler efficiency study will provide design criteria such as technical information and definitions for boiler manufacturers, cost and performance comparisons of equipment modifications and economic factors of boiler emmissions.

Buildings Program

- It is planned that the majority of the resources will be devoted to the evaluation of programs resulting from earlier information development, packaging, program testing, and implementation of Project Conserve, Commercial Buildings Retrofit, Appliance Efficiency and Appliance Labeling. On the information development side, conservation analysis will continue to: (1) refine and expand existing information; and, (2) develop information in significant, but lower-priority, energy consuming subsectors.

Utilities Program

- FY 1977 efforts will be aimed at the evaluation of the Rate Demonstration program to determine the effectiveness of load management techniques and rate structures, and consumer acceptance.

- FEA will continue its Federal intervention program in order to increase the efficiencies of generation, transmission, distribution and end-use of electricity and natural gas, and to encourage electric utilities to reduce their reliance on scarce fossil fuels in generating power. FEA's series of regulatory interventions is a primary vehicle designed to implement these policy goals. The interventions are intended to articulate national energy policy as it relates to regional and local utilities. Interventions have been solely on the basis of invitation by the State Regulatory Commissions.

- Expansion of the current regulatory intervention program to all jurisdictions holding relevant rate redesign hearings or proceeding dealing with load management and other energy conservation practices.

Marketing Research Program

- Resources will be used to evaluate the effectiveness of conservation education materials. Contracts will be used for opinion research on:

    - Data collection and analysis, particularly of unobtrusive micro and macro indicators of attitudes and behavior.

- Continuation of existing bi-weekly national sample and consumer research.

- Pre- and post-testing of energy conservation information programs.

Cross Sectoral Programs

- The majority of the available resources will be used to continue the FEMP program, Federal Energy Management Program. This program is the response of the Executive Branch to the need for more intensive energy management and wise use of energy resources in the Federal Govenment due to increased costs of energy and dependency on foreign sources of petroleum.

  Activities in support of FEA, FEMP and the associated Multi-Year Action Plan will include program monitoring and integration; energy management control; agency liaison; summary review and analysis for the ERC; annual up-date of the Multi-Year Actiona Plan; and recommendation of new initiatives to the ERC.

  The activities and functions of the Office of Federal Programs culminate in the development of plans, reports, guidelines, and criteria to be used by the Federal Government, State and local governments, and the private sector including, but not limited to: Multi-Year Action Plan; near-term initiatives plan; FEMP/MYAP reports; FEMP success information transfer; energy management guidelines; projection reports; and Federal site visit reports.

  Remaining resources will be used to perform policy analysis and to upgrade data acquisition on conservation indicators. Major initiatives are:

  - Comparative analyses of energy consumption in the U.S. and in other industrialized countries.

  - Analysis of economic implications of concentration in the energy supply and distribution field.

  - An analysis of capital requirements for energy conservation programs and the tradeoffs between demand and supply investments.

  - Development of a set of comprehensive energy conservation indicators that can be used to predict with accuracy future demand levels of energy consumption including its various components in the U.S.

FEDERAL ENERGY ADMINISTRATION

Congressional Budget Submission
Fiscal Year 1977

Energy Conservation and Environment

Analysis of FY 1977 Contracts	($000) Cost
Contracts will be used to evaluate the effectiveness of FY 1976 initiatives and to develop new policy options.	
° Transportation Programs	775
° Industrial Programs	500
° Buildings Programs	600
° Utilities Programs	800
° Marketing/Opinion Research	300
° Environmental Impact	500
° Cross Sectoral	500
Total Energy Conservation and Environment	$3,975

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FEDERAL ENERGY ADMINISTRATION
Energy Conservation and Environment

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code	19 75 actual	19 76	19 TQ estimate	19 77 estimate
Personnel compensation:				
11.1 Permanent positions	3,036	5,767	1,244	4,364
11.3 Positions other than permanent	283	292	18	91
11.5 Other personnel compensation	108	274	11	100
~~11.8 Special personal services payments~~				
Total personnel compensation	3,427	6,333	1,273	4,555
Personnel benefits:				
12.1 Civilian	286	535	111	392
13.0 Benefits for former personnel				
21.0 Travel and transportation of persons	240	260	67	146
22.0 Transportation of things	8	5	--	5
23.0 Rent, communications, and utilities	50	60	15	891
24.0 Printing and reproduction	209	407	130	1,108
25.0 Other services	149	173	74	88
Contracts	12,526	38,899	5,319	3,975
26.0 Supplies and materials	35	23	6	22
31.0 Equipment	90	66	9	22
~~32.0 Lands and structures~~				
~~33.0 Investments and loans~~				
~~41.0 Grants, subsidies, and contributions~~				
~~42.0 Insurance claims and indemnities~~				
~~43.0 Interest and dividends~~				
~~44.0 Refunds~~				
99.0 Total obligations	17,020	46,761	7,004	11,204
(Mono cost: 22.13)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5)

FEDERAL ENERGY ADMINISTRATION

Congressional Budget Submission
Fiscal Year 1977

Energy Resource Development

($000)

Item	FY 1975 Actual	FY 1976 Estimate	Change Amount	Change %	Trans. Qtr.	FY 1977 Estimate	Change Amount	Change %
Positions	282	305	23	8.2	305	284	- 21	-6.9
Man-Years	284	310	26	9.2	78	286	- 24	-7.7
Obligations ..	$12,691	$11,379	-1,312	-10.3	$1,945	$13,232	1,853	16.3

Justification

The Energy Resource Development activity is responsible for developing and implementing national programs and projects to increase production and utilization of energy from present domestic sources and to facilitate the development of new domestic energy sources.

The activities within Energy Resource Development (ERD) include the development of plans, programs, and projects to expand domestic production of every currently available fuel source including oil, natural gas, coal, oil shale, nuclear, solar, geothermal, and others. ERD is responsible for developing energy sources and facilities. The organization is also responsible for preparing programs which serve to mitigate the adverse effects of and remove any impediments imposed by Federal, State, and local regulations in the expansion of energy supply. ERD also evaluates the impact of present and prospective energy supply alternatives, technologies, resource requirements, programs and actions.

Major accomplishments in FY 1976 in Energy Resource Development include:

- During the past year, ERD participated in a series of projects aimed towards stimulating activity in the coal, oil, oil shale, and geothermal and nuclear areas. To reduce United States demands on foreign oil sources, ERD utilized the authorities of the ESECA legislation to order the conversion of utilities from oil to coal power sources where environmentally safe. The organization initiated an evaluation of Federal and State regulations to identify bureaucratic bottlenecks hindering efficient electrical power generation because of long lead times necessary to construct and bring into operation new utility plants. ERD has concentrated considerable attention in this sector. Many of these studies contributed to the pool of information gathered by the Energy Resources Council (ERC) Task Force on power plants acceleration, ERD/FEA taking the lead.

- In addition, ERD developed initiatives to explore and develop Naval Petroleum Reserve No. 4 in Alaska (as part of the strategic storage effort) and paid considerable attention to specific regional resource problems, such as the Northern Tier States area as these states experienced the reduction in Canadian fuel supplies.

Major objectives in FY 1977 in Energy Resource Development include:

- ERD will continue the implementation of these important legislative initiatives. To change the mix of energy sources away from oil, the United States will have no choice but to make greater use of its most abundant energy resource--coal. In the next ten years, the limiting factors for coal use will not be its availability, but its demand. One reason that coal lost its share of the fuels market in the last fifteen years was the passage of legislation requiring the reduction of air pollutants, especially of the sulfur dioxide produced by burning coal. This requires large capital expenditures by coal users to meet air quality standards. The primary demand for coal comes from the electric utility industry. The continued provision of adequate generating capacity is a high priority initiative for ERD investigation.

- This will be doubly important because generating plants can use both domestically available coal and nuclear fuels instead of oil, and because electricity can be used in homes and businesses to displace the end use of imported petroleum products. ERD will continue to work toward electric utilities rate structure reforms to encourage a more efficient use of plant capacity, and to explore other ways to assure the financial health of the electric utility industry.

- ERD is also, through its projects operations activities, seeking to expedite the construction of energy production facilities through siting, regulation, and environmental activities.

FEDERAL ENERGY ADMINISTRATION

Congressional Budget Submission
FY 1977

Energy Resource Development

	($000) Cost
Analysis of FY 1977 Contracts	
Executive Direction	
· Development of project management systems for ERD resources and utilities areas.	50
· Development of project information systems.	50
Coal Conversion	
· Site specific capability assessment of conversion to coal. Analysis of the engineering difficulty of conversion to coal (establish equipment modification, purchase, refurbishment required to support coal firing). Identify resulting required coal characteristics and analyze capability of supply market to support extra tonnages. Analyze transportation system capability of carrying required tonnages. (For utilities only) impact of conversion on reliability of service.	400
· Site specific practicability assessment. Identify capital investment required to accomplish conversion from development of cost curves and projections. Analyze historic ability of company to raise sufficient capital to support conversion. Comparative Analysis of capital investment required vs fuel price differential vs required return on capital for specific converting firm.	300
· Economic impact of coal conversion. The development of several different scenarios regarding conversion from oil and gas to coal; its economic implications,	100

capital constraints, rate-making implications, its feasibility, the impact of the elimination of oil and gas on the oil and gas industries and the full implications of the conversion process.

Finance

- Study aggregate capital formation in the United States in relation to capital supplies for the energy industry through 1985. 300
- Rank capital investments on an "energy/risk effective basis" and ascertain shortfalls in each area. 200
- Educate businesses and public on capital needs of energy industries through public meetings and advertising. 300
- Compile ranking of regulatory constraints according to the frequency of occurrence against projects to determine economic cost and possible modification impacts. 200

Fossil Fuel Sources

- The Natural Gas Shortage and Its Impact on the Gas Industry and Its Consumers. 100
- Oil and Gas Finding Rate Determination. 100
- Coal Finding Rate. 100
- Small Mine Development 100
- Socio-Economic Impact of the Development of Western Coal. 100

Utilities, Facilities and Regulations

- Studies of alternative fuels used in generation of electricity involving the compilation of a comprehensive data based on existing and future sources and an analysis of various future market and Federal actions and reactions. 110

- Develop a national contingency plan to phase out power plants fueled by oil and gas; to promote their conversion to alternative fuel sources, such as coal; and to construct facilities utilizing alternative fuel sources including coal and nuclear. 150

- Analyze the economic and social impact of individual regulatory decisions, including rate structures, pollution control strategies, nuclear moratoria, and construction moratoria, on such areas as costs to customers, employment levels, environmental impact. 150

- Cooperative studies with the public utility commissions of five states, analyzing demand by assessing fuelmix, finance, and construction requirements in order to develop a model for demand analysis and projection. 250

- Identification of a "maximization" growth rate in electricity demand, with a discussion of the pro's and con's of all the growth rates considered and recommendations of how FEA could affect demand to achieve the "maximization" rate. 100

- Studies on efficiency and reliability of power plants and electricity transmission and distribution systems to include energy storage devices and measure of reserve capacity. 100

- Study of regional and utility benefits of improved equivalent availability and reduced forced outage rate of individual units. 100

Project Management

- Continued collection and storage of data for an inventory of energy projects, developing on-line capability to monitor and update the status of ongoing energy projects. 100

- Maintain management information systems to analyze energy project information, in order to identify and rank constraints according to their frequency of occurrence against projects, to focus program efforts on those areas with the greatest potential returns. 100

· Investigate specific problems as identified and recommend solutions. Identify the generic problem areas of energy resource development and undertake specific studies on causes and the appropriate actions required to alleviate the problems.	100
· Consulting services by experts in Energy resources law, financing, engineering, architecture, environmental regulations and construction management to provide technical assistance in resolving specific project constraints.	200

Siting

· Review of state legislation and siting procedures and how they relate to Title VIII 804(c).	100
· Interstate compact site screening studies.	100
· Contracts to develop a joint Federal-State approach to a coordinated one-stop licensing and permit system for energy facilities and siting.	250
· Contracts to fund modeling capability to establish water availability from both hydrological and legal viewpoints in areas identified as having water supply constraints on energy development.	150
· Develop site selection criteria and guidelines for the following energy facilities:	
Refineries Coal Processing Facilities Fossil Fueled Powerplants	100

· Site specific analysis of conversion candidates: Independent OFC(ERD) environmental analysis of ESECA order candidates. Through use of computerized air quality dispersion modeling techniques, examine the environmental consequences of conversion to coal. Where initial analysis reveals marginal environmental impact of conversion, provide further support (noise, water, land use assessments) for OFU staff preparation of Environmental Impact Analysis (EIA) Negative Declaration (ND), or Environmental Impact Statement (EIS) as required under National Environmental Policy Act (NEPA).	700
· SINB Tombigbee area study.	100
· Interagency transfer funds to DOI (USGS)	50
Alternative Energy Commercialization	
· Regional resource surveys to assess regional impact of synfuels plants. Stress the socio-economic impact of communities of the establishment of synthetic fuel plants.	100
· Solar energy commercialization contracts.	100
Total Energy Resource Development	5,610

65-300 O - 76 - 39

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FEDERAL ENERGY ADMINISTRATION

Energy Resource Development

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code		19 75 actual	19 76	19 TQ estimate	19 77 estimate
	Personnel compensation:				
11.1	Permanent positions	3,669	4,937	1,227	4,840
11.3	Positions other than permanent	908	384	--	245
11.5	Other personnel compensation	116	165	--	120
~~11.8~~	~~Special personal services payments~~				
	Total personnel compensation	4,693	5,486	1,227	5,205
	Personnel benefits:				
12.1	Civilian	375	444	107	432
~~13.0~~	~~Benefits for former personnel~~				
21.0	Travel and transportation of persons	219	283	64	387
22.0	Transportation of things	5	5	--	6
23.0	Rent, communications, and utilities	156	177	101	1,236
24.0	Printing and reproduction	80	100	39	80
25.0	Other services	535	235	70	195
	Contracts	6,572	4,566	307	5,610
26.0	Supplies and materials	36	41	21	40
31.0	Equipment	20	42	9	41
~~32.0~~	~~Lands and structures~~				
~~33.0~~	~~Investments and loans~~				
~~41.0~~	~~Grants, subsidies, and contributions~~				
~~42.0~~	~~Insurance claims and indemnities~~				
~~43.0~~	~~Interest and dividends~~				
~~44.0~~	~~Refunds~~				
99.0	Total obligations	12,691	11,379	1,945	13,232
	(Memo cost: 22.13)	(Memo cost: 5.9)	(Memo cost: 5.9)	(Memo cost: 5.9)	(Memo cost: 5)

FEDERAL ENERGY ADMINISTRATION

Congressional Budget Submission
Fiscal Year 1977

International Energy Affairs

($000)

Item	FY 1975 Actual	FY 1976 Estimate	Change Amount	Change %	Trans. Qtr.	FY 1977 Estimate	Change Amount	Change %
Positions	41	42	1	2.4	42	36	- 6	-14.3
Man-Years	41	42	1	2.4	10	36	- 6	-14.3
Obligations	$1,291	$1,595	304	23.5	$266	$1,416	-179	-11.2

Justification

The Office of International Energy Affairs (IEA) deals with general policy review and coordination of all FEA international activities, National Security Council matters, international agreements, multinational energy negotiations, transportation of energy from abroad, and liaison with defense and nuclear energy agencies. This includes the development of policy options for oil sharing, mandatory conservation, emergency supply, and encouraging multinational energy programs, and development and evaluation of U.S. export-import policy options.

The International Energy Affairs staff is unique within the U.S. foreign affairs community in its ability to relate the highly technical and commercial aspects of the total U.S. energy situation to the imperatives of U.S. foreign policy and vice versa.

The major accomplishments of International Energy Affairs in FY 1976 were:

- Provided continuing analyses of energy and cost/tradeoffs of future energy supply and demand for the 1975-1985 time period.
- Continued involvement in energy relationships with Canada.
- Participated in preparation of the allocation program tied to the reduction of supplies of Canadian oil to U.S. Northern Tier refiners.
- Participated in conclusion of Transit Pipeline Treaty negotiations.
- Assisted in policy and legislative evaluations regarding the future role of the United States Government vis-a-vis the international oil industry.
- Participated in various multilateral consultations between oil consuming and producing countries and developing countries regarding all aspects of international policy.

- Designed policy options and strategies for the U.S. Government's role in the international trade of energy.

- Developed data on and provided analyses of patterns of worldwide investment in energy resource development regarding the probable extent to which it will constrain or contribute to future U.S. energy supplies.

- Analyzed the issues and policy and program options in the international implications of worldwide developments in nuclear power, including: adequacy of uranium reserves, international trade in all aspects of the nuclear fuel cycle, and uranium and plutonium reprocessing, including the potentials for regional reprocessing centers.

- Evaluated for Eximbank the implications of proposed transactions for domestic and international energy supply and demand.

- Provided the energy perspective in all international negotiations and discussions that took place between the U.S. foreign affairs community and other nations.

- Analyzed future developments in the world petrochemical market.

- Participated in preparation of policy recommendations regarding future U.S. imports of LNG.

- Analyzed international crude oil and petroleum pricing.

The major objectives in FY 1977 for International Energy Affairs include:

- Continue participation or leadership in U.S. delegation to various international organizations involved with energy.

- Continue development and analysis of U.S. energy policy and programs from an international perspective and prepare projections, studies and evaluations of the international energy situation of the near-term future.

- Continue to work in connection with assuring the appropriate integration of domestic and foreign energy policies, particularly as they relate to international energy associations and the relationships between and among these various entities and the U. S. Government.

- Development and coordination of alternative policies and programs involving international supply and demand for energy resources and related equipment and materials to assure the adequacy, security and price of these resources and materials in fulfillment of U.S. energy requirements.

- Evaluation and implementation of policy and program options relating to foreign investment in U.S. energy resources and energy-related industries, as well as U.S. investment in foreign energy resources and energy related industries.

- Continue participation in various bilateral and multilateral negotiations with other energy-significant countries and organizations.

- Carry out, with contractor support, an analysis of the international aspects of the nuclear fuel cycle, emphasizing U.S. national security and domestic energy policy implications.

- Construct, with contractor support, a computerized simulation model of the international nuclear fuel cycle to provide quick response capability for emergency/contingency analyses.

- Update and publish a new report on the relationships of national governments and the private, national and multinational energy companies.

- Provide, for use by the U.S. delegation to the CIEC, a number of "country energy profiles" to provide a basis for further understanding, negotiation and international cooperation on energy matters.

FEDERAL ENERGY ADMINISTRATION

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Fiscal Year 1977

International Energy Affairs

Analysis of FY 1977 Contracts	($000) Cost
. International Energy Market - Analysis of the terms of access accorded non-nationals for the exploration and exploitation of energy resources in non-OPEC and non-OECD countries. The purpose is to identify national objectives reflected in the terms of access, the structure of access agreements, and opportunities for the U.S. Government to affect the basis of such agreements in a manner advantageous to the host government, the resource developer, and the United States Government.	75
. Foreign Ownership and Investment in Energy Resources - Develop and organize information on public and private ownership and control of all primary energy resources in the U.S. and other key OECD countries. Construct methodology for determining foreign investment levels. Analyze the implications of alternative ownership/control patterns, including foreign public and private ownership of domestic energy resources, for energy resource development and for national energy policy objectives.	85
. International Nuclear Energy Policy Analyses - As a follow-on to the technological and policy analysis of major elements in the nuclear fuel cycle contracted in FY 1976, an analysis will be done of the international aspects of the nuclear fuel cycle, focusing on the key policy issues identified in the FY 1976 contract effort. This second phase should emphasize national security considerations, international safeguards, and nonproliferation issues and the U.S. role in those issues consistent with U.S. and other IEA member country energy objectives. The purpose is to lay the groundwork for policy options relating to such issues as foreign access to U.S. uranium enrichment services and nuclear reactor exports.	95
. International Nuclear Fuel Cycle Simulation Model - A simulation model of the international nuclear fuel cycle constructed to provide maximum flexibility for policy parameter manipulations, will provide a tool with which (a) to perform short-, mid-, and long-term contingency analyses with respect to emergencies and other unplanned occurrences in the cycle; and (b) will allow policy-makers to vary key variables in the cycle, such as the tails assay of the extent of plutonium recycle, and determine the consequences of (moving forward in time) or the resulting requirements (moving backward in time) from such variations. The model will also serve as a "bookkeeping" device which will make the inclusion of nuclear energy considerations in overall international energy policy analyses much simpler.	100

	($000) Cost
International Cooperation in U.S. Energy Projects - Within the context of existing U.S. Government and industry relationships, an analysis of potential joint contributions by U.S. and foreign public or private corporations toward achieving in the United States the objectives of the International Energy Agency in energy cooperation. The Standing Group on Long-Term Cooperation of the IEA will sponsor cooperative action in conservation, resource development, energy technology, and uranium enrichment services. This contract will help to identify policy criteria and program options for evaluating investment proposals under the SLT umbrella. The resulting study will help fashion the U.S. role in SLT deliberation of cooperative energy policy.	95
Total International Energy Affairs	$450

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FEDERAL ENERGY ADMINISTRATION
International Energy Affairs

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code	19 75 actual	19 76	19 TQ estimate	19 77 estimate
Personnel compensation:				
11.1 Permanent positions	737	887	168	644
11.3 Positions other than permanent	62	--	--	--
11.5 Other personnel compensation	17	10	1	8
~~11.8 Special personal service payments~~				
Total personnel compensation	816	897	169	652
Personnel benefits:				
12.1 Civilian	62	82	15	58
~~12.2 Benefits for former personnel~~				
21.0 Travel and transportation of persons	97	150	9	55
~~22.0 Transportation of things~~				
23.0 Rent, communications, and utilities	2	4	14	193
24.0 Printing and reproduction	3	4	5	1
25.0 Other services	14	--	10	3
Contracts	288	450	39	450
26.0 Supplies and materials	6	4	3	3
31.0 Equipment	3	4	2	1
~~32.0 Lands and structures~~				
~~33.0 Investments and loans~~				
~~41.0 Grants, subsidies, and contributions~~				
~~42.0 Insurance claims and indemnities~~				
~~43.0 Interest and dividends~~				
~~44.0 Refunds~~				
99.0 Total obligations	1,291	1,595	266	1,416
(Memo cost: 22.13)	(Memo cost: 5.9)	(Memo cost: 5.9)	(Memo cost: 5.9)	(Memo cost: 5)

FEDERAL ENERGY ADMINISTRATION

Congressional Budget Submission
Fiscal Year 1977

Strategic Petroleum Storage Planning

($000)

Item	FY 1975 Actual	FY 1976 Estimate	Change Amount	Change %	Trans. Qtr.	FY 1977 Estimate	Change Amt.	Change %
Positions.....	...	21	N/A	N/A	21	30	N/A	N/A
Staff-Years ...	...	16	N/A	N/A	5	28	N/A	N/A
Obligations ...	....	$429	N/A	N/A	$100	$1,544	1,115	259.9

Justification

The objective of this program is to increase our national security by providing insurance for our military and economy from any interruptions of oil imports that are caused by military action or a political embargo. The development of storage facilities for a crude petroleum and product reserves and the filling of these facilities are the primary goals of the program.

The studies already initiated by FEA will lead to the identification of potential storage sites in FY 1976. Such studies include the investigation of new and existing leached caverns in salt, new and existing mines, and conventional storage such as tanks for strategic petroleum storage. It is anticipated that actual site selection will take place in late FY 1976 and early FY 1977. Detailed feasibility studies, engineering plans, and programmatic and site specific environmental impact statements will begin and be complete in FY 1976 and 1977 for the conversion of existing mines and caverns and the construction of new underground and above ground storage facilities, connecting pipelines, port and terminal facilities.

FEDERAL ENERGY ADMINISTRATION

Congressional Budget Submission
Fiscal Year 1977

Strategic Petroleum Storage Planning

Analysis of FY 1977 Contracts

		($000) Cost
°	Preparation of site specific EIS	$150
°	Storage site construction/fill monitoring, inspection, and audit support including development and maintenance of a management information auditing system	200
°	Develop, maintain, and update an energy reserve utilization plan and the necessary supporting management data/information systems	150
°	Demonstration of advanced storage methods for residual and product storage	280
	a. Underground residual storage b. Surface excavated underground storage reserve c. Advanced salt excavation techniques	
Total for Strategic Petroleum Storage Planning		$780

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FEDERAL ENERGY ADMINISTRATION

Strategic Petroleum Storage Planning

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code	19 75 actual	19 76	19 TQ estimate	19 77 estimate
Personnel compensation:				
11.1 Permanent positions	...	400	92	509
~~11.3 Positions other than permanent~~				
~~11.5 Other personnel compensation~~				
~~11.8 Special personal services payments~~				
Total personnel compensation	...	400	92	509
Personnel benefits:				
12.1 Civilian	...	29	8	43
~~12.2 Benefits for former personnel~~				
21.0 Travel and transportation of persons	...	...	...	56
22.0 Transportation of things	...	...	...	13
23.0 Rent, communications, and utilities	...	...	...	77
24.0 Printing and reproduction	...	...	...	3
25.0 Other services	...	...	...	3
Contracts	...	...	...	780
26.0 Supplies and materials	...	...	...	10
31.0 Equipment	...	...	...	50
~~32.0 Lands and structures~~				
~~33.0 Investments and loans~~				
~~41.0 Grants, subsidies, and contributions~~				
~~42.0 Insurance claims and indemnities~~				
~~43.0 Interest and dividends~~				
~~44.0 Refunds~~				
99.0 Total obligations	...	429	100	1,544
(Memo cost: 22.12)	(Memo cost: 5.9)	(Memo cost: 5.9)	(Memo cost: 5.9)	(Memo cost: 5)

SS-3

FEDERAL ENERGY ADMINISTRATION

Federal Funds

General and special funds:

SALARIES AND EXPENSES

For necessary expenses of the Federal Energy Administration established by Public Law 93-275, dated May 7, 1974, including hire of passenger motor vehicles, and services as authorized by 5 U.S.C. 3109, but at rates for individuals not to exceed the per diem equivalent of the rate for grade GS-18; and not to exceed $2,000 for official reception and representation expenses; [$142,992,000, of which $5,000,000, to remain available until expended, shall be available for reimbursement of State and local public agencies as authorized by Public Law 93-275, section 7(d)] *$101,397,000: Provided,* That advances or repayments or transfers from the appropriation may be made to any department or agency for expenses of carrying out such activities[: *Provided further,* That no part of this appropriation shall be available for utility rate restructuring studies unless such studies provide for direct consumer representation in the planning and implementation of such studies].

[For "Salaries and expenses" for the period July 1, 1976, through September 30, 1976, including hire of passenger motor vehicles, and services as authorized by 5 U.S.C. 3109, but at rates for individuals not to exceed the per diem equivalent of the rate for grade GS-18: $25,283,000.] *(Department of the Interior and Related Agencies Appropriation Act, 1976, and the period ending September 30, 1976; additional authorizing legislation has been proposed.)*

PB-1

STANDARD FORM 300–T
June 1975, Office of Management and Budget Circular No. A-11, Revised.

FEDERAL ENERGY ADMINISTRATION
SALARIES AND EXPENSES
Program and Financing (in thousands of dollars)

Identification code 30-66-1500-0-1-305	1975 actual	1976	1TQ estimate	1977 estimate
Program by activities:				
1. Executive direction and administration	55,427	30,270	6,968	26,367
2. Energy policy and analysis	16,949	22,761	3,012	29,242
3. Regulatory programs	6,308	29,868	5,988	18,392
4. Energy conservation and environment	7,427	48,761	7,004	11,204
5. Energy resource development	6,263	12,083	1,945	13,232
6. International energy affairs	1,222	1,595	266	1,416
7. Strategic petroleum storage planning	--	429	100	1,544
Total program costs funded	93,596	145,767	25,283	101,397
Change in selected resources (undelivered orders)	33,275	--	--	---
10 Total obligations	126,871	145,767	25,283	101,397
Financing:				
21 Unobligated balance available, start of period	--	-2,775	--	--
24 Unobligated balance available, end of period	2,775	--	--	--
25 Unobligated balance lasping	389	--	--	--
Budget Authority	130,035	142,992	25,283	101,397
Budget authority:				
40 Appropriation	128,665	142,992	25,283	101,397
42 Transfer from other accounts	1,370	--	--	--
43 Appropriation (adjusted)	130,035	142,992	25,283	101,397
Relation of obligations to outlays				
71 Obligation incurred, net	126,871	145,767	25,283	101,397
72 Obligated balance, start of period	40,468	46,320	44,587	55,095
74 Obligated balance, end of period	-46,320	-44,587	-55,095	-30,492
77 Adjustments in expired accounts	-321	--	--	--
90 Outlays	120,697	147,500	14,775	126,000
	(Mono cost: 22.13)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5)

PB-2

STANDARD FORM 304-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.
304-103T

FEDERAL ENERGY ADMINISTRATION
SALARIES AND EXPENSES

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 30-66-1500-0-1-305	19 75 actual	19 76	19 TQ estimate	19 77 estimate
Personnel compensation:				
11.1 Permanent positions	50,241	54,357	13,067	46,105
11.3 Positions other than permanent	3,675	490	186	269
11.5 Other personnel compensation	1,660	810	105	185
~~11.8 Special personal services payments~~				
Total personnel compensation	55,576	55,657	13,358	46,559
Personnel benefits:				
12.1 Civilian	4,987	4,848	1,163	4,353
13.0 Benefits for former personnel	1			
21.0 Travel and transportation of persons	3,499	3,200	700	2,558
22.0 Transportation of things	467	339	80	267
23.0 Rent, communications, and utilities	9,778	5,826	1,100	9,848
24.0 Printing and reproduction	1,936	2,358	420	1,950
25.0 Other services	2,647	1,690	690	1,415
Contracts	45,756	70,095	7,444	33,497
26.0 Supplies and materials	1,305	1,150	230	702
31.0 Equipment	915	604	98	248
~~32.0 Lands and structures~~				
~~40.0 Investments and loans~~				
~~41.0 Grants, subsidies, and contributions~~				
42.0 Insurance claims and indemnities	4	--	--	--
~~43.0 Interest and dividends~~				
~~44.0 Refunds~~				
99.0 Total obligations	126,871	145,767	25,283	101,397
(Mono cost: 22.13)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5.9)	(Mono cost: 5)

PB-3

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

FEDERAL ENERGY ADMINISTRATION
SALARIES AND EXPENSES

Personnel Summary

Identification code 30-66-1500-0-1-305	1975 actual	1976 estimate	1977 estimate
Total number of permanent positions	2,978	3,200	1,791
Average paid employment	3,148	3,320	2,583
Average GS grade	9.98	10.20	9.55
Average GS salary	$17,165	$17,541	$18,900
Average salary of ungraded positions	$7,095	$7,095	$7,075

(Mono cost: 31.8) (Mono cost: 8) (Mono cost: 8) (Mono cost: 4.9)

PB-4

GPO 886-023

GPO:1964—O-732-489

STANDARD FORM 5UO
July 1968, Bureau of the Budget
Circular No. A-11, Revised.
506-103

FEDERAL ENERGY ADMINISTRATION
SALARIES AND EXPENSES

DETAIL OF PERMANENT POSITIONS

	1975 actual	1976 estimate	1977 estimate
Executive Level II	1	1	1
Executive Level III	1	2	2
Executive Level IV	5	7	6
Executive Level V	5	5	7
Subtotal	12	15	16
GS-18	4	8	2
GS-17	8	17	4
GS-16	29	66	12
GS-15	222	277	95
GS-14	265	308	150
GS-13	393	432	225
GS-12	373	417	211
GS-11	334	356	186
GS-10	15	14	8
GS-9	267	265	161
GS-8	95	97	53
GS-7	322	326	223
GS-6	119	150	68
GS-5	244	243	159
GS-4	177	147	123
GS-3	69	38	73
GS-2	10	2	--
GS-1	2	--	--
Subtotal	2,948	3,163	1,753
Ungraded	18	22	22
Total permanent positions	2,978	3,200	1,791
Unfilled positions, end of year	--	--	--
Total permanent employment, end of year	2,978	3,200	1,791
	(Mono cost: 16.8)	(Mono cost: 4.9)	(Mono cost: 4.9)	(Mono cost: 4)

PB-5

GPO 884-023

GPO : 1975 O - 800-654

Justification of Appropriation Estimates
for
Committee on Appropriations

Public Health Service

INDIAN HEALTH

(621)

65-300 O - 76 - 40

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
HEALTH SERVICES ADMINISTRATION
INDIAN HEALTH SERVICE

HIGHLIGHT STATEMENT

INTRODUCTION

The Indian Health Service is the primary Federal health resource for 518,000 Indians and Alaskan Native people. The goal of the Indian Health Service is to raise the health status of these Americans to the highest possible level. The mission of the Indian Health Service is to ensure the equity, availability and accessibility of a comprehensive high quality health care delivery system providing maximum involvement of American Indians and Alaska Natives in defining their health needs, setting of health priorities for their local areas, and managing and controlling the program. The Indian Health Service also acts as the principal Federal health advocate for them and for assuring that they have knowledge of, and access to all Federal, State and local health programs to which they are entitled as American citizens. Concomitantly, it is the responsibility of the Indian Health Service to work with these programs so they also will be cognizant of these entitlements.

The Indian Health Service program provides direct health services to Indians, Eskimos and Aleuts in 51 hospitals, 99 health centers (including 27 school health centers) and several hundred other health stations. These are carefully located to conveniently provide as complete a range of health services to Indian communities as is possible. This program also includes a preventive health component consisting of sanitation and dental care, public health nursing, health education and field medical programs, such as mental health, eye care, public health nutrition, and social services. This latter element brings health services directly to Indian homes and communities. The Indian Health Service direct care program is supplemented through contractual arrangements with public and private health practitioners and institutions, including tribal governments, in those situations where it is considered to be the most feasible, effective, efficient, and accessible method of providing the highest quality of care.

Significant health advances have been made in recent years. However, severe physical and economic conditions in which the Indian people live, combined with a backlog of unmet needs, continue to result in health needs that far exceed that of the general population. Additional resources are needed for staffing and training health manpower, preventive health services, and other disease areas in order to overcome significant unmet needs.

The Indian Self-Determination and Education Assistance Act, (P.L. 93-638) has provided the Indian people with the unique opportunity to assume control of their own programs. This milestone in the field of Indian affairs will be implemented through new contract and grant authority and regulations which will permit the Indian people to contract with the Indian Health Service for functions and services it now performs.

There follows a discussion of areas of special concern:

1. MORTALITY

The latest available age adjusted mortality rates for diseases listed below among Indians and Alaska Natives (1974) and for U. S. all Races (1973) show that the rates for Indians and Alaska Natives are considerably higher than the general population, except for diseases of the heart, malignant neo-plasms, cerebrovascular disease, and bronchitis, emphysema and asthma.

The higher ratios are as follows:

	Ratio of Mortality Rates Indians to U.S. All Races
All causes of death	1.3
Infant deaths	1.1 1/
Accidents	3.2
Influenza and Pneumonia	1.5
Cirrhosis of liver	4.4
Homicide	3.0
Diabetes	1.8
Suicide	1.8
Tuberculosis	6.5

1/ Both rates based on 1974 data.

2. MORBIDITY

Infectious Diseases--Numerous episodes of illness requiring inpatient or outpatient care are due to infectious diseases and their after-effects. These diseases include gastroenteritis, dysentery, influenza, tuberculosis, otitis media, trachoma, pneumonia, and common childhood communicable diseases. With the increased longevity now occurring in the Indian population, medical problems such as heart disease and cancer which are associated with an older population group are now increasing. Older Indian people are becoming aware and acceptant of the services provided by the Indian Health Service. This is best illustrated by the increased hospital utilization of the older age groups. There were 75,433 adult patients discharged from IHS and contract general hospitals in 1974 as compared to 57,009 patients in 1967, an increase of about 32 percent.

3. ALCOHOLISM

The American Indian and Alaska Natives consider alcohol abuse as one of the most serious problems they face today. Suicide age adjusted death rate is almost twice that of all other races in the U.S. with the majority of these suicides being alcohol related. Also, studies of deaths from accidents in Indian communi-

ties have shown that a large number of these are related to the use of alcohol and excessive drinking. In the past year Indian Health Service saw almost 50,000 patients for problems related to alcohol. There is an urgency about continuing all existing alcoholism program efforts for Indian people. To this end, the National Institute on Alcohol Abuse and Alcoholism is working closely with the Indian Health Service to increase the effectiveness of these efforts. The FY 1977 request includes $12,000,000 for funding projects previously funded by the National Institute on Alcohol Abuse and Alcoholism (NIAAA). This includes $11,499,000 transferred from NIAAA and a request for an increase of $501,000.

4. MENTAL HEALTH

The objective of the Indian Health Service mental health program is to keep Indian people mentally healthy and to draw upon the inherent strengths of Indian culture and heritage by reinforcing and rebuilding the positive influence which this Indian culture imparts to the individual. To accomplish this, the mental health program uses professionals and native mental health workers in combinations to provide essential mental health services. Recently, the leadership of the IHS mental health program was assumed by an American Indian psychiatrist, who will provide overall direction and coordination of mental health program efforts. The maintenance of a high level of mental health is essential in raising the general health standards of the Indian people.

5. MATERNAL AND CHILD HEALTH

The health of Indian and Alaskan Native mothers and children continues to improve through the efforts of the Maternal and Child Health Services program. Maternal mortality has continued to decline from 82.6 per 100,000 live births in 1958 to 16.5 in 1974. Infant mortality has been reduced from 62.5 per 1,000 live births in 1955 to 18.7 in 1974. This overall infant mortality rate is approaching the provisional U.S. all races rate of 16.5. In 1974 the neonatal mortality rate of 9.4 per 1,000 live births was below the provisional U.S. general population rate of 12.1. The use of indigenous Indian health workers together with the inception over the last five years of special community maternal and child health projects through contracts with tribes is a contributing factor in allowing the program to show continual improvement in this area.

6. NUTRITION

While there has been improvement in the nutritional quality of the food supply available to some Indians, substantial numbers of Indians and Alaska Natives still do not have sufficient food nor the economic resources to prevent and overcome mild or moderately severe nutritional problems. This is particularly significant for those at highest nutritional risk: infants, pre-school children, females in the child-bearing years (15-44), the elderly, and the chronically ill.

Malnutrition occurs per se and as a complicating or contributing factor in a wide variety of other health problems and illnesses. These include underachievement in physical growth and development (sometimes called failure to thrive), nutritional anemia, infectious and chronic diseases, maternal morbidity, infant morbidity and mortality, and significant underweight or obesity.

As more Indians and Alaska Natives are trained as nutrition technicians and food service workers in the Indian Health program, the impact of their efforts in working with the Native population in their home communities and Indian Health hospitals can be significant in the reduction of these nutrition problems.

7. DENTAL HEALTH

Indian people consistently rank dental health very high among their health priorities. Oral conditions such as caries, periodontal disease, orthodontic problems and missing teeth are chronic.

Frustration is common because the conditions are obvious, the means of prevention and correction known and, where resources permit, the Indian Health Service organization is capable of effective and rapid response to the desires of each community.

Among children, where services are concentrated, tooth mortality has steadily declined in relation to infected teeth. Orthodontic conditions have shown improvement among the young. There is still a large reservoir of corrective service needs among the young while adults remain without most oral health services.

The Indian Health Service dental program has demonstrated a high level of efficiency and effectiveness. It is also a leader in the dental profession in areas, of national concern such as quality evaluation, resource planning and the development of auxiliary personnel.

HEALTH SERVICES ADMINISTRATION
INDIAN HEALTH SERVICES

Appropriated, 1975 (adjusted)		$235,672,000
Total amount available		235,672,000
Appropriation, 1976	$274,835,000	
Comparative transfer from the "Alcohol, Drug Abuse and Mental Health" Appropriation	+11,499,000	
Comparative transfer to the "Health Services" Appropriation	-61,000	
Proposed supplemental for 1976 pay increases	+5,764,000	
Enacted appropriation proposed for rescission	-5,294,000	
Total amount available, 1976		286,743,000

Summary of Increases and Decreases, 1977

	Base	Increase	
Patient Care			
Hospital Care - To provide for net mandatory increases	$102,284,000	$8,206,000	
Contract Care - To provide for net mandatory increases	51,110,000	8,622,000	16,828,000
Preventive Health and Ambulatory Care			
Sanitation - To provide for net mandatory increases	9,382,000	349,000	
Dental - To provide for net mandatory increases	9,864,000	374,000	
Public Health Nursing - To provide for net mandatory increases	5,028,000	268,000	
Health Education - To provide for net mandatory increases	2,196,000	97,000	
Field Medical Services - To provide for net mandatory increases	48,373,000	6,230,000	
Ambulatory Care - To provide for net mandatory increases	55,056,000	3,601,000	10,919,000
Program Management			
To provide for mandatory increases	3,450,000	104,000	104,000
Net Increase, 1977			27,851,000
Budget Estimate, 1977			314,594,000

INDIAN HEALTH SERVICES

Analysis by Activities

(Direct Appropriation)

	1975 Amount Available	FY 1976 Total Appropriation	Pay Cost Supplemental	Comparative Transfer 1/	Proposed Rescission	Amount Available
Patient Care	$134,102,096	$150,832,000	$3,232,000	$ -61,000	- 609,000	$153,394,000
Preventive Health and Ambulatory Care ...	114,698,816	120,656,000	2,429,000	+11,499,000	-4,685,000	129,899,000
Program Management ..	3,060,183	3,347,000	103,000	---	---	3,450,000
Unobligated Balance Lapsing	135,905	---	---	---	---	---
Total	251,997,000	274,835,000	5,764,000	11,438,000	-5,294,000	286,743,000

1/ Represents a comparative transfer to "Health Services" appropriation of -$61,000 and a comparative transfer from "Alcohol, Drug Abuse, and Mental Health" appropriation of $11,499,000

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INDIAN HEALTH SERVICES
Analysis by Activities

	Amount Available 1975	Amount Available 1976	Estimate 1977	Increase (+) Decrease (-)
Patient Care	$134,102,096	$153,394,000	$170,222,000	+$16,828,000
Preventive Health and Ambulatory Care	114,698,816	129,899,000	140,818,000	+ 10,919,000
Program Management	3,060,183	3,450,000	3,554,000	+ 104.000
Sub-Total Obligations	251,861,095	286,743,000	314.594,000	+ 27,851,000
Unobligated Balance Lapsing .	135,905	---	---	---
Budget Authority	1/ 2/ 251,997,000	1/ 3/ 286,743,000	1/ 314,594,000	+ 27,851,000

1. Patient Care

	Amount Available 1975	Amount Available 1976	Estimate 1977	Increase (+) Decrease (-)
(a) Hospital care Oper. of IHS Hospitals:				
Positions	3,906	3,787 4/	3,772 4/	- 15
Amount	88,253,864	102,284,000	110,490,000	+8,206,000
(b) Contract care				
Positions	40	39 4/	39 4/	--
Amount	45,848,232	51,110,000	59,732,000	+ 8,622,000
Total Patient Care:				
Positions	3,946	3,826 4/	3,811 4/	- 15
Amount	134,102,096	153,394,000	170,222,000	+16,828,000

1/Excludes reimbursements as follows: FY 1975 - $1,684,518· (PC $1,574,268· PH & AC $110,250); FY 1976 - $1,900,000 (PC $1,750,000· PH & AC $150,000): FY 1977 - $1,900.000 (PC $1,750,000· PH & AC $150,000).

2/Reflects a 1976 Comparative Transfer from the "Health Services" appropriation of +$3,752,000 for California Rural Indian Health Board, Red Lake Tribal Council and Alaska Federation.

3/Reflects a 1977 Comparative Transfer to "Health Services" appropriation of $61,000 and a Comparative Transfer from "Alcohol, Drug Abuse, and Mental Health" appropriation of $11.499,000.

4/Reflects a preliminary distribution by activity and sub-activity of the FY 1976 and FY 1977 position allowance since the distribution of the reduction from FY 1975 will be based on an individual Area, Service Unit, and Tribal review.

1. Patient Care

Summary of Change

Increases	
Mandatory:	
Full-year cost of 1976 pay act	$ 769,000
Full-year cost of 1976 wageboard increases	489,000
Within grade promotions	1,081.000
Increased cost of contractual services (includes utilities)...	2.192,000
Increased cost of supplies	1.148,000
Increased cost of maintenance and repair	816,000
Increased cost of medical care under contract	8,361,000
Increased cost of transportation	393,000
Full-year cost of operation of newly constructed facilities:	
1. Zuni, New Mexico hospital	624,000
2. Owyhee, Nevada hospital	37,000
3. Philadelphia, Mississippi hospital	128,000
Increase for Standard Level Users Charge (SLUC)	789,000
Increase payment for HSA service and supply fund, FTS, BEC	269,000
Sub-total mandatory increases	17,096,000
Decreases	
Mandatory:	
One less days hospitalization	-65,000
One less paid day	-203,000
Sub-total mandatory decreases	-268,000
NET INCREASE	16,828,000

This activity consists of the operation of 51 hospitals (inpatient) and the provision of medical care by contracting with non-Federal hospitals, clinics, private physicians and dentists, as well as contractual arrangements with State and local health organizations.

(a) HOSPITAL CARE

Actual Obligations 1975		Amount Available 1976		Estimate 1977		Increase (+) Decrease (-)	
Pos.	Amount	Pos. 1/	Amount	Pos. 1/	Amount	Pos.	Amount
3,906	$88,253,864	3,787	$102,284,000	3,772	$110,490,000	-15	+$8,206,000

Need for Increase

The requested increase consists of:

Increases

Mandatory:

Full-year cost of 1976 pay act	$ 760,000
Full-year cost of 1976 wageboard increases	489,000
Within grade promotions	1,061,000
Increased cost of contractual services (include utilities)	2,192,000
Increased cost of supplies	1,148,000
Increased cost of maintenance and repair	816,000
Increased cost of transportation	94,000
Full-year cost of operation of newly constructed facilities:	
1. Zuni, New Mexico hospital	624,000
2. Owyhee, Nevada hospital	37,000
3. Philadelphia, Mississippi hospital	128,000
Increase cost of Standard Level User Charge (SLUC)	789,000
Increase payments for HSA service and supply fund, FTS, BEC	269,000
Sub-total, mandatory increases	8,407,000

Decreases

Mandatory:

One less paid day	-201,000
NET INCREASE	8,206,000

1/ Reflects a preliminary distribution by activity and sub-activity of the FY 1976 and FY 1977 position allowance since the distribution of the reduction from FY 1975 will be based on an individual Area, Service Unit, and Tribal review.

Patient Care Services

A. Hospital Care

The direct patient care program provides a full range of inpatient hospital care and services to 518,000 American Indians and Alaska Natives through the operation of 51 hospitals ranging in size from 5 to 183 beds. Indian Health Service hospitals are experiencing a continued increase in the demand for services. During Fiscal Year 1975 Indian Health Service hospital admissions were 74,594 (excluding births). The projected number of hospital admissions for Fiscal Year 1976 and 1977 are 74,900 and 75,900 respectively. The leading cause for hospitalization in Indian Health Service facilities is childbirth, complications of pregnancy and puerperium, which corresponds with one of the Indian Health Service's highest priorities, the provision of maternal and child health services.

In FY 1977 the Indian Health Service will provide hospital services at a higher level than was provided in 1976. This will result in reducing the quality of care presently being provided by the Indian Health Service.

Plan of Work

The provision of high quality comprehensive inpatient hospital services remain one of the Indian Health Service's highest priorities. To date, only 25 of the 51 Indian Health Service hospitals are accredited by the Joint Commission on Accreditation of Hospitals (JCAH). Emphasis will continue to be placed on attaining and maintaining the standards provided by the JCAH within available funds.

Expected workloads for the hospital program are shown on the following table. The 1976 and 1977 workloads reflect a continuation of long range trends.

Indian Health Service Hospitals

Workload Category	Workload Data 1/ 1975 Actual	1976 Estimate	1977 Estimate	Increase(+) Decrease(-)
Average Daily Patient Census (Excluding Newborns).....	1,330	1,310	1,310	--
Total Admissions (Excl. Births).....	74,594	74,900	75,900	+1,000
Average Length of Stay (Days).....	6.5	6.4	6.3	-.1
Total Births-All Indian Health Hospitals	9,768	9,800	9,900	+100

1/ Hospital outpatient visits included under "Ambulatory Care" sub-activity.

(b) CONTRACT CARE

Actual Obligations 1975		Amount Available 1976		Estimate 1977		Increase (+) Decrease (-)	
Pos.	Amount	Pos. 1/	Amount	Pos. 1/	Amount	Pos.	Amount
40	$45,848,232	39	$51,110,000	39	$59,732,000	--	+$8,622,000

Need for Increase

The requested increase consists of:

Increases

Mandatory:

Full-year cost of 1976 pay act	$ 9,000
Within grade promotions	20,000
Increased cost of medical care under contract	8,361,000
Increased cost of transportation	299,000
Sub-total, mandatory increase	8,689,000

Decreases

Mandatory:

One less days hospitalization	-65,000
One less paid day	-2,000
Sub-total, mandatory decrease	-67,000
NET INCREASE	8,622,000

Plan of Work

The request of $59,732,000 is for the purchase of medical care through contractual arrangements and is an essential element of the Indian Health Service program. Formal agreements are entered into with community hospitals, private physicians and clinic groups, dentists and providers of ancillary health services to assure that quality care is obtained. Through this mechanism health services are practically and effectively provided for the widely scattered and small groups of Indians and Alaska Natives who urgently need such services. In addition, the use of contract services makes possible special diagnostic and therapeutic services which many small and intermediate-sized Indian Health Service hospitals cannot provide. Emergency hospital and medical care services, frequently required at locations not readily accessible to health facilities directly operated by the Indian Health Service, are acquired with these funds.

1/ Reflects a preliminary distribution by activity and sub-activity of the FY 1976 and FY 1977 position allowance since the distribution of the reduction from FY 1975 will be based on an individual Area, Service Unit, and Tribal review.

The table below indicates the distribution of funds for the contract health care program.

	1975 Actual	1976 Estimate	1977 Estimate
Hospitalization:			
Average Daily Patient Load ..	438	422	422
Per Diem Rate	$126.36	$148.47	$174.75
Amount	$20,201,492	$22,931,000	$26,917,000
Patient and Escort Travel	2,314,326	2,300,000	2,599,000
Professional Field Supv.	834,262	876,000	903,000
Physicians Services	14,531,052	16,607,000	19,762,000
Dental Services	3,404,038	3,240,000	3,681,000
Other Services	4,563,062	5,156,000	5,870,000
TOTAL	45,848,232	51,110,000	59,732,000

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ITEMIZATION OF ESTIMATE

Patient Care

Obligations by Object	Actual 1975	Amount Available 1976	Estimate 1977	Increase(+) Decrease(-)
11 Personnel Compensation..	$ 47,849,444	$ 54,901,000	$ 57,434,000	$+2,533,000
12 Personnel Benefits.....	8,465,538	9,467,000	9,796,000	+ 329,000
21 Travel and Transportation of Persons.....	4,196,181	5,715,000	5,926,000	+ 211,000
22 Transportation of Things.....	977,127	1,080,000	1,131,000	+ 51,000
23 Rent, communication, and utilities....	5,638,712	5,819,000	7,083,000	+1,264,000
24 Printing and reproduction..	623,286	654,000	655,000	+ 1,000
25 Other services.	54,138,334	62,142,000	71,902,000	+9,760,000
26 Supplies and materials.....	9,865,358	12,020,000	14,020,000	+2,000,000
31 Equipment.....	2,530,477	1,839,000	2,518,000	+ 679,000
32 Lands and structures....	364,777	315,000	315,000	---
42 Insurance, claims, and indeminities	12,046	---	---	---
Subtotal....	134,661,280	153,952,000	170,780,000	+16,828,000
Deduct quarters and subsistance charges	-559,184	-558,000	-558,000	---
	1/2/3/	1/ 3/	1/ 3/	
Net obligations	134,102,096	153,394,000	170,222,000	+16,828,000

1/ Excludes reimbursements as follows: FY 1975 - $1,574,268; FY 1976 - $1,750,000; FY 1977 - $1,750,000.
2/ Reflects a 1976 comparative transfer from the "Health Services" appropriation of $687,000 for California Rural Indian Health Board.
3/ Reflects a 1977 comparative transfer to "Health Services" appropriation of $61,000.

2. Preventive Health and Ambulatory Care
(Dollars in Thousands)

	Actual Obligations 1975		Available 1976		Estimate 1977		Increase(+) Decrease(-)	
	Pos.	Amount	Pos.1/	Amount	Pos.1/	Amount	Pos.	Amount
(a) Sanitation..	476	$ 8,737	461	$ 9,382	459	$ 9,731	-2	+$ 349
(b) Dental.....	504	9,080	489	9,864	487	10,238	-2	+ 374
(c) Public Health Nursing...	283	4,312	274	5,028	273	5,296	-1	+ 268
(d) Health Education.	100	1,836	97	2,196	97	2,293	--	+ 97
(e) Field Medical Services..	424	43,014	411	48,373	409	54,603	-2	+6,230
(f) Ambulatory Care.....	2,247	47,719	2,179	55,056	2,171	58,657	-8	+3,601
TOTAL..	4,034	114,698	3,911	129,899	3,896	140,818	-15	+10,919

Increases	
Mandatory:	
Full-year cost of 1976 pay act	$ 811
Full-year cost of 1976 wage board increases	216
Within grade promotions	1,007
Increased cost of contractual service (includes utilities	2,197
Increased cost of supplies	1,046
Full-year cost of 250 CHR's trained in 1976	3,011
Increased contractual level of 1,218 CHR's employed in 1976	830
Increased cost of 250 CHR's in training in 1977	102
Increased level of 185 ANCHAT's employed in 1976	161
Increased cost of transportation	142
Full-year cost of operation of newly constructed facilities:	
Zuni, New Mexico hospital	546
Owyhee, Nevada hospital	86
Philadelphia, Mississippi hospital	182
Lame Deer, Montana clinic	244
Tohatchi, New Mexico clinic	15
Riverside, California clinic	25
Increased cost of alcoholism projects previously funded by National Institute on Alcohol Abuse and Alcoholism.	501
Sub-Total Mandatory Increases	11,122
Decreases	
Mandatory:	
One less paid day	-203
Net Increase	10,919

1/ Reflects a preliminary distribution by activity and sub-activity of the FY 1976 and FY 1977 position allowance since the distribution of the reduction from FY 1975 will be based on an individual Area, Service Unit, and Tribal review.

2. Preventive Health and Ambulatory Care - These include programs in sanitation, dental, health education, ambulatory care, nutrition, maternal and child health, school health, tuberculosis and other communicable disease control, medical-social services, public health nursing, family planning and mental health. The services are provided through hospital outpatient clinics, health centers, and other field health units operated directly by the Indian Health Service, as well as through contractual arrangements with State and local health organizations.

(a) SANITATION

Actual Obligations 1975		Amount Available 1976		Estimate 1977		Increase (+) Decrease (-)	
Pos.	Amount	Pos. 1/	Amount	Pos. 1/	Amount	Pos.	Amount
476	$8,737,328	461	$9,382,000	459	$9,731,000	-2	+$349,000

Need for Increase

The requested increase consists of:

Increases	
Mandatory:	
Full-year cost of 1976 pay act	$103,000
Within grade promotions	130,000
Increased cost of contractual services (includes utilities)	35,000
Increased cost of supplies	21,000
Increase cost of transportation	29,000
Full-year cost of operation of newly constructed facilities:	
Zuni, New Mexico hospital	27,000
Owyhee, Nevada hospital	10,000
Philadelphia, Mississippi hospital	18,000
Sub-total Mandatory Increases	373,000
Decreases	
Mandatory:	
One less paid day	-24,000
Net Increase	349,000

The physical environment of the American Indian and Alaska Native in most locations throughout the United States is characterized by severe climatic conditions, rough, often treacherous geographical setting, and extreme isolation. Survival under these conditions attests to the ingenuity, adaptability and self-determination of these people.

This harsh environment, coupled with decades of economic deprivation and the resulting lack of basic environmental amenities, has contributed greatly to the exceptionally high incidence of disease, and premature deaths, particularly among infants. Since the passage of P.L. 86-121 in 1959, the Indian Health Service has been constructing sanitation facilities for Indian and Alaska Native homes and communities. Provision of sanitation facilities, together with the growing accomplishments of housing programs of other Federal agencies, has done much to improve the environment of these people. However, many

1/ Reflects a preliminary distribution by activity and sub-activity of the FY 1976 and FY 1977 position allowance since the distribution of the reduction from FY 1975 will be based on an individual Area, Service Unit, and Tribal review.

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families still lack basic facilities and are subject to the serious health hazards associated with such environmental deficiencies. Other environmental conditions which result from improper sanitation, including insect and wild rodent vectors, continue to result in sporadic epidemics on Indian reservations.

To combat these and other environmentally related problems, the staff of the environmental health program provides a wide range of environmental health services and engineering and technical support in the implementation of sanitation facilities projects, including those undertaken in coordination with Federal and tribal housing agencies.

Basic Environmental Health Activities

A continuing program of consultations and services is made available to Indian and Alaska Native families and communities to assist them in implementing a comprehensive environmental health program. These consultations and services help the Indian and Alaska Natives to identify and correct environmental conditions which are detrimental to their health status, and to assure sustained improvement in the quality of their lives. While still encompassing the traditional environmental concerns of the past, the services presently provided include more recent environmental concepts, such as consultative and technical services in connection with existing tribal enterprises and planned economic and community development projects. Services of an occupational health and safety nature are also being expanded. An essential element of these services is the emphasis on community guidance of program activities. This will permit the integration of those activities into the total health, social, and economic structure of Indian and Alaska Native communities.

In addition to the foregoing, the basic environmental health activities incorporate a consultative service to assure that a high level of environmental sanitation is maintained in Federal and other facilities serving Indians, particularly those of the Bureau of Indian Affairs and the Indian Health Service.

In the provision of these basic sanitation services, the Indian and Alaska environmental health aides/technicians are key members of the staff who help bridge the gap of cultural differences to bring modern environmental health practices to Indian communities and groups. These aides/technicians are trained by the Indian Health Service in the basic elements of environmental health and they, in turn, impart this knowledge to their own people. A number of Indian Environmental Health technicians have been selected for long term training which will provide them with necessary knowledge and technical skills to qualify for professional sanitarian positions. A few have already achieved this status. The Service is also initiating a plan to train Tribal Health Workers to perform certain environmental health services under contractual arrangements with their Tribes.

Sanitation Facilities Construction Activity

The sanitation facilities construction activity complements the basic environmental health activity by providing tangible support in those situations where the need for facilities exceeds the available resources of the Indian people. The Indian Health Service is authorized to provide this assistance under Public Law 86-121, the Indian Sanitation Facilities Construction Act. The activity employs a coordinated Tribal-Federal attack to correct gross deficiencies in individual sanitation facilities. Staffing to implement this work

is supported under the Preventive Health and Ambulatory Care program of the budget.

In the construction activity, Indians participate in project planning and construction and, after being equipped and trained by the Indian Health Service, assume responsibility for the operation and maintenance of the completed facilities. In addition, Indian families, Tribes, housing authorities, and groups make contributions toward the project in the form of labor and materials to the extent deemed equitable and practicable.

Plan of Work

It is estimated that 155,000 basic and special environmental health services will be provided during 1977. This compares with a level of 157,000 services in 1975 and 155,000 services in 1976. In addition, projects will be initiated to serve 6,900 homes with sanitation facilities in FY 1977. Of these, 6,000 will be new or improved homes being constructed under Federal or Tribal housing programs, and 900 existing homes within or adjacent to housing project sites. This compares with a 1975 level of 14,231 homes and a 1976 level of 9,500 homes.

(b) Dental

Actual Obligations 1975		Amount Available 1976		Estimate 1977		Increase (+) Decrease (-)	
Pos.	Amount	Pos. 1/	Amount	Pos. 1/	Amount	Pos.	Amount
504	$9,080,291	489	$9,864,000	487	$10,238,000	-2	$374,000

Need for Increase

The requested increase consists of:

Mandatory Increases:

Full-year cost of 1976 pay act	$95,000
Within grade promotions	88,000
Increased cost of contractual services	26,000
Increased cost of supplies	80,000
Increased cost of transportation	18,000
Full-year cost of operation of newly constructed facilities:	
Zuni, New Mexico Hospital	49,000
Philadelphia, Miss. Hospital	9,000
Lame Deer, Montana Clinic	17,000
Tohatchi, New Mexico Clinic	15,000
Sub-total mandatory increase	397,000

Mandatory Decreases:

One less paid day	-23,000
Net Increase	374,000

The dental program of the Indian Health Service emphasizes preventive, educational, and corrective services to school age children. In Fiscal Year 1975, 41.7 percent of the total estimated need for dental services was provided for all age groups.

The following table and graph illustrate the proportion of needed dental services that the Indian Health Service was able to provide in Fiscal Year 1975. The chart clearly points up the program emphasis placed upon dental care to the young to achieve the greatest preventive result. Most adults receive only emergency services.

1/ Reflects a preliminary distribution by activity and sub-activity of the FY 1976 and FY 1977 position allowance since the distribution of the reduction from FY 1975 will be based on an individual Area, Service Unit, and Tribal review.

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PERCENT OF DENTAL SERVICES REQUIRED THAT WERE PROVIDED IN INDIAN HEALTH SERVICE IN FY 1975 BY AGE GROUP

Age Group of Patients	Services Required*	Services Provided Direct & Contract	Percent Provided
ALL AGES	2,269,384	946,722	41.7
Under 5	109,350	58,957	53.9
5-9	374,429	256,306	68.5
10-14	336,607	216,681	64.4
15-19	316,804	121,229	38.3
20-24	179,924	71,448	39.7
25-34	300,239	97,046	32.3
35-44	260,395	56,961	21.9
45-54	184,853	35,855	19.4
55-64	125,664	20,324	16.2
65-74	59,760	9,261	15.5
75+	21,359	2,654	12.4

* Estimates applied to 55 percent of the American Indian and Alaska Native population

Program Accomplishments in 1975 and early 1976

Between 1974 and 1975 the number of people served increased 5.3 percent, and the services provided increased 2.1 percent, all dental resources considered (in IHS facilities and under contract).

The quality of dental care evaluation system continued to be used for all dental clinicians in the IHS. The system provided opportunities for improving the quality of clinical work, record keeping, patient management, and community services.

Plan of Work - 1977

Basic preventive and corrective services will continue with emphasis on maintaining and expanding services among the young. A gradual shift from a school-controlled to a family-oriented program will continue. College students and parents will receive primary attention among adults.

The water fluoridation surveillance system will continue with dental and environmental health staff working together to monitor Indian community water systems which have fluoridation equipment installed. Systems not functioning properly will be identified and corrective action will be taken, with Indian community leaders to ensure that water fluoridation systems are operated properly.

Trends in Clinical Services

Persons Treated	1974	1975	1976 est.	1977 est.
Total dental program	195,615	205,980	192,000	192,000
Contract care	34,950	47,246	36,000	36,000
IHS facilities	160,665	158,734	156,000	156,000
Population	488,839	498,167	508,000	518,000
Percent served	40.0%	41.3%	37.8%	37.1%
Services Provided				
Total Dental Program	927,701	946,722	891,000	891,000
Contract care	151,954	200,891	156,000	156,000
IHS facilities	775,747	745,831	735,000	735,000
Services required	2,199,000	2,269,000	2,308,000	2,360,000
Percent provided	42.2%	41.7%	38.6 %	37.8 %

(c) Public Health Nursing

Actual Obligations 1975		Amount Available 1976		Estimate 1977		Increase (+) Decrease (-)	
Pos.	Amount	Pos. 1/	Amount	Pos. 1/	Amount	Pos. 1/	Amount
283	$4,312,037	274	$5,028,000	273	$5,296,000	-1	+$268,000

Need for Increase

The requested increase consists of:

Increases

Mandatory:

Full-year cost of 1976 pay act	$ 59,000
Within grade promotions	66,000
Increased cost of contractual services (includes utilities)	68,000
Increased cost of supplies	27,000
Increased cost of transportation	8,000
Full-year cost of operation of newly constructed facilities:	
Zuni, New Mexico hospital	25,000
Owyhee, Nevada hospital	7,000
Lame Deer, Montana clinic	22,000
Sub-Total Mandatory Increases	282,000

Decreases

One Less Paid Day	-14,000
NET INCREASE	268,000

1/ Reflects a preliminary distribution by activity and sub-activity of the FY 1976 and FY 1977 position allowance since the distribution of the reduction from FY 1975 will be based on an individual Area, Service Unit, and Tribal review.

Public Health Nursing is the core of any public health program. The activities of the public health nurse include case finding, health teaching, counseling, and follow-up services to provide continuity of care in the home, school, hospital, and clinic. These services are essential to an effective community generalized public health program. The public health nurse's unique contribution is through her first hand knowledge of the families and their home situations, and through the impact of the nurse-family relationship as a therapeutic and teaching force. This places emphasis on the importance of sustained contact and on the inter-personal facets of nursing practice. The public health nurse's effectiveness is largely dependent upon establishing and maintaining a relationship of mutual trust and respect with the families served.

With the increasing number of the various types of indigenous auxiliary workers now being utilized, better distribution of professional and non-professional functions and greater teamwork are possible, but more of the professional public health nurse's time and effort is involving coordination of the "team effort," and supervision and guidance of the non-professional staff.

In addition, some public health nurses with additional special educational preparation are evolving into the new role of Family Nurse Practitioner. The nurse practitioner focus is on assessing peoples' health status, assets, and deviations from health, and on helping sick people to regain health and the well or near-well to maintain or attain health through the selective application of nursing science and the use of available nursing strategies.

Plan of Work

Program efforts will be concentrated on coordination of team effort both within the public health nursing group and with other health personnel, particularly the Community Health Representatives, maternal and child health aides, and other indigenous auxiliary workers. Efforts will be further intensified in the following:

1. Follow-up of "high risk" families.

2. Strengthening of health teaching in homes, hospitals, clinics, schools, and the community, with the goal of preventing disease or retarding its progress; reducing the ill effects of unavoidable disease; teaching a member of the family to give nursing care to the non-hospitalized sick and handicapped; development of an practice of habits conducive of health; and increasing the capability of families, groups, and communities to cope with health problems that arise and with problems of daily living.

3. Provision of counseling and guidance in health and family living to teenagers and young adults.

4. Prevention of complications of pregnancy and improvement of the general health status of expectant mothers and their infants by getting them under care early in pregnancy, and through family planning education.

5. Further reduction of infant morbidity and mortality through early visits to new infants, and by giving highest priority to infants in high risk families.

6. Prevention of infectious disease in infants and children by achieving and maintaining a high level of immunization.

7. Collaboration with other Indian Health Service staff and Native Americans to plan for coordinated and expanded services.

In FY 1977, it is estimated that public health nursing services will be provided to approximately 26,800 families as compared with 27,200 in 1975 and 26,800 in 1976. This constitutes about 27 percent of Indian families estimated to be needing the services (90 percent of all families).

(d) Health Education

Actual Obligations 1975		Amount Available 1976		Estimate 1977		Increase (+) Decrease (-)	
Pos.	Amount	Pos. 1/	Amount	Pos. 1/	Amount	Pos. 1/	Amount
100	$1,836,189	97	$2,196,000	97	$2,293,000	--	+$97,000

Need for Increase

The requested increase consists of:

Increases

Mandatory:

Full-year cost of 1976 pay act	$ 28,000
Within grade promotions	38,000
Increased cost of contractual services	2,000
Increased cost of supplies	10,000
Increased cost of transportation	5,000
Full-year cost of operation of newly constructed facilities:	
Zuni, New Mexico hospital	13,000
Philadelphia, Mississippi hospital	8,000
Sub-Total mandatory increase	104,000

Decreases

Mandatory:

One less paid day	-7,000
Net increase	97,000

1/ Reflects a preliminary distribution by activity and sub-activity of the FY 1976 and FY 1977 position allowance since the distribution of the reduction from FY 1975 will be based on an individual Area, Service Unit, and Tribal review.

The health education program of the Indian Health Service is designed to assist the Indians and Alaska Natives to assume greater individual, family, and community responsibility in health matters through involvement and participation in community and health related activities.

The aims of the program are to provide all patients in medical care facilities with specific and organized health education activities to prevent recurrence and spread of diseases and to provide Indian populations with health education experiences designed to reduce the risk from disease and injury.

Plan of Work

In 1977 emphasis will continue to be placed on efforts to achieve greater involvement of the Indians and Alaska Natives in their own health affairs in order, to enhance:

1. the development of Indian leadership in the assumption of responsibility for health matters, and to involve more completely other agencies that have potentials for contributing to improving the health of Indian population.

2. community acceptance and use of health care services and preventive resources,

3. the development of decision-making skills among the Indian and Alaska Natives,

4. opportunities for use of educational potentials in health program planning and operation,

5. coordination of activities to incorporate health instruction in the curriculum of schools - encourage the health instruction concept among teachers - tie in community education programs in school health projects to increase knowledge of wholesome living conditions.

(e) Field Medical Services

Actual Obligations 1975		Amount Available 1976		Estimate 1977		Increase (+) Decrease (-)	
Pos.	Amount	Pos. 1/	Amount	Pos. 1/	Amount	Pos.	Amount
424	$43,013,620	411	$48,373,000	409	$54.603.000	-2	$6,230.000

Need for Increase

The requested increase consists of:

Increases

Mandatory:

Full-year cost of 1976 pay act	$ 105,000
Full-year cost of 1976 wageboard increases	20,000
Within grade promotions	106,000
Increased cost of contractual services (includes utilities)	1,320,000
Increased cost of supplies	63,000
Increased cost of transportation	32,000
Full-year cost of 250 CHR's trained in 1976	3,011,000
Increased contractual level of 1,218 CHR's employed in 1976	830,000
Increased cost of 250 CHR's in training in FY 1977	102,000
Increased contractual level of 185 ANCHAT's employed in 1976	161,000
Increased cost of alcoholism projects previously funded by National Institute on Alcohol Abuse and Alcoholism	501,000
Sub-Total Mandatory Increases	6,251,000

Decreases:

One less paid day	-21,000
Net Increase	6,230,000

1/ Reflects a preliminary distribution by activity and sub-activity of the FY 1976 and FY 1977 position allowance since the distribution of the reduction from FY 1975 will be based on an individual Area, Service Unit, and Tribal review.

E. Field Medical Services

The Field Medical Services program provides medical support to the field health program, which extends health services into the community and homes, providing counseling and other health information and services to residents of the locale being served. It also supports the hospital program by providing post-hospitalization after care to recently discharged patients. This program functions also through a system of 99 health centers (including 27 school health centers), and several hundred smaller health stations and satellite clinics. It provides a full range of preventive care, and public health services to the Indian and Alaska Native people. In addition, the field medical program provides specialized clinics for the communities in such activities as immunization programs, well-baby clinics, and pre- and post-natal clinics, as well as programs for otitis media, trachoma, venereal diseases, diabetes, family planning, and mental health services, etc.

A very close rapport has developed between the Indian and Alaska Native people and the Indian Health Service field medical team. This rapport has been reinforced by the Community Health Representatives and Alaska Community Health Aides. These Indian people are, in many instances, a major link between health needs and health resources. In Alaska they are the only people with health training in residence in most villages.

The function of Community Health Representatives is to act as liaison between community residents, existing health resources, and community health programs, locate new health resources, devise innovative and more effective ways to utilize resources that are available, and to carry out other tribally defined, high priority health functions. Trained by the Indian Health Service, they work in their communities for their respective tribes who are under contractual arrangement with the Indian Health Service.

In addition, an integral part of the Indian Health Service program is to provide Indians and Alaska Natives with opportunities for maximum involvement in defining and meeting their own health needs.

To enable Indian Health Service to do this, the Indian Self-Determination and Education Assistance Act, P.L. 93-638 was signed into law January 4, 1975. Rules and Regulations to implement this law were published in the Federal Register on November 14, 1975. This Act directs the Secretary, HEW, upon the request of any Indian tribe, to enter into a contract or grant with the tribal organizations to carry out any or all of their health functions, authorities and responsibilities. Specifically, the Act stipulates the Secretary, HEW, may provide funds to Indian tribes or tribal organizations for the development, construction, operation, provisions or maintenance of adequate health facilities or services which includes training of personnel for such work or the planning, training, evaluation or other activities designed to improve the capacity of a tribal organization to enter into a contract or grant pursuant to this Act.

Plan of Work

The major thrust in FY 1977 will continue to be the provision of access to high quality health care with a strong emphasis on the provision of community based services. The FY 1977 budget will provide the same level of accomplishments as the FY 1976 program.

The growing participation of Indian and Alaska Native people in all phases of planning, operation and evaluation of the Indian Health Service health delivery system will be continued in FY 1977.

Also, in 1977 there will be continued emphasis on Indian operated programs such as maternal and child health, alcoholism, nutrition, family planning, drug abuse, and suicide prevention. Efforts will be made to purchase services from Indian groups wherever possible within available funds. In addition, Congress has appropriated funds for 17 urban projects which provides linkages between available community resources and those Indian residents who have need of utilizing those resources. All of these projects illustrate the capabilities of the Indian people to help themselves if given the proper funding support.

(f) Ambulatory Care

Actual Obligations 1975		Amount Available 1976		Estimate 1977		Increase (+) Decrease (-)	
Pos.	Amount	Pos. 1/	Amount	Pos. 2/	Amount	Pos.	Amount
2,247	$47,719,351	2,179	$55,056,000	2,171	$58,657,000	-8	$3,601,000

Need for increase

The request increase consists of:

Increases

Mandatory:

Full-year cost of 1976 pay act	421,000
Full-year cost of 1976 wageboard increases	196,000
Within grade promotions	579,000
Increased cost of contractual services (includes utilities)	746,000
Increased cost of supplies	845,000
Increased cost of transportation	50,000
Full-year cost of operation of newly constructed facilities:	
Zuni, New Mexico hospital	432,000
Owyhee, Nevada hospital	69,000
Philadelphia, Mississippi hospital	147,000
Lame Deer, Montana clinic	205,000
Riverside, California clinic	25,000
Sub-Total Mandatory Increases	3,715,000

Decreases:

One less paid day	-114,000
Net Increase	3,601,000

1/ Reflects a preliminary distribution by activity and sub-activity of the FY 1976 and FY 1977 position allowance since the distribution of the reduction from FY 1975 will be based on an individual Area, Service Unit, and Tribal review.

Ambulatory care refers to the full range of outpatient health services provided at Indian Health Service Hospitals, health centers and field clinics. Within the Indian Health Service comprehensive health program, the ambulatory care program is the vital entry point for the delivery of primary medical care and preventive services. Patients requiring more definitive or extensive care are referred to the hospitals and medical centers. Post-hospitalization follow-up care is provided by the ambulatory care program. The preventive aspect of ambulatory care includes a vast range of activities such as pre-natal care, maternal and child health services, well-child clinics, care of high risk mothers and babies, school health programs prevention and control of communicable diseases including immunization, screening and follow-up of cases and contact e.g., tuberculosis venereal diseases, and trachoma, and early detection and treatment of chronic conditions such as diabetes, arthritis, otitis media, orthopedic conditions and heart disease. The ambulatory care program is the vital link to improving the health of Indian and Alaska Native people.

Plan of Work

The Ambulatory Patient Care program functions through a system of 51 hospital outpatient departments, 99 health centers (including 27 school health centers), and several hundred smaller health stations and satellite clinics. It provides a full range of ambulatory medical care, preventive care, and provides medical support to the field health program, which extends health information and services to residents of the locale being served. The number of outpatient visits for health services at the hospitals, health centers and health stations is estimated as follows:

	1975 Actual	1976 Estimate	1977 Estimate
Outpatient visits	2,501,050	2,464,000	2,464,000

The provision of comprehensive community health services has not only become more complex, but it has also produced a significant change in the inpatient and outpatient workloads. A significant trend in the Indian Health program has been the increased utilization of ambulatory services. Increased emphasis on preventive rather curative medicine has also been a factor resulting in substantial increases in the outpatient workload in the past few years. Although Indian Health Service hospital inpatient admissions (excluding births) increased 1.7 times, from 42,762 to 74,594 during the period FY 1955 through FY 1975, outpatient visits increased 5.5 times during the same period.

Advances made in the delivery of routine diagnostic, curative, and preventive services coupled with the increased acceptance by the Indians of the program have resulted in a substantial increase in the number of ambulatory services provided at the hospital and field clinics. The partnership has been evidence by joint planning and evaluation of health services, by Indian groups building and leasing health facilities to the Indian Health Service, and the assumption by Indians of the management of many aspects of their health programs. Indian community concern is further evidenced by the National Tribal Chairmen's Association (NTCA) and the National Indian Health Board's (NIHB) placement of the need for ambulatory care services as their top priority.

The increasing number of outpatient visits and the increasing number of services per visit have impacted heavily on the Indian Health Service's ability to provide the quality and quantity of ambulatory services required by the Indian communities served. The Indian Health Service's major thrust in 1977 will continue to be the provision of high quality health care, with a strong emphasis on provision of ambulatory patient care services, within the levels experienced in FY 1976.

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ITEMIZATION OF ESTIMATE

Preventive Health and Ambulatory Care

Obligations by Object	Actual 1975	Amount Available 1976	Estimate 1977	Increase (+) Decrease (-)
11 Personnel Compensation	$ 49,374,121	$ 55,728,000	$ 58,183,000	$+ 2,455,000
12 Personnel Benefits ...	9,267,096	10,179,000	10,441,000	+ 262,000
21 Travel and Transportation of Persons	4,477,179	5,476,000	5,625,000	+ 149,000
22 Transportation of Things ...	1,446,957	1,418,000	1,424,000	+ 6,000
23 Rent, Communication, and Utilities	3,346,636	3,518,000	3,678,000	+ 160,000
24 Printing and Rsproduction .	138,014	145,000	145,000	---
25 Other Services	37,010,376	43,996,000	50,702,000	+ 6,706,000
26 Supplies and Materials ...	6,757,093	8,110,000	9,289,000	1,179,000
31 Equipment	2,994,786	1,691,000	1,693,000	+ 2,000
32 Lands and Structures ...	234,264	---	---	---
42 Insurance, claims, and Indemnities	13,554	---	---	---
Sub-total ...	115,060,076	130,261,000	141,180,000	+10,919,000
Deduct quarters and subsistance charges	-361,260	-362,000	-362,000	---
	1/2/	1/ 3/		
Net Obligations	114,698,816	129,899,000	140,818,000	+10,919,000

1/Excludes reimbursements as follows: 1975 - $110,250; FY 1976 - FY 1976 - $150,000; FY 1977 - $150,000

2/Reflects a 1976 comparative transfer from the "Health Services" appropriation of +$3,065,000 for Red Lake tribal council and Alaska Federation

3/Reflects a 1977 comparative transfer from "Alcohol,Drug Abuse, and Mental Health" appropriation of $11,499,000.

INDIAN HEALTH SERVICES
3. Program Management

Actual Obligations 1975		Amount Available 1976		Estimate 1977		Increase (+) Decrease (-)	
Pos.	Amount	Pos.	1/ Amount	Pos.	1/ Amount	Pos.	Amount
128	$3,060,183	124	$3,450,000	124	$3,554,000	--	+$104,000

Need for Increase

The requested increase consists of:

Increases

Mandatory:

Full-year cost of 1976 pay act	$34,000
Within grade promotions	54,000
Increased cost of contractual services (includes utilities)	20,000
Increased cost of supplies	3,000
Increased cost of transportation	3,000
Sub-Total Mandatory	114,000

Decreases:

One Less Paid Day	-10,000
Net Increase	104,000

The Indian Health Service headquarters staff which is required to effectively direct a widely dispersed and extremely complex health service program, is funded under this activity. This staff includes (1) positions specializing in the field of curative and preventive health, (2) staff engaged in such specialized fields as nutrition, medical social work, statistics, financial management, program planning, and general services.

The 1977 estimate of $3,554,000 for the program management activity provides for a continuation of operation in 1977 comparable to that of 1976.

1/ Reflects a preliminary distribution by activity and sub-activity of the FY 1976 and FY 1977 position allowance since the distribution of the reduction from FY 1975 will be based on an individual Area, Service Unit, and Tribal review.

IHS-36

ITEMIZATION OF ESTIMATE

Program Management

Obligations by Object	Actual 1975	Amount Available 1976	Estimate 1977	Increase(+) Decrease(-)
11 Personnel Compensation	$2,278,634	$2,576,000	$2,647,000	$ + 71,000
12 Personnel Benefits ...	281,624	347,000	354,000	+ 7,000
21 Travel and Transportation of Persons	75,286	83,000	86,000	+ 3,000
22 Transportation of Things	3,509	10,000	10,000	---
23 Rent, Communication and Utilities	161,645	162,000	162,000	---
24 Printing and Reproduction ..	1,115	1,000	1,000	---
25 Other Services	211,447	230,000	250,000	+ 20,000
26 Supplies and Materials	30,191	33,000	36,000	+ 3,000
31 Equipment	16,732	8,000	8,000	---
Sub-total	3,060,183	3,450,000	3,554,000	+104,000
Deduct quarters and subsistance charges	---	---	---	---
Net Obligations	3,060,183	3,450,000	3,554,000	+104,000

IHS-37

ITEMIZATION OF ESTIMATE
Department of Health, Education, and Welfare
Health Services Administration
Activity Title: Indian Health Service

	Actual 1975	Amount Available 1976	Estimate 1977	Increase (+) Decrease (-)
Obligations	$251,861,095	$286,743,000	$314,594,000	$+27,851,000
Unobligated balance lapsing	135,905	---	---	---
Budget Authority	251,997,000	286,743,000	314,594,000	+27,851,000
Comparative transfer from the "Health Services" appropriation..	-3,752,000	---	---	---
Comparative transfer from the "Alcohol, Drug Abuse and Mental Health" appropriation	-12,634,000	-11,499,000	---	+11,499,000
Comparative transfer to the "Health Services" appropriation..	+61,000	+61,000	---	-61,000
Proposed supplemental for 1976 pay increases..	---	-5,764,000	---	+5,764,000
Enacted appropriation proposed for rescission	---	+5,294,000	---	-5,294,000
Appropriation ..	235,672,000	274,835,000	314,594,000	+39,759,000
11 Personnel compensation	99,502,199	113,205,000	118,264,000	+5,059,000
12 Personnel benefits ...	18,014,258	19,993,000	20,591 000	+598,000
21 Travel and transportation of persons	8,748,646	11,274,000	11,637,000	+363,000
22 Transportation of things ..	2,427,593	2,508,000	2,565,000	+57,000
23 Rent, communications and utilities ..	9,146,993	9,499,000	10,923,000	+1 424,000
24 Printing and reproduction	762,415	800,000	801 000	+1 000
25 Other services	91,360,157	106,368,000	122,854,000	+16,486,000
26 Supplies and materials ..	16,652,642	20,163,000	23,345,000	+3,182,000
31 Equipment ...	5,541,995	3,538,000	4,219,000	+681,000
32 Lands and structures..	599,041	315,000	315,000	---
42 Insurance, claims, and indemnities	25,600	---	---	---
Sub-Total	252,781,539	287,663,000	315,514,000	+27,851,000

IHS-38

	Actual 1975	Amount Available 1976	Estimate 1977	Increase(+) Decrease(-)
Deduct quarters & subsistence charges	$ -920,444	$ -920,000	$ -920,000	$ ---
Total Obligations	1/2/3/4/ 251,861,095	1/3/4/ 286,743,000	1/3/4/ 314,594,000	+27,851,000

1/ Excludes reimbursements as follows: 1975 - $1,684,518; 1976 - $1,900,000; 1977 - $1,900,000.

2/ Reflects a 1976 comparative transfer from the "Health Services" appropriation of +$3,752,000 for California Rural Indian Health Board, Red Lake Tribal Council and Alaska Federation.

3/ Reflects a 1977 comparative transfer -$61,000 to "Health Services" appropriation.

4/ Reflects a 1977 comparative transfer from the "Alcohol, Drug Abuse and Mental Health" appropriation of +$11,499,000.

IHS-39

INDIAN HEALTH SERVICES

Summary of Positions and Average Employment

Positions

Activity	1975 1/	1976 1/	1977 1/
Patient Care:			
Hospital Care	3,906	3,787	3,772
Contract Care	40	39	39
Total	3,946	3,826	3,811
Preventive Health and Ambulatory Care:			
Sanitation	476	461	459
Dental	504	489	487
Public Health Nursing	283	274	273
Health Education	100	97	97
Field Medical Services	424	411	409
Ambulatory Care	2,247	2,179	2,171
Total	4,034	3,911	3,896
Program Management	128	124	124
Total	8,108	7,861 2/	7,831 2/

Average Employment

Patient Care:			
Hospital Care	3,760	3,693	3,634
Contract Care	42	36	35
Total	3,802	3,729	3,669
Preventive Health and Ambulatory Care:			
Sanitation	422	417	410
Dental	476	485	477
Public Health Nursing	255	255	251
Health Education	92	93	92
Field Medical Services	442	405	399
Ambulatory Care	2,191	2,110	2,075
Total	3,878	3,765	3,704
Program Management	111	120	118
Total	7,791	7,614	7,491

1/ Excludes reimbursable positions and average employment as follows: 1975-54; 1976-54; 1977-54.

2/ Reflects a preliminary distribution by activity and sub-activity of the FY 1976 and FY 1977 position allowance since the distribution of the reduction from FY 1975 will be based on an individual Area, Service Unit, and Tribal review.

IHS-40

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
INDIAN HEALTH SERVICE

APPROPRIATION TITLE: Indian Health Services

	1975 actual	1976 estimate	1977 estimate
		PERSONNEL SUMMARY	
Total number of permanent positions	8,108	7,861	7,831
Full-time equivalent of other positions	170	170	170
Average paid employment	7,791	7,614	7,491
Average GS grade	6.2	6.3	6.3
Average GS salary	11,470	11,777	11,879
Average salary of ungraded positions	11,740	12,766	13,404

Highlight Statement

The Indian Health Service operates 51 hospital facilities, 99 health centers, including school health centers, and over 300 health stations and satellite clinics. Of the 51 hospital facilities, 28 were constructed during the period 1912-1939, 6 during 1940-1954 and 17 were built during 1955-1976.

Continued Presidential and Congressional interest has brought major inroads towards alleviating the facility inadequacy in the program. For example: Replacement facilities at Philadelphia, Mississippi, Owyhee, Nevada, and Zuni, New Mexico, are either complete or nearing completion. A replacement hospital at Claremore, Oklahoma, is under construction and should be admitting patients in the early spring of 1977. Planning is complete for facilities at Whiteriver, Arizona, Acomita, New Mexico, and Santa Fe, New Mexico, with first phase planning complete for the Bethel, Alaska, replacement facility. Funds were included in the 1976 appropriation for the final planning phase and installation of pilings at Bethel. Master planning is completed for Rosebud, South Dakota, Red Lake, Minnesota, and Sacaton, Arizona. These studies revealed that replacement would be the most prudent course of action for the Government and the Indian people involved. In 1976 funds were appropriated to plan replacement of the facility at Red Lake, Minnesota. Planning for the replacement of the hospital at Winslow, Arizona, will be at a point where construction could begin in June 1976 if funds were available. Funds were appropriated in FY 1976 to plan a new facility at Ada, Oklahoma, and a replacement facility at Cherokee, North Carolina. Design plans for modernizing and expanding the Shiprock, New Mexico, hospital are complete. Master planning for Browning, Montana, is complete and being reviewed to determine if the facility will lend itself to modernization.

The Indian Health Service proposes to complete construction of the Acoma-Laguna-Canoncito, New Mexico Hospital in 1976 by utilizing $2,655,000 of the $4,600,000 appropriated in 1976 for the 1st phase construction of Santa Fe. This will facilitate construction of the Acomita facility without disrupting the phased construction of the facility at Santa Fe, New Mexico.

A dental addition to the Tohatchi, New Mexico, clinic is targeted for completion during the winter of 1976 while replacement clinics at Riverside, California, and Lame, Deer, Montana, are expected to be completed in the summer of 1976 and spring of 1977 respectively. Construction funds for a center at Lummi, Washington, were appropriated in FY 1976. Planning for a replacement center at Chemawa, Oregon, is completed and 13 units of personnel quarters will be provided for additional staff at the new hospital in Owyhee, Nevada, as well as additional quarters for the staffs at Rocky Boys and Lame Deer clinics in Montana.

In 1977 the balance of funds necessary to equip the new facility at Acomita, New Mexico, is included as well as the second phase construction funds for a three stage construction project at Santa Fe, New Mexico.

However, studies have shown that there are marked structural, functional and equipment deficiencies in many of the health facilities in the Indian Health Service as measured against modern medical

care and safety criteria. Subsequent to completing those facilities discussed above for which complete or phased construction funds are available (excluding Bethel), there remains 19 facilities so seriously in default of these criteria as to require complete replacement. Major modernization is required for 14 additional facilities, with minor modernization being required at several other locations. There is also a need to provide inpatient/outpatient services at two locations where none now exist. In addition, 40 locations have been identified that require new or replacement clinics and 12 existing clinics (health stations or health centers) are in need of modernization and/or expansion. There is also a need for over 2,600 units of quarters to meet the current program deficiency as well as anticipated program growth.

The scarcity of water and the lack of adequate facilities for the disposal of human and other household wastes is a major deterrent to good health for Indians and Alaska Natives. The lack of these facilities contributes to the spread of micro-organisms responsible for diarrheas and dysenteries, insect and rodent infestations, in both Indian homes and communities and to the contamination of foods and water supplies. However, a combined Federal-tribal effort is being waged to overcome as much of this deficiency as possible. Through 1976 approximately 95,000 Indian and Alaska Native homes will have been included in projects to provide new or improved sanitation facilities including 47,000 new or improved homes built under Federal or tribal housing programs. The 1977 request provides $32,445,000 for the provision of sanitation facilities for: (1) 6,000 housing units being constructed or improved by the Department of Housing and Urban Development, the Bureau of Indian Affairs, and Indian tribes; (2) approximately 900 existing homes located within or adjacent to these housing project sites; and (3) to provide sanitation facilities for Indian ceremonial areas, to conduct engineering investigations, and to correct emergency problems. A summary of the 1977 request follows:

Hospitals	
Santa Fe, New Mexico (2nd phase)	$6,790,000
Acomita, New Mexico (Equipment)	1,110,000
Sub-total	7,900,000
Sanitation Facilities	32,445,000
Total 1977 request	40,345,000

IHF-4

Indian Health Facilities

Summary of Increases and Decreases

Appropriation, 1976		$55,366,000
Unobligated balance from prior years		4,190,063
Total available for obligation		59,556,063
Decreases:		
Hospitals	$16,213,132	
Outpatient care facilities	1,402,043	
Community facilities	1,000,000	
Sanitation facilities	36,885,258	
Personnel quarters	2,008,630	57,509,063
Carried into Transition Quarter		2,047,000
Increases (Transition Quarter request):		
Sanitation facilities		11,084,000
Total available for obligation		13,131,000
Decreases:		
Outpatient care facilities	$ 40,000	
Sanitation facilities	12,458,000	
Personnel quarters	79,000	12,577,000
Carried into 1977		554,000
Increases (1977 appropriation request):		
Hospitals		7,900,000
Sanitation facilities		32,445,000
Total available for obligation		40,899,000

ANALYSIS BY ACTIVITY

AMOUNTS AVAILABLE FOR OBLIGATION

	Amount Available 1976	Fiscal Year 1977 Unobligated Balance From Prior Years	Transition Quarter Request	Unobligated Balance From Transition	1977 Budget Request	Estimated Total Available	Total Available 1977 compared to Total Available 1976
Hospitals	$16,213,132	$ ---	$ ---	$ ---	$ 7,900,000	$ 7,900,000	$- 8,313,132
Outpatient facilities	1,442,043	40,000	---	---	---	---	- 1,442,043
Community facilities	1,000,000	---	---	---	---	---	- 1,000,000
Sanitation facilities	38,813,258	1,928,000	11,084,000	554,000	32,445,000	32,999,000	- 5,814,258
Personnel quarters	2,087,630	79,000	---	---	---	---	- 2,087,630
Total	59,556,063	2,047,000	11,084,000	554,000	40,345,000	40,899,000	-18,657,063

Obligations by Activity

	1975 Actual	1976 Estimate	19TQ Estimate	1977 Estimate	Increase (+) Decrease (-)
Hospitals	$12,503,005	$16,213,132	$ ---	$ 7,650,000	$- 8,563,132
Outpatient care facilities	1,042,106	1,402,043	40,000	---	- 1,402,043
Community facilities	1,079	1,000,000	---	---	- 1,000,000
Sanitation facilities	40,329,736	36,885,258	12,458,000	31,999,000	- 4,886,258
Personnel quarters	5,284,370	2,008,630	79,000	---	- 2,008,630
Total	59,160,296	57,509,063	12,577,000	39,649,000	-17,860,063

IHF-6

ITEMIZATION OF ESTIMATE

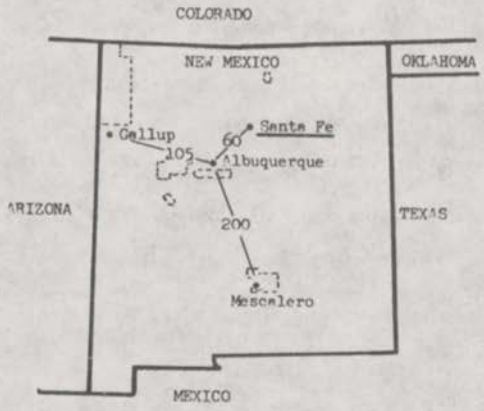
	Actual 1975	Estimate 1976	Estimate 19TQ	Estimate 1977	Increase (+) Decrease (-)
Program and Financing					
Total obligations	$59,160,296	$57,509,063	$12,577,000	$39,649,000	$-17,860,063
Unobligated balance brought forward	-5,919,359	-4,190,063	-2,047,000	- 554,000	+ 3,636,063
Unobligated balance carried forward	+4,190,063	+2,047,000	+ 554,000	+1,250,000	- 797,000
Appropriation	57,431,000	55,366,000	11,084,000	40,345,000	-15,021,000
Obligation by Objects					
11 Personnel compensation	4,996,846	5,610,000	1,530,000	4,302,000	- 1,308,000
12 Personnel benefits	238,961	309,000	84,000	237,000	- 72,000
21 Travel and transportation of persons	239,818	275,000	76,000	223,000	- 52,000
22 Transportation of things	1,250,280	1,074,000	377,000	960,000	- 114,000
23 Rent, communications, and utilities	320,241	276,000	97,000	245,000	- 31,000
24 Printing and reproduction	19,389	32,000	10,000	32,000	---
25 Other services	8,827,884	8,928,749	2,186,000	6,300,000	- 2,628,749
26 Supplies and materials	9,753,126	8,654,258	3,037,000	7,700,000	- 954,258
31 Equipment	2,544,811	4,613,128	754,000	1,900,000	- 2,713,128
32 Lands and structures	30,966,298	26,736,928	4,426,000	17,750,000	- 8,986,928
41 Grants, subsidies and contributions	1,079	1,000,000	---	---	- 1,000,000
42 Insurance claims and indemnities	1,563	---	---	---	---
Total obligations	59,160,296	57,509,063	12,577,000	39,649,000	-17,860,063

IHF-7

Santa Fe Health Facility

Santa Fe, New Mexico $6,790,000

Construction funds for a replacement facility



IHF-8

Santa Fe Project Cost Estimate

A/E design cost appropriated in 1972	$ 170,000
1st Phase construction funds appropriated in FY 1976 ($4,600,000 less $2,655,000 advance to Acomita, New Mexico)	1,945,000
2nd Phase construction funds requested in FY 1977	6,790,000
3rd Phase construction funds required subsequent to FY 1977	2,500,000
Groups II and III equipment requirements subsequent to FY 1977	2,100,000
Total estimated project cost	13,505,000

2nd phase funds for a new comprehensive community health facility to serve the Santa Fe, New Mexico Service Unit are requested in 1977. This new facility will replace an existing edifice constructed in 1929 that is now both functionally and structurally obsolete. The present physical plant is not capable of responding to a comprehensive program of curative and preventive health care.

Geographic Background

The Santa Fe Service Unit is mostly mountainous with high plateaus and is located in the northern central part of the State of New Mexico. It is the administrative center for fourteen Indian tribes, the Ute Mountain and Southern Utes, the Jicarilla Apache, and eleven Pueblo Tribes. The Service Unit population numbered 11,462 Indians in FY 1975.

Economic Status

The employment levels of the Pueblos vary according to their access to metropolitan areas. The unemployment ranges between 10-50 percent. The majority of those employed work as laborers or farmers. The most recent environmental health survey of 1,552 Indian homes showed that only 36 percent were of frame construction, 64 percent had inside toilets (of which 26 percent had septic tanks and 74 percent community disposal systems), 70 percent had running water, and 90 percent had electricity.

Community Facilities and Referral Facilities

There are no major Indian community health facilities located conveniently near the Santa Fe Service Unit. The closest major Indian referral facilities are located in Albuquerque about 60 miles away. There is a private hospital in Santa Fe - St. Vincent's. This hospital averaged about an 80 percent occupancy rate during calendar year 1975 and therefore would not be capable of servicing the expanding Indian patient demand. However, St. Vincent's is utilized as a referral resource and provides other services for Indian patients.

In 1976 $4,600,000 was appropriated for the 1st stage of a three phased construction project at Santa Fe, New Mexico. Of these funds $2,655,000 are proposed for redirection into Acomita, New Mexico, in order to complete that facility and concurrently allowing the 1st construction phase at Santa Fe. The amount of $6,790,000 requested in 1977 will enable the Indian Health Service to proceed with the 2nd phase of the Santa Fe project.

This proposed health facility, containing a gross area of 74,700 square feet, will be comprised of a 45-bed inpatient area, a 10-bed multi-purpose unit, and outpatient department, areas for supportive services and field health activities. Workloads follow:

Workloads

	Existing Facility Current (1975)	Proposed New Facility Opening Day 1979 (est.)	Proposed New Facility Estimate 1985
Population	11,462	12,310	13,370
Discharges	990 1/	2,010	2,388
Average Daily Patient Load	16.4 1/	32.5	36.0
Beds	35 1/	45-55	45-55
Outpatient Visits	18,617	22,227	25,000

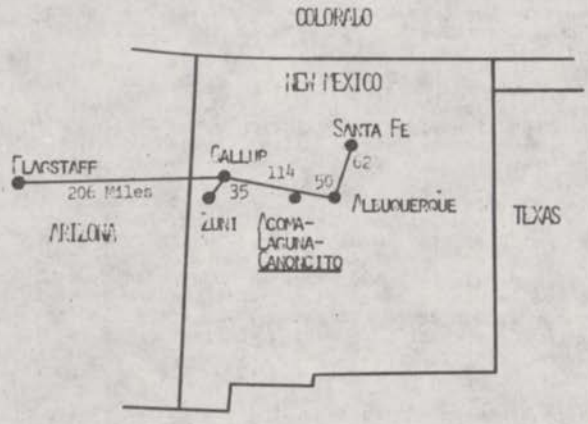
1/ Due to insufficient staff throughout the hospital during FY 1975, Santa Fe discontinued certain services and shows a decrease in discharges, ADPL, and beds.

IHF-10

Acoma-Laguna-Canoncito Health Facility

Acomita, New Mexico $1,110,000

Equipment funds for a new facility



In 1976 the Indian Health Service proposes to redirect $2,655,000 into Acomita, New Mexico, from $4,600,000 appropriated in 1976 for the 1st phase construction of a replacement facility at Santa Fe, New Mexico. This action will permit completion of the Acomita project with the exception of the equipment requirements requested in 1977.

65-300 O - 76 - 43

SANITATION FACILITIES - 1977 Request $32,445,000

Public Law 86-121 enables the Indian Health Service to help alleviate the substandard environmental conditions which exists in Indian and Alaska homes and communities. This law authorizes construction of domestic water supplies, waste disposal facilities and other essential sanitation facilities for Indian homes, communities, and lands.

Substantial progress has been made over the past 16 years which has contributed to a reduction in the infant mortality and the gastroenteritis death rates.

Since the inception of the sanitation facilities program in 1960, through fiscal year 1975, 2,103 projects have been undertaken. It is estimated that with the completion of all of the above projects, approximately 86,000 Indian homes will have been provided new water supply and sewage disposal facilities. In attaining this accomplishment approximately 14,000 of the existing homes served were provided partial facilities or improvements in more than one project. Included in the total homes served are 39,000 new and rehabilitated homes constructed under Federal and Tribal housing programs for Indians.

The 1976 appropriation included funds to serve 8,000 new or renovated housing units being built under Federal and Tribal housing programs and for approximately 1,500 existing homes located within or adjacent to housing project sites. Also included in the 1976 program are funds for emergency works and other special projects.

The 1977 request for sanitation facilities includes funds (1) to assist Federal (HUD and BIA) and Tribal housing programs permitting the Indian Health Service to participate in the provision of sanitation facilities for approximately 6,000 new or renovated housing units and approximately 900 existing homes within or adjacent to housing project sites; and (2) for construction of sanitation facilities for Indian ceremonial areas, investigation and planning, additional technical information, correction of emergency problems and for materials, supplies and equipment for completing the construction or maintenance and repair of sanitation facilities.

Although much has been accomplished towards the provision of essential sanitation facilities for Indian homes and communities, it is estimated that after completion of the work requested through FY 1977 there will remain nearly 24,000 existing Indian homes which have yet to be served and an additional 20,000 homes which need facility upgrading.

There are also significant unmet needs in the categories of capital improvements for community type water and sewer systems, establishment of tribal operations and maintenance organizations and establishment of solid waste collection and disposal systems. While some of these needs will be satisfied in conjunction with projects to assist Federal and Tribal housing programs for Indians, much remains to be done to improve the home and community environment in which the Indian people live.

To the extent that Federal housing programs are unable to initiate the total number of anticipated housing unit starts during FY 1976 and 1977, it is planned to use the unrequired funds for

such projects to provide sanitation facilities for an equivalent number of existing Indian and Alaska Native homes or for needed capital improvements to existing Tribal community water or sewer systems.

IHF-13

Number of Indian Homes Benefitted

	Fiscal Year Program		
	1975 Actual	1976 Estimate	1977 Estimate
Projects to assist Federal and Tribal Indian housing programs:			
(A) New and improved homes (HUD, BIA, Tribal and other)	5,741	8,000	6,000
(B) Existing homes served in conjunction with housing programs	4,074	1,500	900
Sub-total	9,815	9,500	6,900
Regular Projects for existing homes:			
Water, waste or both and/or improved facilities or service	4,416	--	--
Total	14,231	9,500	6,900

1977 REQUEST SUMMARY

Projects to assist Federal and Tribal Housing Programs for Indians 6,000 new or improved housing units and 900 existing homes located within or adjacent to housing project sites	$31,808,000
Special projects for engineering investigations, emergency works, Tribal buildings and ceremonial grounds, supplies and equipment and unforeseen conditions	637,000
Total	$32,445,000

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
HEALTH SERVICES ADMINISTRATION

ADMINISTRATIVE PROVISIONS, HEALTH SERVICES ADMINISTRATION

SEC. 1001. Appropriations contained in this Act, available for salaries and expenses, shall be available for services as authorized by 5 U.S.C. 3109 but at rates not to exceed the per diem equivalent to the rate for GS-18.

SEC. 1002. Appropriations contained in this Act, available for salaries and expenses, shall be available for uniforms or allowances therefor as authorized by law (5 U.S.C. 5901-5902).

SEC. 1003. Appropriations contained in this Act, available for salaries and expenses, shall be available for expenses of attendance at meetings which are concerned with the functions or activities for which the appropriation is made or which will contribute to improved conduct, supervision, or management of those functions or activities. (Department of the Interior and Related Agencies Appropriation Act, 1976).

Justifications of
Appropriation Estimates for
Committee on Appropriations
Fiscal year 1977

INDIAN EDUCATION

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Office of Education

Indian Education

Appropriation Title	1977 Appropriation Estimate
Indian Education	$42,055,000

DEPARTMENT OF HEALTH, EDUCATION AND WELFARE

Office of Education

INDIAN EDUCATION

For carrying out, to the extent not otherwise provided [part A ($35,000,000), part B ($16,000,000), and part C ($4,000,000)] *parts A, B, and C* of the Indian Education Act, and the General Provisions Act, [$57,055,000] *$42,055,000.*

[For "Indian education" for the period July 1, 1976. through September 30, 1976, $516,000.] *(Department of the Interior and Related Agencies Appropriation Act, 1976.)*

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION
INDIAN EDUCATION

HIGHLIGHT STATEMENT

Indian students have been among the most educationally disadvantaged groups in the Nation. Past studies have shown that, in standardized achievement measures in reading comprehension, mathematics, verbal and non-verbal ability and general information, the American Indian scored significantly lower at all grade levels than did the average white student. Further, the degree of lag was greater at the twelfth grade than at the first, indicating that Indian children lost ground as they progressed through school.

Moreover, it is estimated that 25 percent of all Indian children come to school unable to speak English, suggesting that over 80,000 Indian children require special language instruction.

Participation of Indian parents in their children's educational programs has been minimal. A 1970 study showed that nearly 70 percent of Indian parents have had no contact with teachers regarding their child's behavior and nearly 40 percent have had no contact regarding their child's educational progress.

The Indian population is largely concentrated either in rural, isolated and impoverished school systems having high operational costs but a low tax base for educational support, or in urban areas with extremely high per-pupil costs because of the presence of many disadvantaged students. The capacity of such local school districts and/or State educational agencies to provide adequate funding for Indian students is thus severely limited.

In recognition of the special educational needs of American Indians and Alaskan Natives, the Congress passed the Indian Education Act of 1972 (P.L. 92-318, Title IV) authorizing the Commissioner of Education to operate a wide variety of programs including supplementary education services, experiments, demonstrations, and dissemination activities. In keeping with a policy of Indian self-determination, parental and community participation in program development and implementation are required for all projects.

Federal assistance provided under the Act is in addition to those funds which may benefit Indians and Alaskan Natives from other Office of Education programs such as Impact Aid (P.L. 874), compensatory education (Elementary and Secondary Education Act, Title I), and education for the handicapped, as well as education programs administered by other Federal agencies such as the Bureau of Indian Affairs.

In pursuing its major goal of promoting equal educational opportunity for all American citizens, the Office of Education recommends $42,055,000 in fiscal year 1977 to maintain gains made under the Indian Education Act. This request provides the same level of funding as the 1975 appropriation and the 1976 revised request, but a decrease of $15,000,000 below the 1976 appropriation.

To directly address the special educational needs of Indian children who will be attending public elementary and secondary schools or Indian schools, Part A of the Indian Education Act authorizes grants to develop and carry out supplementary programs for Indian and Alaskan Native children. An amount of $25,000,000 is requested for fiscal year 1977 to be used for school year 1977-78. Awards to local school districts, in the form of an entitlement, are based on the number of Indian students enrolled in the school district. At the request level, approximately 298,000 Indian students in about 1,200 school districts will benefit from Part A grants. This support will provide funding at a level of approximately $76 per Indian child.

In addition to the amount allocated to local educational agencies (LEA's), 10 percent of the amount appropriated for Part A is reserved for Indian schools on or near reservations which are not local educational agencies or have not been LEA's for more than three years. Under this non-LEA set-aside in fiscal year 1977, an

estimated 25 Indian-controlled schools will be supported. Funded activities for both LEA's and non-LEA's will include bicultural/bilingual enrichment programs, the development of cultural awareness curricula, training teachers and teacher aides in how to teach the basic skills areas of reading and mathematics, and supportive services such as guidance and counseling.

Under Part B, which supports special programs for Indian and Alaskan Native children, $12,000,000 is requested for three major purposes:

- to develop educational models that are tailored to the different needs of Indian children in public, BIA, or alternative schools, and to disseminate proven successes. The emphasis in dissemination efforts will be put on providing comprehensive systems and alternative models for use within the existing public school structure.

- to address national needs and priorities that call for coordination at the Federal level, such as teacher training, materials development, early childhood education techniques, and the provision of technical assistance to local parent committees.

- to provide supplemental education services which will address those local needs that are not being met by other programs.

In fiscal year 1977, approximately 160 grants will be awarded under Part B to benefit an estimated 95,000 Indian students, 20,000 of whom are direct program participants. Part C of the Indian Education Act addresses the educational needs of adult Indians and Alaskan Natives. In fiscal year 1977, $3,000,000 is requested This activity has a dual objective: to develop and disseminate educational techniques that are effective in achieving literacy and high school equivalency among Indian adults; and to increase the enrollment and graduation rates of these adults in high school equivalency and continuing education efforts. Areas that are particularly relevant to Indian communities, such as legal and consumer education and vocational counseling, will be stressed in developing programs.

In the awarding of grants under both Parts B and C of the Act, priority is given to grantees who are Indian tribes, organizations, and institutions.

To insure that the educational views of the Indian community are represented, Part D of the Indian Education Act provides for the establishment of the Office of Indian Education within the Office of Education to administer the project authorities of the Act under the direction of a Deputy Commissioner for Indian Education. A National Advisory Council on Indian Education was also established under Part D to provide policy advice to the Office of Education and technical assistance to local educational agencies and Indian organizations. The law stipulates that the Council be comprised of 15 persons who are Indians or Alaskan Natives and are appointed by the President from nominations submitted by Indian tribes and organizations. The 1977 budget recommends $2,055,000 for program administration which includes funds for the National Council and for planning and evaluation projects conducted by the Office of Indian Education.

OFFICE OF EDUCATION

Indian Education

Appropriation, 1975	$42,034,000	
Total amount available, 1975		$42,034,000
Appropriation, 1976	57,055,000	
Total amount available, 1976		57,055,000[1/]

SUMMARY OF INCREASES AND DECREASES, 1977

Payments to Local Educational Agencies for Indian Education	
Net change	-10,000,000
Special Projects	
Net change	- 5,000,000
Program Administration	
To provide for mandatory increases	+ 70,600
To provide for mandatory decreases	- 16,400
Program increases	+ 71,700
Program decreases	- 125,900
Net change	-0-
Net change, 1977	-15,000,000
Budget estimate, 1977	42,055,000

1/ A rescission of $15,000,000 has been proposed.

Indian Education

Analysis by Activities

Activity	Amount Available 1975	Revised Budget 1976	Appropriation 1976	Estimate 1977	Increase(+) Decrease(-)
Payments to Local Educational Agencies and Non-LEAs for Indian Education	$24,999,995	$25,000,000	$35,000,000	$25,000,000	$-10,000,000
Special Projects:					
(a) Special projects for Indian children	11,928,843	12,000,000	16,000,000	12,000,000	- 4,000,000
(b) Special projects for Indian adults	3,000,000	3,000,000	4,000,000	3,000,000	- 1,000,000
Program Administration	2,034,000	2,055,000	2,055,000	2,055,000	---
Sub-total - obligations	41,962,838	42,055,000	57,055,000	42,055,000	-15,000,000
Unobligated balance lapsing	71,162	---	---	---	---
Budget authority	$ 42,034,000	42,055,000	57,055,000	42,055,000	-15,000,000

1. PAYMENTS TO LOCAL AND NON-LOCAL EDUCATIONAL AGENCIES FOR INDIAN EDUCATION (PART A)

	Amount Available 1975	Revised Budget 1976	Appropriation 1976	Estimate 1977
Payments to local educational agencies	$22,727,273	$22,727,273	$31,818,182	$22,727,273
Payments to non-local educational agencies	$ 2,272,727	$ 2,272,727	$3,181,818	$ 2,272,727

Narrative

The 1977 budget request for this activity is $25,000,000, the same as the 1975 appropriation and the 1976 revised request, and $10,000,000 less than the fiscal year 1976 appropriation. The majority of Indian and Alaskan Native children attend schools in districts having a low tax base, inequitable educational services, a high degree of isolation, and a high cost for ancillary services such as transportation. Consequently, these districts are often unable to provide these children special educational programs or cultural enrichment from their own limited resources.

Part A of the Indian Education Act provides financial assistance to local educational agencies (LEA's) and non-LEA's for elementary and secondary education programs to meet the special educational needs of Indian and Alaska Native children. Grants are made to applicant LEA's on an entitlement basis according to the number of Indian or Alaskan Native students enrolled multiplied by the State average per pupil expenditure. In addition to the amount appropriated under Part A for LEA's, a part of this amount is reserved for Indian schools on or near reservations which are not local educational agencies or have not been LEA's for more than three years. Parent participation through parent committees is a requirement for Part A funding.

In fiscal year 1977, at an anticipated per pupil expenditure rate of $76, about 298,000 Indian children enrolled in LEA's will be served, the same as under the fiscal year 1976 revised request. At the fiscal year 1976 appropriation level, it is expected that the same number of students will participate but the anticipated rate of per pupil expenditure would be $107.

Funding for non-LEA's under Part A will be primarily for service projects in cultural awareness, bilingual education, curriculum development and remedial education. In fiscal year 1977, the provision of support will be to 25 of the 45 Indian controlled school districts. At the appropriation level in fiscal year 1976, 35 such schools will receive grants.

Plan of Work

Projects funded under this part range from part-time ancillary services to full-time basic education and cultural enrichment programs. Activities are determined by the LEA's based on needs and population concentrations. In order to assure the most effective operation of this service program for Indian children, the following activities will be undertaken by the Office of Indian Education:

1. So that program funds will be focused on addressing the special educational needs of Indian children as specified in the legislation, a technical review of applications for both LEA's and non-LEA's will be conducted to insure compliance with the provisions of the law. In addition, no projects

are funded, a monitoring system for insuring adequate program management will be implemented. During the period of project performance, as program administration resources permit, site visits will be made to selected project sites and technical assistance will be offered to projects requesting it. A national conference with grantees will also be held to insure the maximum dissemination of information relating to quality educational practices.

2. To insure full participation of the Indian community in the planning, implementation, and evaluation of these projects, a management reporting system is being instituted in which Indian parent committees will review and report on the management of Part A LEA grants. This objective will also be supported by the development of a "Part A Parent Committee Information Kit" which will provide detailed information on the planning, development and operation of programs under Part A.

3. To identify successful or promising educational practices, an extensive review will be conducted for both LEA's and non-LEA's of project cost and performance data in accordance with acceptable educational criteria.

4. To insure educational reform in Indian controlled (non-LEA) schools, an intensive planning program, fully coordinated with the Bureau of Indian Affairs, will be established. Specific objectives will include identification and dissemination of quality educational products and processes, testing of the effects of funding levels up to $2,000 per child in a unique educational environment and evaluation of academic, economic and social progress obtained through such a program.

5. To upgrade the quality of educational evaluation at the local level, an Indian Education Evaluation Handbook, containing an extensive system for self-evaluation of educational programs, will be disseminated to all grantees for their use.

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PART A - LEA's

	Actual 1975	Revised Budget 1976	Appropriation 1976	Estimate 1977
No. eligible local school districts[1/]	3,088	3,200	3,200	3,300
No. applications received or anticipated	1,169	1,550	1,550	1,550
No. grants awarded	845	1,200	1,200	1,200
Percentage of eligible districts funded	27%	38%	38%	36%
No. States in which awards are made	38	40	40	38
No. eligible Indian students[2/]	332,264	378,000	378,000	383,000
No. Indian students served or anticipated	267,000	298,000	298,000	298,000
Percentage of eligible Indian students served	80%	79%	79%	78%
Full entitlement[3/]	$310,999,550	519,750,000	519,750,000	574,500,000
Total funds obligated	$ 22,727,273	22,727,273	31,818,182	22,727,273
Share of entitlement	7.3%	5.31%	7.4%	4.8%
Average cost of awards	$ 26,896	18,939	26,515	18,939
Average grant expenditure per child	$ 85	76	107	76

1/ Districts that enrolled no fewer than ten Indian pupils; or, if fewer than ten, the actual Indian enrollment constituted one-half or more of the districts' total enrollment.

2/ Based on an annual survey by the Office of Indian Education of Indian enrollment in public school districts for purpose of allocating funds to districts under Part A. The figure excludes Indian students attending BIA and private schools.

3/ 1975 Entitlement is based on actual State by State per pupil expenditures; 1976 and 1977 Entitlements are based on National estimates of per pupil expenditures and are subject to revision.

PART A - Non-LEA's

	Actual 1975	Revised Budget 1976	Appropriation 1976	Estimate 1977
No. applications received or expected	45	45	45	45
No. of grants awarded or anticipated	25	25	35	25
Average cost of award	$ 90,909	$ 90,909	$ 90,909	90,909
Funds available for obligation	$2,272,727	$2,272,727	$3,181,818	$2,272,727
No. States in which award is made	15	15	20	15
Average duration of projects (in years)	1	1	1	1

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ITEMIZATION OF ESTIMATE
Payments to Local Education Agencies
And Non-Local Education Agencies for Indian Education
(Part A)

Obligations by Object	Amount Available 1975	Amount 1/ Available 1976	Estimate 1977	Increase(+) Decrease(-)
41 Grants, subsidies and contributions	$25,000,000	$35,000,000	$25,000,000	$-10,000,000
Net obligations	$24,999,995	$35,000,000	$25,000,000	$-10,000,000

1/ A rescission of $10 million has been proposed.

2. SPECIAL PROJECTS
(Parts B and C)

	Amount Available 1975	Revised Budget 1976	Appropriation 1976	Estimate 1977
a. Special projects for Indian children (Part B)	$12,000,000	$12,000,000	$16,000,000	$12,000,000

Narrative

(a) Special projects for Indian children (Part B)--the 1977 estimate of $12,000,000 provides the same level of funding as the fiscal year 1976 revised request and $4,000,000 less than provided in the fiscal year 1976 appropriation.

Part B of the Indian Education Act authorizes grants to support planning, pilot, and demonstration projects; educational services not otherwise available; exemplary educational programs; preservice and inservice training for educational personnel; and the dissemination of information and materials. Grants are made, on the basis of national competition, to Indian tribes, organizations and institutions, State and local educational agencies, and Federally supported elementary and secondary schools for Indian children.

It is anticipated that some projects will require more than one year of funding to complete activity. Where assistance is provided for multiple year projects, grant awards will be made for grant periods of a single year's duration with continuation awards of second and third years subject to satisfactory performance and availability of funds in future fiscal years. Such applicants will be selected based on potential for success and evidence of past effectiveness in similar efforts.

Plan of Work

Under Part B, the budget request is distributed among three main priority areas as follows:

-- $4,000,000 toward developing validated models of instruction for meeting the needs of Indian and Native Alaskan children attending public schools, alternative schools, and BIA schools, and for developing a dissemination network to insure the transfer of exemplary models and prototype materials into the existing public school structure.

Public Schools ($1,560,000)

Innovative educational models in areas of high educational need (e.g., remedial education, guidance and counseling, and cultural awareness) will be developed for the public school system in an attempt to reduce the more critical educational problems of Indian children.

Alternative Schools ($920,000)

Temporary alternative schools provide educational opportunities for Indian students requiring innovative remedial and alternative educational approaches not available through the public school system. These funds will be used by alternative schools to develop new educational approaches which will also be available to the public school system.

BIA Schools ($920,000)

Approximately 20 percent of Indian school-age children move frequently between the BIA and public school systems. It is essential that BIA boarding and day school curricula and educational services be comparable with those of the public school system. In concert with the Bureau of Indian Affairs, funds will be used to develop programs to facilitate the transfer of students between school systems.

Dissemination and Public School Impact ($600,000)

Funds will be used to identify, evaluate and disseminate validated exemplary materials and approaches to a nation-wide Indian audience, to insure the maximum benefit from Federal dollars expended in model project development. Emphasis will be placed on impacting existing public school structures.

-- $6,000,000 to provide innovative and capacity-building efforts in areas that have a high priority on a national basis.

Teacher Training ($1,560,000)

There exists a need for more credentialed Indian classroom teachers and paraprofessionals. Through monies directed toward teacher training, this effort will be able to supplement the inservice training of Indian teachers' activities undertaken by the Office of Education Teacher corps and Bilingual education programs and will focus on teacher training needs in more isolated geographic areas.

Parent Committee Technical Assistance ($660,000)

In order to increase community capacity to participate in the planning and operation of activities funded by private, State and Federal sources, including IEA, programs will be supported to aid parents in realizing the value of education and the importance of their role in the education of their children. Emphasis will be placed on training Indian adults at the local level who can work in conjunction with the school system to produce quality long-range planning for the benefit of Indian children.

Early Childhood ($2,520,000)

Home, community and/or school based projects will be supported for Indian children through age five to help prepare them for school. Projects will also help meet the Indian Education Act goals of parent and community involvement in the educational process.

Materials Development ($1,260,000)

This activity seeks to develop and demonstrate the products and practices needed to insure a core of culturally-based instructional resources geared to the Indian child's needs. Beneficiaries will include Indian school children in schools which are not eligible for, or are not receiving, Title IV funds.

-- $2,000,000 to meet urgent local needs which are not being dealt with by current programs in which Indian children participate will supplement State and local efforts in the provision of such services. Priority will be placed on counseling, tutoring, remedial programs, recreational activities, and culturally-based activities.

SPECIAL PROJECTS FOR INDIAN CHILDREN
Part B

	Actual 1975	Revised Budget 1976	Appropriation 1976	Estimate 1977
No. applications received or expected	442	500	525	525
No. projects funded or to be funded	148	160	213	160
Average cost of award	$ 81,081	$ 75,000	$ 75,000	$ 75,000
Funds available for obligation	$12,000,000	$12,000,000	$16,000,000	$12,000,000
No. States in which award is made	28	30	30	30
Average duration of projects (in years)	1	1	1	1
Estimated number of children impacted *	90,000	95,000	120,000	95,000

*These figures represent the total estimate of children benefitting directly or indirectly from the projects funded. About 21 percent of the number of children affected are direct program participants.

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FY 1975 PART B PROJECTS BY STATE

State	Number	Total Amount
Alaska	5	$ 542,834.00
Arizona	14	1,349,167.00
California	13	980,425.00
Colorado	4	415,590.00
Florida	3	180,446.00
Idaho	2	171,181.00
Illinois	1	52,000.00
Iowa	1	90,000.00
Massachusetts	3	295,000.00
Michigan	7	227,627.00
Minnesota	6	441,953.00
Mississippi	1	65,000.00
Montana	8	781,030.00
Nebraska	2	120,000.00
Nevada	4	289,018.00
New Mexico	7	716,000.00
New York	6	372,000.00
North Carolina	2	201,076.00
North Dakota	9	773,527.00
Oklahoma	16	1,127,777.00
Oregon	4	334,009.00
Pennsylvania	1	100,000.00
South Dakota	7	583,025.00
Texas	1	155,000.00
Washington	9	828,019.00
Washington, D.C.	1	125,000.00
Wisconsin	8	591,186.00
Wyoming	1	20,953.00
Total Obligated	145	11,928,843.00

	Amount Available 1975	Revised Budget 1976	Appropriation 1976	Estimate 1977
b. Special projects for Indian adults (Part C)	$3,000,000	$3,000,000	$4,000,000	$3,000,000

Narrative

(b) Special projects for Indian adults (Part C) -- The fiscal year 1977 request of $3,000,000 provides the same level of funding as the 1975 appropriation and the 1976 revised request and $1,000,000 less than the fiscal year 1976 appropriation.

Part C of the Indian Education Act supports service and developmental projects designed to improve the employment and educational opportunities for adult Indians. Grants are made, on the basis of national competition, to Indian tribes, organizations, and institutions, and State and local educational agencies.

Plan of Work

Illiteracy and unemployment are problems of major proportion in many Indian communities. Some State estimates indicate that between 60 and 90 percent of their adult Indian populations over age 18 read at less than the fifth grade level. Lack of appropriate models and educational strategies for instructing adult Indians contribute to their lack of educational success. These educational deficiencies are further manifested in unemployment levels ranging from 65 percent to 90 percent of the available labor force.

In order to address these problems and thereby increase adult educational levels and improve their prospects for employment, the program will focus on the following major service and developmental areas:

1. Traditional classroom methods do not appear to be effective in teaching the adult Indian. There is a need to develop new approaches of instruction and curricula and to test their effectiveness in increasing the success rates of Indians in literacy and high school equivalency programs. About $700,000 will be used to support projects that test alternative literacy equivalency instructional models, develop bilingual instructional models, and develop and test curricula in basic literacy and math. Subject matter used in instructional materials will include consumer, legal, and cultural themes.

2. To improve the educational opportunities for Indian adults, $1,300,000 will be used to establish and operate Indian adult learning centers which will provide basic education training programs to give Indian adults the opportunity to qualify for a high school equivalency certificate.

3. To encourage coordinated efforts to serve Indian adults, $1,000,000 is planned to support projects that develop adult Indian education services in concert with other educational, health, manpower and social service programs directed at meeting the comprehensive needs of a community.

Support is planned for some projects which require more than one year of funding to complete the activity. Where assistance is provided for multiple year projects, grant awards will be made for grant periods of a single year's duration with continuation awards for second and third years subject to satisfactory performance and availability of appropriations in future fiscal years. Such applicants will be selected based on potential for success and evidence of past effectiveness in similar efforts.

SPECIAL PROJECTS FOR INDIANS
Part C

	Actual 1975	Revised Budget 1976	Appropriation 1976	Estimate 1977
No. applications received or expected	140	150	150	150
No. projects funded or to be funded	53	60	65	60
Average cost of award	$ 56,604	$ 50,000	$ 61,538	$ 50,000
Funds available for obligation	$3,000,000	$3,000,000	$4,000,000	$3,000,000
No. States in which award is made	21	21	25	21
Average duration of projects (in years)	1	1	1	1
Estimated number of adults served	9,000	10,000	15,000	10,000

FY 1975 PART C PROJECTS BY STATE

State	Number	Total Amount
Alaska	1	$ 150,000
Arizona	5	245,247
California	4	193,564
Florida	1	52,855
Idaho	1	68,884
Illinois	1	20,620
Kansas	1	30,465
Louisiana	1	49,300
Michigan	1	83,428
Minnesota	2	131,894
Mississippi	1	120,403
Montana	4	323,436
Nevada	1	20,615
New Mexico	2	102,243
New York	1	37,283
North Dakota	2	95,994
Oklahoma	4	214,052
Rhode Island	1	41,000
South Carolina	1	50,000
South Dakota	2	87,097
Utah	2	148,741
Washington	9	504,271
Washington, D.C.	1	50,000
Wisconsin	2	88,380
Wyoming	2	90,228
TOTAL	53	$3,000,000

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ITEMIZATION OF ESTIMATES

Special Projects
(Parts B and C)

Obligations by Object	Amount Available 1975	Amount 1/ Available 1976	Estimate 1977	Increase(+) Decrease(-)
41 Grants, subsidies and contributions	$15,000,000	$20,000,000	$15,000,000	$-5,000,000
Net obligations	$14,928,843	$20,000,000	$15,000,000	$-5,000,000

1/ A rescission of $5 million has been proposed.

FUNDING PATTERN FOR PARTS A, B & C

	1975 Actual			1976 Appropriation			1977 Estimate		
	Number Applications Received	Number Grants Awarded	Total Funds Obligated	Number Applications Received	Number Grants Awarded	Total Funds Available	Number Applications Received	Number Grants Awarded	Total Funds Available
LEA's	1,169	845	$22,727,269	1,550	1,200	$31,818,182	1,550	1,200	$22,727,273
Non-LEA's	45	25	2,272,726	45	35	3,181,818	45	25	2,272,727
Part B	442	148	11,928,843	525	213	16,000,000	525	160	12,000,000
Part C	140	53	3,000,000	150	65	4,000,000	150	60	3,000,000
TOTALS	1,796	1,071	$39,928,838	2,270	1,513	$55,000,000	2,270	1,445	$40,000,000

3. Program Administration
(Part D)

	Amount Available 1977	Appropriation 1976	Estimate 1977	Increase(+) Decrease(-)
Program administration	$2,034,000	$2,055,000	$2,055,000	---

The 1977 estimate of $2,055,000 and 50 positions represents a decrease of four positions compared with 1976.

Mandatory	
Increases:	
Annualization of October, 1976 payraise	$ 10,700
Annualization costs of fiscal year 1976 authorized positions	53,100
Within-grade increases	6,800
Total mandatory increase	70,600
Program	
Increases:	
Increased amount for travel	71,700
Total program increase	71,700
Mandatory	
Decreases:	
Less one extra paid day in 1977	- 3,100
Decreased assessment in working capital fund and other reimbursable activities	-13,300
Total mandatory decrease	-16,400
Program	
Decreases:	
Decreased costs for other personnel compensation	-12,000
Decreased costs associated with planning and evaluation studies	-100,000
Decreased central payroll charges	- 200
Decrease in other contractual services	- 9,200
Decrease in supplies	- 1,500
Decrease in equipment	- 3,000
Total program decrease	-125,900
Net change	-0-

Plan of Work

Part D of the Indian Education Act refers to the General Education Provisions Act (Sections 400(c), 411, and D) as authority for funds to operate the Office of Indian Education and the National Advisory Council on Indian Education. Funds appropriated for this activity support the salaries, travel, and other administrative expenses for the Office and the Council, as well as planning and evaluation studies.

In order to work toward improving educational opportunities for Indian and Alaskan Native children and adults, the Office of Indian Education will perform the following activities:

1. Staff the Office of Indian Education at a level of 46 full-time positions, and the National Advisory Council on Indian Education at a level of 4 full-time positions.

2. Fund the 15-member National Advisory Council on Indian Education ($230,000).

3. Increase the effectiveness of monitoring and technical assistance provided to grantees under all parts of the Indian Education Act. This will include implementing mechanisms and procedures to coordinate data collection; disseminating a manual which will aid in addressing problems faced by parent committees and school districts in providing educational services for Indian children; disseminating an evaluation manual to aid project staff in the overall measure of project performance; and designating staff to provide technical assistance to projects identified as having major difficulties. This latter effort requires a significant increase in the amount of travel costs to support on-site review. The Indian community has made numerous pleas for increases in technical assistance, and this request reflects the Office of Education response.

4. Implement a delivery system to disseminate the findings of pilot, planning and demonstration projects to school systems. Specifically, this will include identifying successful educational practices in Parts A, B, and C which when validated can serve as models for projects that will improve the educational achievement of Indian children and adults.

5. Establish a task force with the Bureau of Indian Affairs to insure a common data base and common administrative procedures between the Bureau and the Office of Indian Education.

6. Conduct, evaluate and report on a national needs assessment for Indian education. This activity will be directed toward establishing a data base for future evaluation of project activities and developing a cost analysis of funding requirements to fully meet the special educational needs of Indians.

ITEMIZATION OF ESTIMATE
Program Administration

Obligations by Object	Actual 1975	Estimate 1976	Transition Quarter	Estimate 1977	Increase(+) Decrease(-) [1]
11 Personnel compensation..	$ 876,000	$ 887,000	$234,000	$ 937,000	$+ 50,000
12 Personnel benefits.....	68,000	79,000	20,000	85,000	+ 6,000
21 Travel and transportation of persons.....	125,000	75,000	37,000	147,000	+ 72,000
22 Transportation of things.....	3,000	3,000	---	3,000	---
23 Rent, communications, and utilities.....	71,000	134,000	34,000	134,000	---
24 Printing and reproduction..	13,000	12,000	3,000	12,000	---
25 Other services..	862,000	853,000	186,000	730,000	-123,000
26 Supplies and materials.....	13,000	9,000	2,000	7,000	- 2,000
31 Equipment.....	3,000	3,000	---	---	- 3,000
Net obligations	$2,034,000	$2,055,000	$516,000	$2,055,000	---

[1] This column compares amounts available under 1976 estimate and 1977 estimate.

ITEMIZATION OF ESTIMATE
Indian Education

Obligations by Object	Actual 1975	Appropriation 1976 1/	Transition Quarter	Estimate 1977	Increase(+) 2/ Decrease (-)
11 Personnel compensation	$ 876,000	$ 887,000	$234,000	$ 937,000	$ + 50,000
12 Personnel benefits	68,000	79,000	20,000	85,000	+ 6,000
21 Travel and transportation of persons	125,000	75,000	37,000	147,000	+ 72,000
22 Transportation of things	3,000	3,000	---	3,000	---
23 Rent, communications, and utilities	71,000	134,000	34,000	134,000	---
24 Printing and reproduction	13,000	12,000	3,000	12,000	---
25 Other services	862,000	853,000	186,000	730,000	-123,000
26 Supplies and materials	13,000	9,000	2,000	7,000	- 2,000
31 Equipment	3,000	3,000	---	---	- 3,000
41 Grants, subsidies and contributions	39,928,838	55,000,000	---	40,000,000	-15,000,000
Net obligations	$41,962,838	$57,055,000	$516,000	$42,055,000	-15,000,000

1/ Under the proposed rescission, object class 41 would be reduced by $15,000,000 to $40,000,000 and the total availability to $42,055,000.

2/ This column compares amounts available under the 1976 appropriation and the 1977 estimate.

Indian Education

Summary of Positions and Average Employment

Positions

Activity	1975	1976	1977
Payments to Local Educational Agencies for Indian Education	---	---	---
Special Projects:			
(a) Indian children	---	---	---
(b) Indian adults	---	---	---
Total Special Projects	---	---	---
Program Administration	54	54	50
Total	54	54	50

Average Employment

Payments to Local Educational Agencies for Indian Education	---	---	---
Special Projects:			
(a) Indian children	---	---	---
(b) Indian adults	---	---	---
Total Special Projects	---	---	---
Program Administration	46	52	54
Total	46	52	54

Indian Claims Commission

Appropriation Justification

FY 1977

(701)

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JUSTIFICATION OF 1977 BUDGET

Requirements for FY 1977. The Indian Claims Commission is requesting an appropriation of one million five hundred and thirty thousand dollars, of which $1,322 thousand is for personnel costs and $208 thousand is for other purposes.

Establishment and Adjudicatory Duties of the Commission. The Indian Claims Commission is an independent quasi-judicial agency, created by the Indian Claims Commission Act of August 13, 1946, (60 Stat. 1049), codified as Section 70 of Title 25, United States Code. The Commission consists of five members appointed by the President by and with the advice and consent of the Senate. It is responsible for the hearing and adjudication of claims existing up to and including August 13, 1946, as defined under Section 2 of the Act.

Status of Work. A total of 615 claims of Indian Tribes, bands or other identifiable groups of American Indians have been docketed. On December 31, 1975, 447 dockets had been finally disposed of, and 168 dockets were pending.

OBJECT CLASSIFICATION STATEMENT

11. Personnel Compensation. It is estimated that $1,205 thousand will be required for personnel compensation. The increase of $78 thousand over FY 1976 will cover the full-year cost of the October 1975 general salary increase and provide for essential individual increases.

12. Personnel Benefits. It is estimated that $117 thousand, an increase of $19 thousand, will be required to cover the government's contribution, in accordance with existing legislation, to employees' group life insurance, group health benefits, retirement, and FICA taxes.

21. Travel and Transportation of Persons. The Commission may require up to $14 thousand for travel, principally for the conduct of hearings in the field. This amount is unchanged from FY 1976.

23. Rent, Communications, and Utilities. It is anticipated that $120 thousand, an increase of $16 thousand, will be required for these expenditures. Rent has been increased by $15 thousand; and an estimated additional $1 thousand is needed for increased costs of telephone service including FTS, telegraph service and penalty mail.

24. Printing and Reproduction. It is estimated that $2 thousand will be required for this object to cover the cost of obtaining stationery and other material printed or bound outside the Commission. The increase of $1 thousand over FY 1976 will be needed to replenish depleted stocks.

25. Other Services. It is estimated that $56 thousand, an increase of $3 thousand, will be required for this object to cover such costs as court reporting services; Xerox rental; maintenance of office machines; and other administrative services.

26. Supplies and Materials. It is anticipated that $12 thousand will again be required to cover the cost of miscellaneous office supplies.

31. Equipment. It is estimated that $4 thousand will be needed for replacement of obsolescent office machines. This is an increase of $2 thousand from FY 1976.

SALARIES AND EXPENSES

Appropriation FY 1975	$1,324,000
Appropriation FY 1976	1,411,000
Budget Estimate FY 1977	1,530,000

REQUIREMENTS FOR FISCAL YEAR 1977

The estimate for funds allowed by the Office of Management and Budget to operate the Indian Claims Commission in fiscal year 1977 is $1,530,000.

SUMMARY OF INCREASES, 1977
(in thousands of dollars)

Personnel Compensation	+78
Personnel Benefits	+19
Travel	0
Rent, Communications and Utilities	+16
Printing and Reproduction	+1
Other Services	+3
Supplies and Materials	0
Equipment	+2
	+119

PERSONNEL COMPENSATION
(dollar amounts in thousands)

	1975 Actual	1976 Estimate	1977 Estimate	Change in 1977 from 1976
1. Number of permanent positions	42	42	42	0
2. Number of other positions	2	2	2	0
3. Salary cost of permanent positions	$1,088	$1,202	$1,297	+$95
4. Salary cost of other positions	$20	$23	$25	+$2
Total personnel services	$1,108	$1,225	$1,322	+$97

PERSONNEL SUMMARY

	1975 Actual	1976 Estimate	1977 Estimate
Total number of permanent positions	42	42	42
Full-time equivalent of other positions	2	2	2
Average paid employment	44	44	44
Average GS-grade	12.0	12.4	12.4
Average GS-salary	$23,383	$24,542	$26,150

OBJECT CLASSIFICATION
(in thousands of dollars)

		1975 Actual	1976 Estimate	1977 Estimate	Change in 1977 from 1976
11.	Personnel Compensation	$1,023	$1,127	$1,205	+78
12.	Personnel Benefits	85	98	117	+19
21.	Travel	7	14	14	0
23.	Rent, Comm. and Utilities	92	104	120	+16
24.	Printing and Reproduction	1	1	2	+1
25.	Other Services	52	53	56	+3
26.	Supplies	8	12	12	0
31.	Equipment	6	2	4	+2
	Total Obligations	$1,274	$1,411	$1,530	+$119

ANALYSIS BY ACTIVITIES
(in thousands of dollars)

Activities	Amount Available 1975	Amount Available 1976	Estimate 1977	Change in 197 from 1976
Hearing and adjudication of claims	$1,274	$1,411	$1,530	+$119
Unobligated balance no longer available	50	-	-	-
Total	$1,324	$1,411	$1,530	+$119

NAVAJO AND HOPI RELOCATION COMMISSION BUDGET JUSTIFICATIONS, F. Y. 1977

BUREAU OF INDIAN AFFAIRS

Navajo Hopi Relocation Commission

Appropriation, 1975	--
First supplemental	--
Second supplemental	--
Pay act supplemental	--
Total appropriation, 1975	--
Appropriation, 1976	12,700,000
Pay cost supplemental	--
Unobligated balance	--
Total available, 1976	12,700,000

SUMMARY OF INCREASES AND DECREASES, 1977

	Base for 1977	Increase 1977
Operation of Relocation Commission	400,000	+100,000
Assistance Payment	10,500,000	-10,500,000
Relocation Payment	1,800,000	-1,800,000
Total, net decrease, 1977		-12,200,000
Budget Estimate, 1977		500,000

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BUREAU OF INDIAN AFFAIRS

OPERATION OF INDIAN PROGRAMS

Analysis by Activities

(Direct Appropriation)

Activity	FY 1975 Amount Available	FY 1976 Amount Available	FY 1977 Estimate	Increase (+) or Decrease (-) 1977 Compared with 1976	Page Reference
1. Operation of Relocation Commission	--	400	500	+100	
2. Assistance Payments	--	10,500	--	-10,500	
3. Relocation Payments.....	--	1,800	--	-1,800	
Unobligated balance available	--	--	--	--	
Unobligated balance lapsing	--	--	--	--	
Total	--	12,700	500	-12,200	

NAVAJO-HOPI RELOCATION COMMISSION

1. Operation of Relocation Commission, 1976, $400,000; 1977, $500,000; increase $100,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
+ $100,000	-0-	$500,000	10	Increased costs for full year of operations.

The Relocation Commission has been given the following responsibilities by Congress in order to carryout the intent of P.L. 93-531:

1. Within a 24-month period following the District Court Order for partitionment of the JUA, submit a report to Congress concerning relocation.

2. Report to include the:

   a. Name of the residents within the area partitioned that will require relocation services.

   b. Fair market value of habitations and improvements of people to be relocated.

3. Report to:

   a. Be developed with persons to be relocated and their tribal representative.

   b. Take into account adverse social, economic, cultural and other impacts to avoid or minimize such.

   c. Identify sites and distance involved in relocation.

   d. Assure housing and related community facilities and services are available.

4. Commission is ordered to relocate the households and members thereof, including livestock from any lands partitioned to the tribe of which they are not members.

   a. The plan to be completed by the end of five years.

   b. The Commission shall make incentive payments.

   c. The Commission shall purchase from the head of each household who is to be relocated, the habitation and other improvements owned by the relocatee.

   d. Reimburse each head of a household who is to be relocated for actual reasonable moving expenses as if they were displaced under Section 202 of the Uniform Relocation Assistance Act of 1970.

   e. Make payments to head of household who is required to relocate which when added to the fair market value of their improvements will equal the reasonable cost of a decent safe sanitary replacement dwelling adequate to accommodate such household but not to exceed $17,000 for household of three or less and not more than $25,000 for a family of four or more.

f. Shall be responsible for provision of housing for each household eligible for payments.

(1) Shall make payments to accelerate achievement of debt free homeownership.

(2) Shall make timely arrangements for relocation housing by actually constructing housing or acquiring house for relocatee.

g. Is authorized to dispose of dwellings and other improvements acquired or constructed pursuant to the Act.

The $500,000 requested will be necessary to fund the Commission in fiscal year 1977. These funds will provide the compensation for the three Commissioners, a staff of ten employees, and necessary other expenses to carry out the responsibilities as prescribed.

The fiscal year 1976 appropriation provides the initial funding of $1,800,000 for relocation payments pursuant to Sections 14(b) and 25(a)(4); $10,500,000 for the purchase of the habitation and improvements of households to be relocated, acquisition of new dwellings and moving costs pursuant to Sections 15 and 25(a)(1). Voluntary relocation should take place when the new boundary is established between the Navajo and Hopi sectors of the Joint Use Area.

ITEMIZATION OF ESTIMATE

Department of the Interior — Bureau of Indian Affairs
Appropriation Title: Operation of Indian Program

	Actual 1975	Estimate 1976	Estimate TQ	Estimate 1977	Increase(+) Decrease(-)
Program and Financing:					
Total obligations	--	2,500,000	100,000	7,500,000	+ 5,000,000
Unobligated balance carried forward.....	--	--	-10,200,000	-10,200,000	-10,200,000
Unobligated balance available..	--	+10,200,000	+10,200,000	+ 3,200,000	- 7,000,000
Appropriation.....	--	12,700,000	100,000	500,000	-12,200,000
Obligations by Objects:					
11 Personnel compensation..	--	145,000	62,000	236,000	+ 91,000
12 Personnel benefits.....	--	18,000	7,000	28,000	+ 10,000
21 Travel & transportation of persons.....	--	36,000	8,000	43,000	+ 7,000
22 Transportation of things.....	--	23,000	0	--	- 23,000
23 Rent, communications & utilities.....	--	12,000	3,000	18,000	+ 6,000
24 Printing and reproduction..	--	5,000	-	-	- 5,000
25 Other services.	--	116,000	14,000	160,000	+ 44,000
26 Supplies and materials.....	--	17,000	3,000	15,000	- 2,000
31 Equipment.....	--	28,000	3,000	-	- 28,000
32 Lands & structures.....	--	1,600,000	--	5,700,000	+ 4,100,000
41 Grants, subsidies, and contributions.	--	500,000	--	1,300,000	+ 800,000
42 Insurance claims & indemnities..	--	--	--	--	--
Total Obligations..	--	2,500,000	100,000	7,500,000	+ 5,000,000

DETAIL OF PERMANENT POSITIONS

	1975 Actual	1976 Estimate	1977 Estimate
GS-15	--	1	1
GS-13	--	3	3
GS-8	--	2	2
GS-7	--	1	1
GS-5	--	3	3
TOTAL	--	10	10

SMITHSONIAN INSTITUTION
BUDGET JUSTIFICATIONS, 1977

SMITHSONIAN INSTITUTION

FISCAL YEAR 1977 ESTIMATES OF APPROPRIATIONS

GENERAL STATEMENT

Organization and Performance

Founded in 1846, the Smithsonian Institution is an independent establishment devoted to public education, basic research, and national service in the arts, sciences, and history. Centered on the Mall in Washington, D.C., it also operates major facilities and activities elsewhere in Washington, across the country, and overseas.

One of the world's leading research centers, the Smithsonian is also the world's largest museum complex, attracting, with the Zoo, approximately 20 million visitors yearly as well as an additional 6.4 million who view traveling exhibits in the States. As custodian of the National Collections, it possesses more than 70 million objects and specimens. These collections are used for displays for the enjoyment and education of our visitors and are available for research by Smithsonian staff and many hundreds of visiting students, scientists, and historians each year. Other significant study efforts draw their data and results directly from terrestrial, marine, and astrophysical observations.

The Smithsonian complex consists of eleven exhibition buildings in Washington, D.C., and New York City in the fields of science, history, technology, and art; a zoological park and an animal conservation and research center near Front Royal, Virginia; a preservation and storage facility at Silver Hill, Maryland; a conference center at Elkridge, Maryland; two natural preserves, in Panama and on the Chesapeake Bay; the Anacostia Neighborhood Museum which operates in a low-income area of the city in cooperation with the community; an oceanographic sorting center in Washington and a privately-funded oceanographic research facility in Fort Pierce, Florida; astrophysical stations in Cambridge, Massachusetts, Mt. Hopkins, Arizona, and elsewhere; and supporting administrative, laboratory, and storage areas.

A wide range of programs is conducted in cooperation with other institutions, universities, and government agencies here in the United States and on every continent. Many of the research projects performed in nations abroad are funded through the use of excess foreign currencies. Through the preparation of research monographs, exhibit catalogues, education pamphlets, information leaflets, and other publications, research results are disseminated to a wide audience. Other education activities include radio, television, motion picture programs, the successful magazine, Smithsonian, which now has more than one million subscribers, and the Archives of American Art Journal.

Management Planning and Organizational Effectiveness

For the past three years, the Smithsonian has held a series of internal management conferences to review current programs and activities and to identify selective areas where resource growth could best serve the Institution.

To assist in these periodic reviews, information on each organization unit's use of its current personnel and financial resources is gathered and studied. For this purpose, Institutional work is categorized as either program-related (e.g., exhibits, education, research) or support-related (e.g., libraries, automatic data processing, conservation). The reviews, which will be continued on an annual basis, have provided a more complete understanding of the actual application of base resources, whether they are adequate or deficient. They have reduced the possibility of redundant or overlapping efforts and have focussed management attention on broad Institutional objectives, as well as those of each specific bureau or office.

Priorities established for FY 1977 include: augmentation of acquisition funds to establish more fully representative collections, particularly in the area of art; expansion of research training to enable additional predoctoral and postdoctoral scholars from around the nation to study the collections and perform other research at the Institution; support of important ongoing research programs and new initiatives, particularly those of an inter-bureau and interdisciplinary nature; and continuation of phased development of support services including the annualization of protection and custodial positions (e.g., the National Air and Space Museum and the Cooper-Hewitt Museum) for which only partial-year funding was requested and provided in FY 1976. In the area of capital development, major emphasis in the years ahead will be directed toward development of museum support facilities to meet remedial and projected space and program needs, continuation of major construction and renovation at the National Zoological Park in accordance with the Master Plan, and performance of essential repairs and improvements to the Institution's other buildings and facilities.

Along with this evaluation of current activities and needed growth patterns, the Institution has examined ways of becoming more self-reliant and has taken steps to develop and apply non-appropriated funds to selected areas of activity. Evidence of progress in this area over the past year or so is reflected in the acquisition and use of gifts and other sources of non-appropriated funds for the renovation of the Carnegie Mansion (to house the Cooper-Hewitt Museum), for the construction of a public restaurant and classroom facilities in the West Courtyard of the Museum of Natural History, and for the production and installation of a major exhibit on American banking in the Museum of History and Technology. Institution and museum managers are encouraged with the results to date of the self-help efforts and look forward to additional benefits.

For FY 1977 the Institution is requesting the following appropriations:

	1976 Appropriations	1976 Supplemental	Requested 1977 Increase	1977 Estimates
Salaries and Expenses	$77,832,000	$3,541,000/1	$3,727,000	$85,100,000
Science Information Exchange	1,875,000	69,000	-44,000	1,900,000
Special Foreign Currency Program	500,000	--	3,981,000	4,481,000
Construction and Improvements, National Zoological Park	8,390,000	--	-1,590,000	6,800,000
Restoration and Renovation of Buildings	1,192,000	--	2,108,000	3,300,000
Construction: NASM (appropriation to liquidate contract authority)	2,500,000	--	-2,500,000	--
Museum Support Facility Planning	--	--	500,000	500,000
Totals	$92,289,000	$3,610,000	$6,182,000	$102,081,000

/1 This amount is $65,000 lower than the amount reflected in the President's Budget as a result of more recent information on utility rates.

Highlights of the budget request are as follows:

A. Salaries and Expenses

1975 Appropriation	1976 Estimate	1977 Estimate
$70,706,000	$81,373,000	$85,100,000

This appropriation provides for the regular operating programs in the museums, galleries, zoological park, research laboratories, and other program units; for special programs of an Institution-wide nature (such as the American Revolution Bicentennial program); and for program support activities. This funding is allocated by major groups as follows: (Organizational allocation appears on pages A-2 and A-3.)

	1976 Base	Requested Increase	1977 Estimate
Science	$30,370,000	$2,352,000	$32,722,000
History and Art	12,583,000	972,000	13,555,000
Public Service	2,288,000	207,000	2,495,000
Museum Programs	5,763,000	502,000	6,265,000
Special Programs	5,959,000	-3,703,000	2,256,000
Administrative and Support Activities	24,410,000	3,397,000	27,807,000
Totals	$81,373,000	$3,727,000	$85,100,000

Major purposes to be served by the requested funding increase include:

1. Program Increases (Other than Bicentennial-Related): $4,151,000

--Research - to support ongoing and important new programs in such areas as tropical biology, solar energy, regulatory and environmental biology, ecosystem and land-use research, zoology, and anthropology. Moreover, the requested increase will be used to continue and maintain the Inventory of American Paintings, accelerate development of an oral history of jazz, and allow expansion of the Research Awards Program. ($695,000)

--Collections Acquisition - to maintain a minimum acquisition program with knowledgeable and adequate curatorial support to supplement continued and active efforts to acquire gifts to the National Collections. Purchase funds are essential to acquire particular objects to establish fully representative reference collections or to display in new exhibitions. ($246,000)

--Collections Management - to determine the most efficient and scientifically sound methods of collections management, to provide additional assistance for the receipt, accessioning, documentation, and care of the collections, and to develop and maintain programs of animal care and propagation for the living collections at the Zoo. ($207,000)

--Exhibition - to support the small but important exhibit program of the Anacostia Neighborhood Museum. This increase is offset by a reduction in the level of funding requested for the Major Exhibition Program. (-$197,000)

--Education and Public Orientation - to provide improved orientation and other information services for museum visitors and the general public and to strengthen research training, seminar, and other education activities. ($262,000)

--Other Services - to enable additional grants to be awarded under the National Museum Act, thus extending the benefits of this program to a larger number of museum personnel. ($37,000)

--Conservation - to establish a capability for proper conservation of the textile collections located at the Cooper-Hewitt Museum. ($18,000)

--Libraries - to permit the acquisition and efficient processing of library materials in order to serve increasing research and exhibit efforts. ($150,000)

--Automatic Data Processing - to reduce backlogs in the application of computer technology in the scientific research, collections management, and administrative areas and to give the professional research staff and others an interactive computer processing capability. ($76,000)

--Printing and Reproduction - to provide additional management support, thereby enabling more economic and efficient handling of current publication requirements as well as planning for the orderly implementation of future needs. ($17,000)

--Protection - to provide adequate protection and security for the buildings and other facilities, exhibits, collections, and visitors and to annualize the funding of positions for the National Air and Space Museum and Cooper-Hewitt for which only partial-year funding was requested and provided in FY 1976. ($767,000)

--Buildings and Facilities Management - to fund custodial, maintenance and horticultural requirements throughout the Institution; to complete staffing for the National Air and Space Museum and to annualize the funding of new NASM positions for which only partial-year funding was requested and provided in FY 1976; to cover increased rental costs and costs resulting from higher utility consumption associated with the opening of new facilities; and to improve the capability for facilities planning and costing of construction projects. ($1,663,000)

--General Administration - to provide assistance in accounting, personnel, supply, procurement, and property administration, and, in addition, to fund positions to be designated specifically for Upward Mobility Programs throughout the Institution ($210,000)

2. Program Decrease (Bicentennial): -$3,867,000

--To phase out the major portion of support for Smithsonian Bicentennial programs. Retention of $417,000 will permit orderly completion and close-down of activities such as the Bibliography of American Art and the Festival of American Folklife.

3. Uncontrollable Increases: $3,443,000

--Necessary Pay and Related Benefits - to meet the projected higher cost of current employees caused by legislated pay raises, within-grade step increases, special benefits for Canal Zone employees, higher costs of health benefits, and annualizing of costs of FY 1976 employees for whom Congress provided only partial-year funding. ($2,408,000)

--Utility Rate Increases - to assist in funding rate increases on heating steam, gas, oil, and electricity. ($864,000)

--Postage Rate Increases - to fund the costs of recent postal rate increases. ($79,000)

--Telephone Rate Increases - to fund higher costs of the Federal Telecommunication System (FTS) resulting from the proration of the costs of recent system improvements to all FTS customers. ($92,000)

B. Science Information Exchange (SIE)

1975 Appropriation	1976 Appropriation	1977 Estimate
$1,805,000	$1,944,000	$1,900,000

The Science Information Exchange acquires, processes, stores, and provides information on research projects in progress as a service to the research community. The FY 1977 appro-

priation reflects a slight reduction in funding from the previous year. In order to fulfill requirements for input processing and to meet continuing increases in operating costs caused by inflation, the SIE will be studying the possibility of increasing its user fees, reducing input processing costs, and avoiding increases in processing backlogs.

C. Special Foreign Currency Program

1975 Appropriation	1976 Appropriation	1977 Estimate
$2,000,000	$500,000	$4,481,000

This appropriation will allow the Smithsonian to continue a program of grants to United States institutions for field research in those countries where "excess" local currencies are available. Research will be performed in the following general areas of Smithsonian Institution interest and competence: archeology and related disciplines, systematic and environmental biology, astrophysics and earth sciences, and museum programs. In addition, funds are included for the third of four annual payments, each of $1,000,000 equivalent in "excess" Egyptian pounds, for the campaign to save the monuments of Nubia located on the Island of Philae.

D. Facilities Planning, Renovation, Restoration, and Construction

1975 Appropriation	1976 Appropriation	1977 Estimate
$17,910,000	$12,082,000	$10,600,000

--Construction and Improvements, National Zoological Park ($6,800,000) - The FY 1977 appropriation will sustain progress on the implementation of the approved Master Plan for the improvement of the Zoo's animal and public facilities and essential repairs and additions to existing facilities. Work to be undertaken in the budget year includes the completion of Beaver Valley exhibits (beavers, otters, seals and sea lions, some bears, and wolves); the design and installation of graphics; and a continued phased program of repairs, renovations, and other improvements of Zoo facilities in Rock Creek Valley and at the Front Royal, Virginia, conservation center.

--Restoration and Renovation of Buildings ($3,300,000) - The appropriation sought for FY 1977 emphasizes renovation of the Arts and Industries Building; road and water system improvements at the Mt. Hopkins, Arizona, Observatory; fire detection and control systems; repairs to the Renwick Gallery exterior and the History and Technology Building terrace; installation of building equipment monitoring systems; improvements for handicapped persons; and general repairs and improvements for building preservation and safety purposes.

--Construction ($500,000) - Funds requested in FY 1977 will be used to begin the design and specifications for the first increment of construction of a Museum Support Facility.

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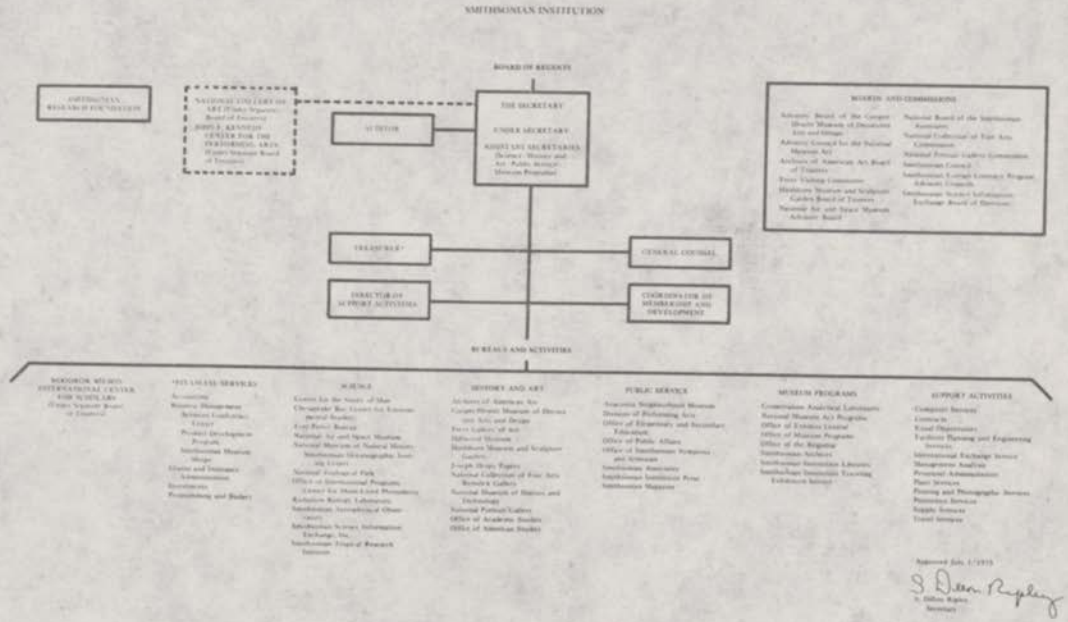

Approved July 1, 1975

S. Dillon Ripley
S. Dillon Ripley
Secretary

SMITHSONIAN INSTITUTION

SALARIES AND EXPENSES

Summary of Increase FY 1977

Appropriation, FY 1976	$77,832,000
Proposed Pay Supplemental	2,606,000
Proposed Program Supplemental (Utility and postage rate increases)	935,000/1
Base, FY 1976	$81,373,000
FY 1977 Request	85,100,000
Requested Increase	$3,727,000

Transition Quarter

Appropriation	$21,740,000
Proposed Pay Supplemental	928,000
Total	$22,668,000

/1 Down by $65,000 from the amount included in the President's Budget because of more recent information on rates.

SMITHSONIAN INSTITUTION
"Salaries and Expenses"
Summary of the 1975 Appropriation and the 1976 and 1977 Estimates

(Dollars in thousands)

Page No.	Unit	1975 Actual		1976 Estimate				1977 Estimate		Analysis of Increase		
		Pos.	Amount	Pos.	Amount	Supplemental	Total	Pos.	Amount	Pos.	Uncontrollable	Program
	Science											
A-11	Assistant Secretary for Science	7	299	7	210	8	218	7	224	-	6	-
A-12	National Museum of Natural History	466	9,660	473	10,037	366	10,403	482	10,849	9	304	142
A-15	Astrophysical Observatory	64	3,401	69	3,530	100	3,630	77	3,994	8	114	250
A-19	Tropical Research Institute	60	1,205	61	1,242	54	1,296	63	1,447	2	71	80
A-22	Radiation Biology Laboratory	48	1,542	48	1,631	79	1,710	48	1,853	-	73	70
A-24	Office of International Programs	20	419	16	337	14	351	16	364	-	13	-
A-25	Chesapeake Bay Center	18	443	20	510	24	534	23	645	3	31	80
A-27	National Air and Space Museum	165	3,947	230	5,477	172	5,649	230	6,244	-	171	424
A-31	Center for the Study of Man	11	337	12	356	16	372	12	407	-	9	26
A-34	National Zoological Park	294	5,429	301	5,825	382	6,207	305	6,695	4	332	156
	Subtotal Science	1,153	26,682	1,237	29,155	1,215	30,370	1,263	32,722	26	1,124	1,228
	History and Art											
A-38	Ass't Secretary for History & Art	11	256	11	267	13	280	11	304	-	7	17
A-40	Museum of History and Technology	259	4,992	262	5,276	208	5,484	265	5,772	3	215	73
A-42	National Collection of Fine Arts	100	2,046	104	2,258	72	2,330	106	2,520	2	79	111
A-45	National Portrait Gallery	71	1,499	74	1,674	52	1,726	75	1,876	1	69	81
A-49	Hirshhorn Museum & Sculpture Garden	83	1,541	83	1,624	52	1,676	83	1,844	-	68	100
A-51	Freer Gallery of Art	27	380	28	458	19	477	29	511	1	15	19
A-53	Archives of American Art	12	279	15	322	12	334	16	369	1	13	22
A-55	Cooper-Hewitt Museum	11	209	15	253	23	276	19	359	4	25	58
	Subtotal History and Art	574	11,202	592	12,132	451	12,583	604	13,555	12	491	481
	Public Service											
A-57	Ass't Secretary for Public Service	10	192	8	184	7	191	8	205	-	3	11
A-59	Anacostia Neighborhood Museum	19	403	21	457	22	479	21	557	-	30	48
A-61	International Exchange Service	9	194	9	212	5	217	9	219	-	2	-
A-62	Division of Performing Arts	10	482	11	402	9	411	11	447	-	10	26
A-64	Office of Public Affairs	15	344	16	335	12	347	16	388	-	12	29
A-66	Smithsonian Institution Press	27	586	27	621	22	643	28	679	1	19	17
	Subtotal Public Service	90	2,201	92	2,211	77	2,288	93	2,495	1	76	131

Page No.	Unit	1975 Actual Pos.	1975 Actual Amount	1976 Estimate Pos.	1976 Estimate Amount	1976 Estimate Supplemental	1976 Estimate Total	1977 Estimate Pos.	1977 Estimate Amount	Analysis of Increase Pos.	Analysis of Increase Uncontrollable	Analysis of Increase Program
	Museum Programs											
A-68	Ass't Secretary for Museum Programs	63	714	63	979	31	1,010	63	1,176	-	41	125
A-71	Office of the Registrar	16	221	16	211	9	220	16	227	-	7	-
A-72	Conservation-Analytical Laboratory	21	534	23	606	13	619	23	638	-	19	-
A-73	Smithsonian Institution Libraries	86	1,564	90	1,750	54	1,804	95	2,026	5	72	150
A-76	Office of Exhibits Central	50	936	50	1,006	40	1,046	50	1,080	-	34	-
A-77	Traveling Exhibition Service	6	105	6	96	3	99	6	102	-	3	-
A-79	Smithsonian Archives	10	180	11	189	7	196	12	209	1	6	7
A-81	National Museum Act	3	802	3	767	2	769	3	807	-	1	37
	Subtotal Museum Programs	255	5,056	262	5,604	159	5,763	268	6,265	6	183	319
	Special Programs											
A-84	American Rev Bicentennial Program	2	3,855	2	4,258	26	4,284	2	417	-	-	-3,867
A-91	Internat'l Environmental Science	2	176	2	325	5	328	2	376	-	5	43
A-93	Major Exhibition Program	-	38	-	260	-	260	-	50	-	-	-210
A-95	Academic and Educational Programs	11	620	11	629	8	637	12	813	1	9	167
A-98	Research Awards Program	-	450	-	450	-	450	-	600	-	-	150
	Subtotal Special Programs	15	5,139	15	5,920	39	5,959	16	2,256	1	14	-3,717
	Administrative & Support Activities											
A-99	Office of the Secretary	29	800	29	779	28	807	29	830	-	23	-
A-100	Office of the General Counsel	11	314	11	317	13	330	11	345	-	15	-
A-101	Office of the Treasurer	34	711	36	841	25	866	36	885	-	19	-
A-103	Office of Personnel Administration	33	620	34	684	28	712	36	786	2	18	56
A-105	Office of Audits	7	182	7	197	8	205	7	213	-	8	-
A-106	Office of Equal Opportunity	5	125	6	142	6	148	11	203	5	5	50
A-108	Printing and Photographic Services	39	812	39	839	28	867	39	882	-	15	-
A-109	Office of Computer Services	23	444	23	476	26	502	25	594	2	16	76
A-112	Office of Supply Services	25	448	26	468	15	483	27	523	1	15	25
A-114	Management Analysis Office	10	201	10	222	9	231	10	236	-	5	-
A-115	Office of Protection Services	443	5,329	527	6,383	262	6,645	559	7,606	32	224	737
A-118	Facilities Planning & Eng Services	24	602	24	590	22	612	26	676	2	29	33
A-120	Office of Plant Services	280	9,838	319	10,372	1,130	12,002	353	14,028	34	1,163	863
	Subtotal Admin & Support Act	963	20,426	1,091	22,810	1,600	24,410	1,169	27,807	78	1,555	1,842
	Total	3,050	70,706	3,289	77,832	3,541	81,373	3,413	85,100	124	3,443	284

SMITHSONIAN INSTITUTION
FY 1977 UNCONTROLLABLE INCREASES

Additional funds are sought to finance costs that are beyond the Institution's control. These increases result from legislated pay raises, prevailing practices of wage setting, changes in utility, postage, and communication rates, higher health benefits costs, and other factors. A total of $3,443,000 is required for the following increased costs.

Necessary Pay and Related Benefits	$2,408,000
Utility Rate Increases	864,000
Postage Rate Increases	79,000
Telephone Rate Increases	92,000
	$3,443,000

NECESSARY PAY AND RELATED BENEFITS - An amount of $2,408,000 is required for personnel compensation and personnel benefits for the projected higher costs in FY 1977 of FY 1976 staff. These increases result from: within-grade step increases, special benefits for Canal Zone employees, legislated pay raises, annualizing funding for FY 1976 employees, and higher costs of health benefits. Costs are calculated on a position-by-position analysis taking into consideration approved new hires in the current year and savings from turnover and filling of vacancies at lower grades where possible. Absorption of these costs from currently available funds seriously hurts approved program activity. First, for every $12,000 that goes to these costs from funds already in salaries and benefits, one man-year of approved employment is lost. Second, if other object class funds must be applied to these costs, otherwise productive employees are left without the supplies, tools, and equipment they need to do their jobs well. As noted later in this justification, inflation already is taking a heavy toll on the purchasing power of program support funds. These additional costs are attributed to the following externally-imposed factors.

(1) Within-Grade Step Increases - Necessary pay funding of $1,105,000 is required in FY 1977 for General Schedule and Wage within-grade and periodic step increases. For General Schedule employees, such increases are required by P.L. 88-426, the Government Employees Salary Reform Act of 1964. This law also provides for employees performing at outstanding levels to be recognized by a "quality step." An average of 150 are granted each year. Wage employees are covered by law and prevailing practice. Such increases must be granted if employees are performing at acceptable levels of competence. In any one fiscal year the costs of within-grade increases are substantial, resulting from the annualized cost of periodics granted in the previous fiscal year and the part-year costs of new such actions in the budget year. FY 1977 also will include the annualized costs of within-grades effected in the Transition Quarter.

The General Schedule portion of this request amounts to $870,000. There are over 2,400 General Schedule positions with 1,829 scheduled to receive a new within-grade in FY 1977. The Wage portion of this request amounts to $235,000. There are over 800 Wage positions with 520 scheduled to receive new within-grade increases.

(2) Special Benefits for Overseas Employees - An amount of $15,000 is requested to finance the additional costs of special benefits received by Smithsonian employees in Panama. The employees of the Smithsonian Tropical Research Institute (STRI) are eligible for a variety of benefits because of their location outside the United States. United States citizens employed by STRI receive a 15 percent tropical differential and Overseas Tour Renewal Leave. All employees are eligible to send their children to Canal Zone schools and to receive free medical care. The costs of operating the school system, through two years of college, and busing costs are pro-rated back to the agencies. The costs of the hospitals and the other medical facilities are similarly pro-rated. These additional costs in FY 1977 are estimated at $15,000.

(3) Annualization of Legislated Pay Raises - Funds in the amount of $933,000 are requested to annualize the General Schedule and Wage pay increases effected in fiscal year 1976.

The General Schedule portion of this request amounts to $595,000. General Schedule employees receive a salary adjustment every October. This results from E.O. 11811, issued pursuant to P.L. 91-656. The total cost of this raise (based on the October 1975 five percent increase) is estimated to be $2,129,000. A supplemental appropriation in the amount of $1,534,000 is sought in FY 1976. The balance of $595,000 requested here is for the full-year costs in FY 1977.

The Wage portion of this request amounts to $338,000. Prevailing practices call for Wage pay scales to be reviewed by a Wage Finding Authority in each geographic area. In the Washington area this has resulted in Wage employees receiving a pay raise in October each year. Smithsonian Wage employees in Panama, Virginia, and elsewhere receive similar wage hikes at other times. The Washington area personnel received a pay raise in excess of 10 percent in October, 1975. Raises in other geographic areas have been estimated on the same basis. Total cost of these raises is estimated to be $980,000. A supplemental of $642,000 is sought for the FY 1976 costs of these raises with the balance of $338,000 sought in FY 1977 to provide full-year funding.

The distribution of the requested FY 1976 pay and benefits supplemental appropriation by organization unit is shown on pages A-2 and A-3. Certain of these units also are requesting utility and communication supplemental funds.

(4) Annualizing New FY 1976 Positions in FY 1977 - An amount of $400,000 is requested to annualize new FY 1976 positions in FY 1977. In approving the Smithsonian Institution's appropriation for Salaries and Expenses for FY 1976 the Congress imposed a reduction of $400,000 on new positions. This reduction was based on the fact that almost half of the fiscal year had already passed before newly-requested positions were authorized. Therefore, the balance of funding is requested to annualize these positions in FY 1977.

(5) Health Benefits - An amount of $115,000 is requested to finance the additional costs of the Government's share of health benefits. The Government's contribution to the employees' health benefits payments is 60 percent of the total. On January 5, 1976, the health insurance carriers used by the United States Civil Service Commission were allowed to increase their rates by 21 percent. The portion of these insurance premiums paid by the Smithsonian will increase proportionately. In calendar year 1974 the Institution contributed $523,000 toward Federal employees' health benefits. In calendar year 1975 the Institution contributed approximately $789,000, and in 1976 it will be over $900,000. Funds in the amount of $115,000 are sought in the supplemental request for FY 1976 to finance costs in that fiscal year of the January 5, 1976 rate increase to the carriers. Funds requested here are to finance the full-year costs in FY 1977.

(6) Reduction for One Less Working Day - An amount of $160,000 has been used to offset the above increases. FY 1977 has 261 paid work days, one less than in FY 1976.

UTILITY RATE INCREASES - An FY 1976 supplemental appropriation of $720,000 has been requested to fund rate increases on heating steam, gas, oil, and electricity since the FY 1976 budget was formulated and submitted. Of this total amount, $571,000 are for the operations of the Office of Plant Services, which serves museum and support buildings on and off the Mall, and $149,000 are for the operations of field activities. Full details on the requested supplemental appropriation are contained in its justification separately submitted to Congress.

For FY 1977 a further $864,000 are projected to be required based on the same level of consumption as in FY 1976 but significantly higher rates./1 The tables on

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/1 For simplicity's sake, this presentation assumes that general energy conservation measures will offset substantially the costs of possible additional consumption resulting from weather changes or other factors. Financial needs associated with new spaces are shown under the headings of the Radiation Biology Laboratory, National Zoological Park, and Office of Plant Services.

page A-9, present the estimated financial requirements for the Office of Plant Services which represent $715,000 of the $864,000. The balance of $149,000 is associated with the needs of the National Zoological Park, Radiation Biology Laboratory, Astrophysical Observatory, Chesapeake Bay Center, Cooper-Hewitt Museum, Anacostia Museum, and the Tropical Research Institute which fund their own utilities and are experiencing similar higher rates on services and fuel supplies.

The development of these estimates drew upon past usage data, historical weather patterns, and best available information from the utility companies on expected rates. Substantial uncertainty does exist, however, in this area of budgeting. Utility rates (and related surcharges) may change with little notice (occasionally retroactively). The weather may be warmer or colder during heating and airconditioning seasons. Changes to scheduled availability of new public facilities may affect consumption estimates. Actual costs will be carefully monitored. Should this requested funding not be fully required, the balance will be returned to the Treasury.

Utility consumption conservation efforts continue in all our activities. Lighting levels have been reduced in work spaces and, wherever possible, in public areas. Heating and airconditioning levels have been reduced and raised respectively except in certain collection areas where changes would damage objects and specimens. Fans and other heavy consumers of electricity have been shut down during non-public hours. Major airconditioning systems are phased into operation to keep the peak demand rates to a minimum. As an additional major measure, the success of the low-cost computerized electrical power management system in the History and Technology Building has led to its current or planned installation in other buildings on the Mall. These systems reduce electrical power demands by selectively shutting down equipment before its operation can incur peak demand rates. For example, the power management system installed in the History and Technology Building reduced electrical use by 1.4 million KWH during the last five months of FY 1975 at an estimated savings of $45,000. Larger savings are expected in FY 1976 and FY 1977. The results of these self-help measures have been taken into consideration in the FY 1977 projection.

POSTAGE RATE INCREASES - The FY 1976 supplemental appropriation request contains $83,000 for one-half year costs attributable to the December 1975 postage rate increases of about 30 percent. With this appropriation, about $561,000 will be in the base for this essential service used to respond to public inquiries, distribute publications and other educational materials, and conduct the Institution's official business. Non-appropriated funds are used for other Smithsonian activities, such as the mailing of the Smithsonian magazine.

Continuous reviews, samplings, and tight controls are placed on mail services and use. These include restrictions on air mail service, consolidations of mailings, and use of proper mail classes. Yet interest in the Smithsonian continues to grow as evidenced by frequent newspaper coverage of events and a large number of public inquiries seeking information on research, exhibition, education, and other activities or asking for objects to be identified by the curatorial staff. This public interaction is sure to rise during the Bicentennial celebration period. There will be no easing of control measures.

For FY 1977, an amount of $79,000 is required to provide full-year funding for the recent postal rate increases based upon the estimated annual mailing volume for each class of mail.

TELEPHONE RATE INCREASES - The requested FY 1976 supplemental appropriation contains an amount of $132,000 for higher telephone service costs in the current year resulting from rate and associated price increases granted to the Chesapeake and Potomac Telephone Company in April 1975 (after the formulation of the FY 1976 budget). Information from the General Services Administration is that the Federal Telecommunication System (FTS) costs will be increasing in FY 1977 mainly due to improvements made in the service by

GSA. These improvements include such things as increased number of lines and modernization of equipment. The costs of these improvements are passed on to FTS customers on a pro-rata basis determined by calling volume. Based on GSA's estimate of Smithsonian calling volume over the FTS and their estimate of FY 1977 costs, an additional $92,000 are sought in the FY 1977 budget.

ABSORPTIONS - The Smithsonian is seeking full funding for the cost increases enumerated in this request. Base funding for essential utilities and communications must be brought up to meet costs. Good planning for and execution of program activities demand that these uncontrollable expenses be financed in an orderly way.

We continue to absorb heavy inflation in other essential areas of Smithsonian operations. Information from the Bureau of Labor Statistics indicates that the Consumer Price Index rose almost eight percent from September 1974 to September 1975. Further increase can be expected.

The following examples of routine, but important, recurring types of expenses are provided to show representative experience.

Animal food--Costs of feeding a reasonably stable animal population have increased from $169,000 in FY 1973 to an estimated $245,000 in FY 1976.

Natural history collection storage cases--About 600 cases of varying sizes are purchased in the average year. In FY 1972, the price of these cases averaged $145.00 for a total cost of $87,000. Recently the price jumped to $148,000 or $247.00 average per case (a 70 percent increase).

Buildings maintenance and custodial supplies--Price inflation on commonly-used supplies and materials for building repair and maintenance and for custodial supplies (including restroom) has averaged 30 percent over the past year. The Consumer Price Index is predicting an even higher percent increase in these items for the next year. Other items, such as copper wire, have increased in price by as much as 150 percent.

Printing of research reports and catalogues--Over 100 scholarly monographs, scientific reports, exhibits catalogues, and informational brochures are issued by the Smithsonian each year. Printing costs have gone up about 15 percent over the past 12 months (on top of a 12 percent increase the previous 12 months).

Analysis of Utilities Costs
for FY 1977 Appropriation
Office of Plant Services

Historical Experience

	Heating Steam			Electricity		
Fiscal Year	Use Millions of lbs	Unit Cost/1 Average $ per 1000 lbs	Cost $1,000s	Use Millions of KWH	Unit Cost/2 Average $ per KWH	Cost $1,000s
1973	247.4	2.61	646	56.5	0.016+	912
1974	219.6	2.96	650	55.3	0.022+	1,185
1975	217.3	5.06	1,099	54.6	0.030	1,620
1976 Est. (including new NASM)	235.0	5.37	1,266	60.0	0.038	2,344

Conclusion: Controlled consumption (with provision for new facilities)--Uncontrollable rates--Much higher costs

FY 1977 Estimate

	Heating Steam			Electricity		
	Use Millions of lbs	Unit Cost/1 Average $ per 1000 lbs	Cost $1,000s	Use Millions of KWH	Unit Cost/2 Average $ per KWH	Cost $1,000s
Estimated Totals for FY 1977	235	6.93	1,628	69/3	0.043/4	2,967
Totals if FY 1974 Rates Were Still in Effect	235	3.25/5	764	69	0.022	1,518
Costs Associated with Rate Increases Since FY 1976 Budget Formulated		3.68	864		0.021	1,449

Calculation of FY 1977 Appropriation Request

($1,000s)

Estimated Total Costs:	
Steam	$1,628
Electricity	2,967
Gas (Analysis not shown since small amount)	44
	$4,639
Funds Available:	
FY 1974 Base (Actual Costs in FY 1974)	$1,833
FY 1975 Supplemental (OPLANTS share of $390)	363
FY 1976 Uncontrollable appropriation	538
FY 1976 NASM appropriation	619
FY 1976 Supplemental requested	571
	$3,924
DEFICIT AND REQUESTED APPROPRIATION	$715

/1 Average rate shown weighted to reflect varying levels of steam consumption at rates then in effect. The chronology of rate increases has been: September 1973, $2.69; January 1974, $3.25; July 1974 (announced November 1974 retroactive), $4.61; February 1975, $5.75; July 1975, $5.25; projected January 1976, $5.50; FY 1977, $6.93.

/2 Average charge including basic rates, demand charges, and fuel adjustment charges (which increased from a total of $2,000 in FY 1973 to $181,000 in FY 1974 to $586,000 in FY 1975 despite lower consumption than FY 1973.

/3 Estimate has taken into consideration the installation of electrical power management equipment in Mall buildings.

/4 Based on December 1975 higher rates and expected further such increases.

/5 Rate in effect at time FY 1976 budget was formulated. Rate increases not announced until November 1974 and February 1975 (see Note 1).

Necessary Pay
FY 1977
(Dollars in Thousands)

Unit	Within Grades	Annualizations: Raises GS	Raises Wage	New FY76 Positions	Health Benefits	Extra Day	Total
	4	3				- 1	6
Assistant Secretary for Science	175	114	10	15	18	-28	304
National Museum of Natural History	18	26	10	50	2	- 6	100
Smithsonian Astrophysical Observatory	36*	10	7	5	2	- 3	57
Smithsonian Tropical Research Institute	23	8	7		2	- 3	37
Radiation Biology Laboratory	9	4			1	- 1	13
Office of International Programs	17	7	1	3	1	- 1	28
Chesapeake Bay Center	53	47	12	59	6	- 6	171
National Air and Space Museum	4	6				- 1	9
Center for the Study of Man	80	29	115	52	11	-14	275
National Zoological Park	3	5				- 1	7
Assistant Secretary for History and Art	114	55	18	30	10	-12	215
National Museum of History & Technology	44	20	4	12	3	- 4	79
National Collection of Fine Arts	38	15	3	12	3	- 2	69
National Portrait Gallery	51	12	5		3	- 3	68
Hirshhorn Museum and Sculpture Garden	9	4	2		1	- 1	15
Freer Gallery of Art	9	3				- 1	11
Archives of American Art	3	2	7			- 1	11
Cooper-Hewitt Museum	2	2				- 1	3
Assistant Secretary for Public Service	5	4		12	1	- 1	21
Anacostia Neighborhood Museum	1	1	1			- 1	2
International Exchange Service	8	3				- 1	10
Division of Performing Arts	8	4			1	- 1	12
Office of Public Affairs	11	8			1	- 1	19
Smithsonian Institution Press	29	6	6		2	- 2	41
Assistant Secretary for Museum Programs	4	3			1	- 1	7
Office of the Registrar	15	4			1	- 1	19
Conservation-Analytical Laboratory	39	17		17	3	- 4	72
Smithsonian Institution Libraries	21	13	1		2	- 3	34
Office of Exhibits Central	3	1				- 1	3
Smithsonian Traveling Exhibition Service	5	2				- 1	6
Smithsonian Archives	1	1				- 1	1
National Museum Act	3	1	1				5
Internat'l Environmental Science Program	7	2					9
Academic and Educational Programs	13	10			3	- 3	23
Office of the Secretary	10	5			1	- 1	15
Office of the General Counsel	11	8			1	- 1	19
Office of the Treasurer	9	10			1	- 2	18
Office of Personnel Administration	5	3			1	- 1	8
Office of Audits	3	2			1	- 1	5
Office of Equal Opportunity	6	6	4		1	- 2	15
Office of Printing and Photo Services	7	9			1	- 1	16
Office of Computer Services	10	5			1	- 1	15
Office of Supply Services	3	3				- 1	5
Management Analysis Office	80	71	2	73	17	-19	224
Office of Protection Services	22	8			1	- 2	29
Facilities Planning and Eng Services	89	13	122	60	11	-16	279
Office of Plant Services							
Total	1,120	595	338	400	115	-160	2,408

* Includes $15 for Special Benefits for Overseas Employees.

OFFICE OF THE ASSISTANT SECRETARY FOR SCIENCE

1975 Actual.....$299,000
1976 Estimate.....$218,000
1977 Estimate.....$224,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	7	0	7
11 Personnel Compensation.....	160	5	165
12 Personnel Benefits.....	16	1	17
21 Travel & Trans. of Persons...	10		10
22 Transportation of Things.....	2		2
23 Rent, Comm. & Utilities.....	3		3
24 Printing and Reproduction....	5		5
25 Other Services.....	14		14
26 Supplies and Materials.....	6		6
31 Equipment.....	2		2
TOTAL	218	6	224
Analysis of Increase			
Necessary Pay.....		6	
Program Funds.....		0	

ABSTRACT - This office is responsible for overall planning, coordinating, and reviewing the progress of the 13 science bureaus and programs within the Institution. No program fund increase is sought for FY 1977. Necessary pay in the amount of $6,000 is required for existing staff.

PROGRAM - The Office of the Assistant Secretary for Science advises and assists the Secretary in planning, implementing, and reviewing the progress of Smithsonian science programs. The bureaus reporting to the Assistant Secretary for Science are the National Museum of Natural History, the Radiation Biology Laboratory, the Tropical Research Institute, the National Zoological Park, the National Air and Space Museum, the Astrophysical Observatory, the Office of International Programs, the Chesapeake Bay Center for Environmental Studies, the Center for the Study of Man, the Science Information Exchange, and the Fort Pierce Bureau. This office is also responsible for the administration of the Research Awards Program and the International Environmental Science Program.

The International Environmental Program which was shown under this heading in the FY 1976 Budget is shown under the International Environmental Science Program this year.

NATIONAL MUSEUM OF NATURAL HISTORY

1975 Actual.....$ 9,660,000
1976 Estimate.....$10,403,000
1977 Estimate.....$10,849,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	473	9	482
11 Personnel Compensation.....	8,040	378	8,418
12 Personnel Benefits.....	724	34	758
21 Travel & Trans. of Persons...	125	1	126
22 Transportation of Things.....	20	1	21
23 Rent, Comm. & Utilities.....	26		26
24 Printing and Reproduction....	202		202
25 Other Services.....	692	2	694
26 Supplies and Materials.....	203	24	227
31 Equipment.....	371	6	377
TOTAL	10,403	446	10,849
Analysis of Increase			
Necessary Pay.....		304	
Program Funds.....		142	

ABSTRACT - The National Museum of Natural History (NMNH) serves as a center for the natural sciences. It maintains large reference collections and conducts programs of identification and documentation, research, collections management, exhibits, and education--including collaborative projects with universities and other institutions of learning. An increase of 9 positions and $142,000 is requested for FY 1977 to meet the following requirements: (1) Research--3 positions and $42,000 to continue the development and updating of data regarding endangered and threatened plant species and 1 position and $25,000 to continue and expand research in the highly significant area of coral reef habitats; and (2) Buildings Management--5 maintenance employees and $75,000 to improve the cleanliness and care of the physical plant and related facilities. An additional amount of $304,000 is sought for necessary pay for existing staff.

PROGRAM - This Museum serves as a national and international center for the natural sciences. It maintains the largest reference collections in the Nation (over 60 million objects) and has the legal responsibility (20 U.S.C. 59) to serve as the ultimate Federal repository of all collections and objects of natural history, archeology, and ethnology made by agencies of the government when no longer needed by those agencies for investigations in progress. Additionally, the NMNH is the repository for numerous extremely valuable collections obtained from other sources, such as the scientific community and academic institutions as well as many private individuals.

The scientists at the Museum conduct a broad program of basic research on man, plants, animals, fossil organisms, rocks, minerals, sediments, and materials from outer space. Their fundamental studies in systematics and biology are providing new information required for the solution of major problems of conservation, pollution, food production, improvement of medical knowledge, and for planning national and international programs leading to predictive ecology and environmental management. The scientific and technical results which flow from this research are made available to others by an active and large publications program.

The Oceanographic Sorting Center in Washington, D.C., assigned to the NMNH in FY 1975, prepares and distributes animal and plant materials to scientists from 200 agencies around the world who are concerned with marine pollution, ocean dumping, pollution monitoring, environmental prediction, and systematics studies. Also, the Scientific Event Alert Network (SEAN), which became a part of NMNH in FY 1976, is responsible for providing timely notice of short-lived natural scientific phenomena and events, such as volcano activity and meteorite falls, to scientists and other concerned professionals within and outside of the Smithsonian.

Over three and one half million people visit the Museum per year including many thousands of school children attracted by the exhibits. A major program of exhibit improvement was begun in FY 1974 with the creation of two new exhibits: "Ice Age Mammals and the Emergence of Man" and the very successful "Discovery Room"--an area in which visitors may handle exhibits and specimens. During the past six months, two major new exhibits were completed and opened to the public: the Museum's Bicentennial exhibit entitled "Our Changing Land" which depicts changes wrought by man and nature over the last 10,000 years in the Washington, D.C. area and an exhibit on South America entitled "A Continent and Its Culture" which deals with the cultures and environments of that continent.

As part of its education program, the Museum provides assistance for elementary and secondary school groups. In addition, many members of the scientific staff participate in joint educational programs with universities by teaching courses, training graduate students, and conducting science seminars. The Museum also provides leadership in the improvement of museum techniques and collections management, especially through the application of computer technology. The cafeteria, museum shop, and classroom facilities now under construction in the Museum's West Courtyard with non-appropriated funds will provide major new public service opportunities.

JUSTIFICATION OF $142,000 INCREASE (Research and Buildings Management):

Endangered Flora Project - The "Report on Endangered and Threatened Plant Species of the United States" was presented by the Smithsonian Institution to Congress in January, 1975, in compliance with the Endangered Species Act of 1973. The report has provided information needed by the Department of Interior to establish follow-up regulatory procedures to control the exploitation of endangered and threatened plant species. The report has also awakened public awareness of endangered plants, and demand for the report has exhausted the supply. Follow-up activities recommended in the report include updating and improving the national endangered plant lists, continued mapping of ranges for all plants that have been named or listed in the report to determine the location of endangered plant species, continuation of work on endangered plants of Puerto Rico, and initiation of work on the Trust Territory of the Pacific Islands. Further recommendations include sharing computerized data with other institutions and supervising exchanges of information with the Department of the Interior. Funds are requested to support the staff needed to proceed with the priority objectives of the Endangered Flora Project outlined above. The Smithsonian will continue to contribute the efforts of scientists in NMNH's department of botany as needed. The sum of $42,000 requested for the Endangered Flora Project will be used to employ a museum specialist and two technicians.

Study of Endangered Coral Reef Habitats - Coral reefs fringe the continents and islands in the warmer seas and support a wealth of valuable plantlife and animal life which are vital sources of food, and especially of protein, in many areas of the world. The direct activities of man and the by-products that result from his expanding search for raw materials and the industrialization of hitherto undeveloped areas pose grave potential dangers to the delicate reef environment. The NMNH proposes to undertake a study of the

systematics and ecology of corals and related animals which inhabit the reef environment in order to provide badly needed basic information. The President's National Council on Marine Resources and Engineering Development (1970) spoke to the kind of fundamental research planned in this proposal in the following way: "Basic scientific information enables us to define the ecological base from which we operate; to understand natural forces at work; to predict harmful and beneficial consequences of man's activities on the environment. From this comprehension we can employ better engineering and technology to maintain water quality, control beach erosion, and create modern ports and harbors."

The requested sum of $25,000 will be used to employ a marine zoologist ($20,000) and to provide for related support ($5,000). This specialist will undertake research into the biology, ecology, and taxonomic relationships of the coral organism and will also be responsible for the care and curation of the Museum's large and important coral collection. In the immediate future he will participate in a study on the coral reef environment in the Caribbean which was begun in 1974. This Caribbean study involves several scientists from the Museum's staff as well as scientists from other natural history and scientific institutions. The knowledge and input of a coral specialist would contribute significantly to this multidisciplinary effort to determine the effects of man's activities on the reef environment.

Buildings Management - Not only is the Natural History Building the largest in the Smithsonian complex, but it is also one of the oldest buildings and the second most frequently visited. Visitor attendance in 1975 showed an increase of more than half a million over 1974, and the trend undoubtedly will continue upward in the Bicentennial year and beyond. This heavy visitation, the volume and space to be cared for, the age of much of the electrical wiring, plumbing and other fixtures and services in the building make it most difficult to maintain. A study determined that the custodial force should include a minimum of 78 positions to provide adequate service for public and employee use of the building. Present staffing of 58 represents only 74 percent of the required number. The requested increase of $75,000 will be used to employ five new employees ($46,000) including a plumber for performing minor maintenance and upkeep, and to purchase custodial and plumbing supplies and equipment ($29,000).

SMITHSONIAN ASTROPHYSICAL OBSERVATORY

1975 Actual.....$3,401,000
1976 Estimate.....$3,630,000
1977 Estimate.....$3,994,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	69	8	77
11 Personnel Compensation.....	1,843	266	2,109
12 Personnel Benefits.....	166	24	190
21 Travel & Trans. of Persons...	77		77
22 Transportation of Things.....	21		21
23 Rent, Comm. & Utilities.....	202	14	216
24 Printing and Reproduction....	28		28
25 Other Services.....	1,072	26	1,098
26 Supplies and Materials.....	92	17	109
31 Equipment.....	129	17	146
TOTAL	3,630	364	3,994
Analysis of Increase			
Necessary Pay.....		100	
Other Uncontrollable.....		14	
Program Funds.....		250	

ABSTRACT - The Smithsonian Astrophysical Observatory (SAO), established in 1890, has as its primary goal to increase and diffuse knowledge about the Earth and the Universe as related to astrophysics. To accomplish this, SAO conducts a broad program of research in 8 closely interrelated scientific areas: theoretical astrophysics, high-energy astrophysics, solar and stellar physics, geoastronomy, optical and infrared astronomy, radio astronomy, atomic and molecular physics, and planetary sciences. Essential to the conduct of these research programs are the gathering of data utilizing both ground-based and space-borne instruments and the reduction and analysis of data as well as the formulation of mathematical models of astrophysical systems, all of which rely heavily on the use of computers. For these purposes, SAO maintains a multi-purpose observing facility at Mt. Hopkins in Arizona and a number of small observing stations around the world, participates in NASA-sponsored scientific space-borne experiments, and operates a relatively large computer at its headquarters in Cambridge, Massachusetts.

In FY 1977, 8 additional positions and increased funding of $250,000 are requested for the following: (1) Research--An amount of $50,000 (for a term appointment of a senior theoretical astrophysicist, computer time, and other support) to develop a new program of solar research with emphasis on Sun-Earth relationships, and funds in the amount of $50,000 for increased support of laboratory experimentation and the development of detectors and scientific instruments; and (2) General Administration and Support Services -- to correct inadequacies in the areas of property management, procurement, payroll administration, personnel administration, clerical support, and general engineering and data analysis support, 8 positions and $150,000. Further amounts of $100,000 for necessary pay and $14,000 for utility rate increases are also sought in the Uncontrollable Section (page A-5).

PROGRAM - Since 1890, when it was founded by Samuel Pierpont Langley, the Smithsonian Astrophysical Observatory has pursued a broad program of astrophysical research, often in support of national goals. Beginning with its pioneer investigations of the relationship between solar energy and the terrestrial environment, which are still being

continued, the SAO has remained in the forefront of modern astronomy with today's research designed to seek and reveal the basic processes in cosmic evolution. Critical to the understanding of the basic processes in cosmic evolution is the solution of two broad scientific problems: one is concerned with evolution of matter, starting with the explosive beginnings of the Universe some 20 billion years ago; and the other is concerned with cosmic matter that has cooled to the point that molecules and solid particles form. By studying the evolution of stars and galaxies and by studying the Earth, the solar system, and cool matter in space, one can expect to solve these two problems and ultimately understand the basic processes in cosmic evolution which affect all aspects of human life from genetics to energy production.

The various but closely interrelated research fronts in which SAO is seeking an understanding of the basic processes of cosmic evolution are:

1. Theoretical Astrophysics--construction of model stellar atmospheres; investigation of massive and high-density stars; cosmology; studies of galactic evolution; and physics of interstellar matter.

2. High-Energy Astrophysics--observations of high-energy sources emitting x-rays and/or gamma-rays.

3. Solar and Stellar Physics--observational and theoretical studies of solar and stellar processes; and studies of solar evolution.

4. Geoastronomy--studies of the Earth's kinematics; geodesy and geophysics; and celestial mechanisms.

5. Optical and Infrared Astronomy--observations of infrared sources; stellar and planetary observations; and studies of stellar evolution.

6. Radio Astronomy--observation of celestial radio sources; laboratory and observational studies of interstellar molecules; and investigations of chemical constituents in the interstellar medium.

7. Atomic and Molecular Physics--laboratory astrophysics, shock tube and ultraviolet vacuum spectroscopy; and atomic and particle physics.

8. Planetary Sciences--studies of the structure and composition of planetary atmospheres; studies of asteroids, meteorites, cosmic dust, comets, and meteors; studies of lunar and other extraterrestrial materials; and studies pertaining to the evolution of the solar system.

Data for these investigations is obtained from laboratory experiments, ground-based observations, and space-borne observations and experiments. Laboratory experiments are conducted at SAO's Cambridge facilities; ground-based observations are carried out primarily at SAO's Mt. Hopkins Observatory in Arizona and networks of small astrophysical observing stations, as well as at other major observatories located in the United States and other countries; and space-borne observations and experiments are made possible through NASA's space science programs which are planned and defined with participation by SAO's scientific staff and other research institutions. Data acquired by all these methods together provide the basis for the formulation of mathematical models of astrophysical systems and processes, all of which rely heavily on the use of SAO's computer facility. Together, the investigations and mathematical modelling will lead to an understanding of the basic processes in cosmic evolution.

JUSTIFICATION OF $250,000 INCREASE (Research and General Administration and Support Services):

Solar and Stellar Physics - SAO is creating an expanded program of solar research to apply experimental and theoretical techniques toward solving outstanding problems concerning the Sun and the Sun-Earth environment. The program is named after Samuel P. Langley and Charles G. Abbot, the fifth Secretary of the Smithsonian Institution, who dedicated his life to solar-terrestrial research, through his extensive studies of solar radiation and its effect on the Earth. So far, this work, supported largely by NASA and culminating in the flight of a Harvard-designed spectrograph aboard the Skylab mission, has provided exciting new data, whose interpretation may resolve long-standing questions about the Sun as a star, the Sun as a laboratory for physical processes that cannot be duplicated on Earth, and the Sun as it interacts with the terrestrial environment. However, to analyze these data to the fullest and to move from data analysis to deep theoretical understanding require the participation of outstanding theorists who can apply advanced concepts from plasma physics and who can relate the observations to similar phenomena observed in the laboratory and elsewhere in the Universe. Funding of $50,000 is required to support a term appointment of a senior theoretical astrophysicist and fund computer time, supplies, and laboratory equipment.

Atomic and Molecular Physics - SAO's strength in atomic and molecular physics will be significantly enhanced with the development and construction of the spectroscopic light source. A small amount of funds has been allocated by SAO out of its base research funds but progress has been too slow. An additional $15,000 are needed for the development and construction of this equipment which will complement a number of other research programs.

Optical and Infrared Astronomy - In support of its major efforts in the optical and infrared astronomy program, SAO requests $15,000 of additional funds to acquire equipment to develop high resolution, high sensitivity, two-dimensional detectors to be used in SAO's optical and infrared observational programs.

Radio Astronomy - New and exciting discoveries are being made in the 300 to 3,000 GHz region (millimeter and submillimeter wavelengths) of the electromagnetic spectrum. Therefore, $20,000 are being requested to develop the necessary instrumentation to explore more fully this scientifically promising region.

General Administration and Support Services - In FY 1975, the first step was taken to correct the imbalance that has developed over the past several years between SAO's Federally-funded and grant- and contract-funded general administrative and support activities. To date, about $175,000 has been approved for this purpose. This represents approximately 44 percent of the total of about $400,000 that is needed to correct the imbalance and thus provide proportionate administrative and support personnel for Federally-funded research programs. As a further step toward solving this problem, eight positions and $150,000 are requested in FY 1977. Trained and capable administrative and support personnel, now supported by grant and contract funding, will be hired to fill these positions. These positions include: five positions and $71,000 for General Administration for a property administrator, procurement agent, payroll clerk, personnel assistant, and a secretary; and three positions and $79,000 for Support Services for a mechanical engineer and two mathematicians.

SAO Research Highlights and Other Developments in FY 1976

A few of the highlights of SAO research and other developments are:

--Flight of a rocket probe experiment to test the equivalence principle of Einstein's Theory of Relativity

--Flight of a spacecraft-to-spacecraft doppler tracking experiment aboard the Apollo-Soyuz space mission to study small-scale structures in the earth's gravitational field.

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--Preparation of the x-ray experiments designed to fly aboard the High-Energy Astronomy Observatory satellite series.

--Participation by SAO's Geoastronomy Division in NASA's Earth and Ocean Applications Program.

--Launch by NASA of the SAO-conceived LAGEOS satellite for studies related to the Earth and Ocean Applications Programs.

--Completion of the data acquisition phase from several field stations in support of study of meteors.

--Begin construction of the multimirror telescope shelter atop Mt. Hopkins, Arizona.

SMITHSONIAN TROPICAL RESEARCH INSTITUTE

1975 Actual.....$1,205,000
1976 Estimate.....$1,296,000
1977 Estimate.....$1,447,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	61	2	63
11 Personnel Compensation.....	816	81	897
12 Personnel Benefits.....	177	22	199
21 Travel & Trans. of Persons...	56	2	58
22 Transportation of Things.....	5		5
23 Rent, Comm. & Utilities.....	59	14	73
24 Printing and Reproduction....	5		5
25 Other Services.....	41	2	43
26 Supplies and Materials.....	108	7	115
31 Equipment.....	29	23	52
TOTAL	1,296	151	1,447
Analysis of Increase			
Necessary Pay.....		57	
Other Uncontrollable.....		14	
Program Funds.....		80	

ABSTRACT - The Smithsonian Tropical Research Institute (STRI) conducts advanced studies in ecology, behavior, and evolution of tropical organisms and manages related programs in the areas of education and conservation. The tropics contain the greatest diversity of life on this planet. They offer the biologist the best natural laboratory for studying the interrelationships of life on earth. Panama further offers unique zoogeographic characteristics to researchers with opportunities to study terrestrial life forms of North America, South America, or the confluence of the two, and opportunities to study and compare marine life in the Atlantic and Pacific Oceans.

In FY 1977, an increase of 2 positions and $80,000 is sought to meet the following research and safety requirements: 1 position and $30,000 to perform studies of fresh water ecosystems and their relationships to the siting of hydroelectric dams; 1 position and $31,000 to analyze the genetic composition of tropical organisms, particularly as related to ecological and behavioral variances; and $19,000 to purchase and maintain complex scientific equipment as well as communication, navigation, and other safety equipment for the Institute's research vessels. Further amounts of $57,000 for necessary pay for existing staff and $14,000 for the increased rates of utilities are justified in the Uncontrollable Section (page A-5).

PROGRAM - The Institute provides a base of operations and an intellectual center for advanced studies of ecology, behavior, and evolution in the tropics. Because of the diversity of tropical organisms and the complexity of their relationships, the tropics represent one of the most interesting yet poorly understood biological regions of the world. Most of the underdeveloped nations, and those with the most rapidly growing populations, are within the tropics. It is here that major environmental changes are likely to occur during the next decade. Understanding and properly managing tropical environments are essential to their preservation as well as to the protection of living systems elsewhere in the world. For example, a substantial proportion of the world's oxygen may be produced by the tropical forests of the Amazon. Ecological studies should help us predict how destroying these forests will affect the earth's atmosphere. Another example of the usefulness of this basic research is reflected

in a study of spider ecology in which it has been learned that the natural spider fauna can consume 160 kilograms of insects over approximately two and one half acres annually. Thus, in many agro-ecosystems promotion of this natural "free" insect control may offer an alternative to costly spraying with the subsequent development of chemical-resistant pests and other undesirable secondary effects.

STRI's research stations in Panama provide immediate access to tropical terrestrial and marine environments. These include almost 9,000 acres of forest reserve on Barro Colorado Island and the adjacent peninsulas in Gatun Lake, a mangrove lagoon, and coral reefs at Galeta Point on the Atlantic coast as well as rocky reefs at Naos Island on the Pacific coast. Field vehicles and research vessels allow comparative studies to be carried out throughout the Republic of Panama and along the length of both coasts. A small facility in Cali, Colombia, provides access to high forest plateau in the Andes. The Institute's permanent scientific staff, as well as many visiting scientists and students, conduct research in these areas as well as in other parts of Central and South America, the Indo-Pacific, Asia, and Africa, where comparative studies are clarifying the distinctive ecological relationships of the tropics.

During FY 1976, the permanent scientific staff of STRI is 17. There are 12 long-term, pre-, and post-doctoral students associated with STRI. It is anticipated that the facilities will be used for shorter periods by approximately 1,000 visitors from all over the world. In FY 1975, 74 seminars were held and 69 scientific papers were published in the world's leading scientific journals by staff and associates.

One of the most important responsibilities of the Institute is advanced training in tropical biology. Teaching efforts include lectures for visiting undergraduate students, an extensive seminar program, and individually tailored and supervised research plans for advanced fellows.

JUSTIFICATION OF $80,000 INCREASE (Research and Safety) - The isthmus of Panama has only two man-made lakes, both formed with the creation of the Panama Canal. These lakes have been studied extensively particularly by scientists attached to STRI and have been found to have a relatively impoverished fauna. Now, due to the increased demand for hydroelectric power, two more major dams, each forming a man-made lake, will be constructed in Panama this decade: the Bayano Dam in Darién Province and the Fortuna Dam in Chiriquí Province. The ecology of the new freshwater lakes is of inherent scientific interest particularly in view of the massive environmental changes that occur in the first years of a new lake. As has been learned from the creation of lakes behind such major new dams as the Aswan and Volta in Africa, adverse effects concerning fish populations, sediments, water weeds, and the spread of water-borne diseases can be expected unless the new lake is carefully monitored and managed. One position and $30,000 are requested to hire a specialist in freshwater biology to study the new lakes. Since the new bodies of water are expected to be much richer in freshwater life than the lakes of the Panama Canal, fruitful insights will be gained by the proposed comparative study.

One of the problems related to the study of tropical organisms is that of sorting out the differences in closely-related populations and species. The subtleties of tropical adaptations are often difficult to resolve with classical techniques of analyzing form and structure. One of the most promising fields of contemporary biology involves the biochemical analysis of genetic material--a technique which enables biologists to detect subtle differences and responses in seemingly identical populations. An increase of one position (a biochemical geneticist) and $31,000 would enable STRI to add significantly to current data on tropical organisms through the application of this new technique. Furthermore, by performing these studies in the isthmus of Panama,

an area of known geological age, the geneticist is provided with a time base for measuring the rate of genetic change. This information, correlated with the other information gathered by STRI scientists on the ecological and behavioral differences in populations, could lead to a major breakthrough in our understanding of evolutionary processes.

An additional amount of $19,000 is requested to fund the increased costs associated with the purchase and maintenance of complex scientific equipment as well as communication, navigation, and other safety equipment for use on research vessels. Many essential pieces of scientific equipment (e.g., a spectrophotometer, an instrument required for almost all studies at STRI involving chemical analysis) are over ten years old and have deteriorated from the effects of constant use. In addition, a recent study conducted by the Smithsonian's Office of Protection Services strongly recommended additional safety equipment for the Institute's research vessels. The requested increase will provide additional life boats, reliable emergency radio communication, and additional navigational aids.

RADIATION BIOLOGY LABORATORY

1975 Actual.....$1,542,000
1976 Estimate.....$1,710,000
1977 Estimate.....$1,853,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	48	0	48
11 Personnel Compensation.....	781	34	815
12 Personnel Benefits.....	71	3	74
21 Travel & Trans. Of Persons...	15		15
22 Transportation of Things.....	8		8
23 Rent, Comm. & Utilities.....	451	106	557
24 Printing and Reproduction....	16		16
25 Other Services.....	45		45
26 Supplies and Materials.....	96		96
31 Equipment.....	227		227
TOTAL	1,710	143	1,853
Analysis of Increase			
Necessary Pay.....		37	
Other Uncontrollable.....		36	
Program Funds.....		70	

ABSTRACT - The Radiation Biology Laboratory (RBL) studies the influences of environmental factors--light, temperature, humidity, and atmospheric content--on biological systems in order to help understand their growth and development. There is a continuing increase in interest in the environment and in requests for the Laboratory's data from ongoing programs. For FY 1977 a program increase of $70,000 is requested to fund utility costs associated with expanded laboratory operations. Necessary pay requirements for present staff, amounting to $37,000, and utility and communication rate increases, amounting to $36,000, are justified in the Uncontrollable Section (page A-5).

PROGRAM - Light is the key controlling environmental factor for development and growth of biological systems. Storage of solar radiation as chemical energy in photosynthesis is basic for all life on earth. The utilization of this energy is regulated by subtle, changing signals of light quality, duration, and intensity. A primary objective of the RBL is to explain the influences of the various factors in the environment--light, temperature, humidity, and atmospheric content--on growth and development and to characterize the molecular mechanisms through which these signals operate.

This aim is accomplished by studying these environmental influences on plant growth and development in the laboratory under controlled conditions using biochemical, biophysical, and physiological techniques and then verifying the importance of these processes in nature by monitoring the natural, dynamic environment. An example of spin-off value from these measurements is the collection of solar isolation data necessary for calculating the feasibility and requirements for solar collectors used to provide an alternate source of energy. Such programs of research by their very nature are long-term and require the concerted team efforts of many scientific disciplines. Disciplines represented at RBL include physiology, cytology, biochemistry, biophysics, physics, engineering, electron microscopy, and morphology.

The research of the Laboratory consists of three principal areas: (1) regulatory biology, (2) environmental biology, and (3) carbon-14 dating. Since its inception in 1928, the Laboratory has pioneered research into the influences on growth of the color

quality of visible and near visible light such as ultraviolet. The present experimental program is of greater scope than in any other single laboratory in the world. The Laboratory has been credited with major contributions in the field of photobiology, several first achievements in action spectroscopy, and the development of primary standards for the measurement of solar energy.

Major accomplishments in FY 1975 include the following:

1. The analysis by carbon dating techniques of several charcoal hearth remains from the Meadowcroft, Pennsylvania, site have given dates of 14,200 ± 500 B.C. These dates are the earliest and most reliable for human occupation of eastern North America.

2. The Proceedings of the Symposium on Solar Radiation, a compilation of papers on methods of evaluation and intercomparison of standards for solar measurements, was published in December 1975.

3. Measurements of plant growth in the newly-completed controlled-condition plant growth chambers indicate that, for leaf lettuce exposed to pulses of light, photosynthesis is 20 percent more efficient than for plants exposed to the same light energy levels distributed continuously.

4. Conversion of sunlight to biologically useful energy occurs in photosynthetic membranes of green plants. The growth of these membranes has been discovered to take place by protein synthesis directly on the membranes themselves. This mechanism may be generally applicable to other types of membranes and is of importance in mammalian membrane growth.

JUSTIFICATION OF $70,000 INCREASE (Building Management) - The first phase of the new environmentally-controlled plant-growing facility, replacing the facility no longer available on the Mall, is expected to be operational at the RBL's Rockville, Maryland, site by the end of calendar year 1976. This facility is to be used in determining the correlation between measured solar radiation, temperature, humidity, and various air pollution factors and responses in plant development. Sophisticated equipment to establish and maintain precise environmental conditions for controlled laboratory experiments will increase utility consumption considerably. Assuming that rate increases between FY 1976 and FY 1977 remain comparable to those presently occurring, an increase of $70,000 will be required for this new facility.

OFFICE OF INTERNATIONAL PROGRAMS

1975 Actual.....$419,000
1976 Estimate.....$351,000
1977 Estimate.....$364,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	16	0	16
11 Personnel Compensation.....	297	12	309
12 Personnel Benefits.....	27	1	28
21 Travel & Trans. of Persons...	6		6
23 Rent, Comm. & Utilities.....	10		10
24 Printing and Reproduction....	4		4
25 Other Services.....	5		5
26 Supplies and Materials.....	2		2
TOTAL	351	13	364
Analysis of Increase			
Necessary Pay.....		13	
Program Funds.....		0	

ABSTRACT - The Office of International Programs oversees the Smithsonian Foreign Currency Program and the International Liaison Section. No program increase is sought for FY 1977. Necessary pay in the amount of $13,000 is sought for existing staff.

PROGRAM - The functions of administering the Smithsonian Foreign Currency Program and the International Liaison Section are performed in the Office of International Programs, successor to the Office of International and Environmental Programs.

The Smithsonian Foreign Currency Program supports museum programs, scientific and cultural research, and related educational activities in six countries where the United States owns local currencies in "excess" of its needs as determined by the Treasury Department. More than 230 institutions in 29 states and the District of Columbia have benefitted from the Program. An appropriation of $4,481,000 in "excess" foreign currencies is requested for FY 1977. This amount includes $3,481,000 for research projects and $1,000,000 for the third of four contributions to Egypt for the preservation of the monuments on the Island of Philae.

The Smithsonian proposes to make the United States contribution for the salvage of the Philae monuments, which was previously funneled through the UNESCO trust fund for this purpose, available to the Government of Egypt in FY 1977 in order to complete this worthy project without costly delays. The work is well underway and is competently managed. The campaign to safeguard the Monuments of Nubia, of which the Philae program is a part, was initiated by the Government of Egypt and has always been fully under its direction. Contributions made in this way would comply with the terms of Public Law 93-559 prohibiting payments to UNESCO.

The International Liaison Section facilitates the activities abroad of all of the Institution's bureaus. Responsibilities include coordination of activities with the Department of State and foreign governments, including passport and visa services for Smithsonian staff and permits for research and for the import and export of research equipment and specimens.

The Center for Short-Lived Phenomena was moved to the National Museum of Natural History and renamed the Smithsonian Environmental Alert Network during early FY 1976. As part of reorganizations that started in FY 1975, additional environmental resources were moved to the Assistant Secretary for Science.

CHESAPEAKE BAY CENTER FOR ENVIRONMENTAL STUDIES

1975 Actual.....$443,000
1976 Estimate.....$534,000
1977 Estimate.....$645,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	20	3	23
11 Personnel Compensation.....	352	72	424
12 Personnel Benefits.....	32	6	38
21 Travel & Trans. of Persons...	7	2	9
23 Rent, Comm. & Utilities.....	45	3	48
24 Printing and Reproduction....	3	2	5
25 Other Services.....	35	2	37
26 Supplies and Materials.....	29	10	39
31 Equipment.....	31	14	45
TOTAL	534	111	645
Analysis of Increase			
Necessary Pay.....		28	
Other Uncontrollable.....		3	
Program Funds.....		80	

ABSTRACT - The Chesapeake Bay Center for Environmental Studies (CBCES) is a natural area for research in complex land-water relationships and for use in creating public awareness and understanding of ecological systems as they may be affected by human disturbance. The FY 1977 budget reflects an increase of 3 positions and $80,000 to provide the following program and support needs: (1) Research--an estuarine ecologist and a temporary research technician ($26,000) and support funds of $19,000 to provide continuity for the Center's ongoing effort to establish baseline conditions in the Rhode River estuary against which to estimate the impact of pollution loading; (2) Education and Public Orientation--an information specialist ($14,000) and support funds of $1,000 to meet the Center's obligations in information dissemination and public education to achieve public knowledge and understanding of the results of the Center's research programs; and (3) Protection--an assistant security officer ($10,000) and related equipment ($10,000) to provide security for the Center's 2,600 acres of open forest and shoreline. An additional amount of $28,000 is needed for necessary pay for existing staff and $3,000 for the increased cost of utilities, both justified in the Uncontrollable Section (page A-5).

PROGRAM - The Chesapeake Bay Center is a 2,600 acre area located on the Chesapeake Bay, seven miles south of Annapolis, Maryland, about equidistant from Baltimore and Washington. It was established in 1965 for the purpose of creating scientific and education programs in the environmental sciences leading to a more complete understanding of complex natural relationships affecting estuarine and watershed systems. The development of these programs was made possible by the acquisition (with non-appropriated funds) of a land-water unit large enough to include a full range of forests, marshes, fields, and agricultural areas. Taken together, these form the mosaic of land uses characteristic of the mid-Atlantic region since the early 1600's. The area is ideal for study of the results of man's past and present activities as vital components of interacting physical and biological systems. Thus, the Center provides a living museum of contemporary and historical significance, a primary resource for teaching and research on complex living systems. It is the largest facility in the nation available for the study of land-water (estuarine) relationships.

The research program is being conducted in conjunction with Federal agencies and universities and is a long-term effort to understand the functioning of terrestrial and estuarine ecosystems. Current research is focused on the Rhode River and its watershed. Estimates are being made of the amounts of nitrogen and phosphorus received by the Rhode River from rainfall, surface runoff, and the adjacent waters of the Chesapeake Bay. Measurements are also being made of the amount of bacteria and sediment added to the Rhode River from land runoff on over five square miles of watershed. The extent of nutrient uptake and sediment and bacterial trapping by estuarine marshes is also being measured. These contemporary studies are linked to an intensive analysis of land use changes which have occurred in the Rhode River watershed since the time of first settlement. The objective of this research is to determine the effect of changing land use patterns on terrestrial and estuarine ecosystems processes.

Education programs are based on the Center's environmental research projects. Activities include workshops and conferences for a variety of citizen groups in order to provide information on the planning and management significance of ecosystem research results. There are joint efforts with other academic and private institutions in promoting adult outdoor environmental education. The Center also serves as a clearinghouse and implementation center for national outdoor biology education projects. It conducts regional school-tour programs and out-of-school environmental education experiences for children, and nationwide research and education training for high school and college students. Most of these programs currently are carried out with grant funds.

JUSTIFICATION OF $80,000 INCREASE - The Center carries out much of its work through short-term grants and contracts from government and private sources. Appropriated funds have been used to manage the facility and to assure the continuity of long-range research studies.

Research - One of the primary goals of the CBCES is the development of a resident scientific staff in order to provide a level of research effort consistent with CBCES goals, and for continuity of research in major program areas. Presently only two scientists, both in terrestrial ecology, are permanently assigned to the Bay Center staff. The activities of this core scientific staff are augmented by temporary appointments to fill high priority program gaps and related support funded through outside grants and contracts and the International Environmental Science Program. In FY 1977, an estuarine ecologist and a temporary research technician ($26,000) and support funds of $19,000 (travel, computer services, printing, supplies, and equipment) are requested to conduct a long-term study of the effects of pollution on estuarine systems.

Education and Public Orientation - The principal staff requirement in education is in the area of public service and information dissemination. The growth in the Center's problem-oriented research programs over the past two years has created a demand for the results of this research by the general public, legislators, and other public officials both regionally and nationally. Previous studies have demonstrated that the dissemination of research results is most effective for the general public when written in a form which indicates the relationship of the research to societal or decision-making needs. There is a need, therefore, for an information specialist ($14,000) with related support funds of $1,000 to respond to requests for research results and related public information. It is expected that as a result of this position approximately 10 to 12 detailed research reports will be prepared in FY 1977 and an equal number of workshops and other public presentations held. This should enable the Center to meet the nearly 500 annual requests received for such reports.

Protection - The addition of an assistant security officer ($10,000) will serve to provide back-up protection for the Center's 2,600 acres of open forest and shoreline. This individual's responsibilities will be split between patroling and assisting in a wide variety of general maintenance activities. An amount of $10,000 is requested for equipment to carry out inhouse shop projects both in maintaining facilities and supporting the scientific and educational programs of the Center.

NATIONAL AIR AND SPACE MUSEUM

1975 Actual.....$3,947,000
1976 Estimate.....$5,649,000
1977 Estimate.....$6,244,000

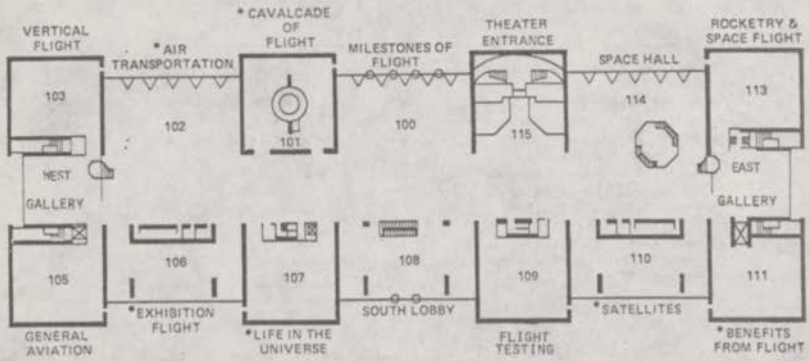
(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	230	0	230
11 Personnel Compensation.....	2,647	546	3,193
12 Personnel Benefits.....	238	49	287
21 Travel & Trans. of Persons...	20		20
22 Transportation of Things.....	25	7	32
23 Rent, Comm. & Utilities.....	20	15	35
24 Printing and Reproduction....	5	158	163
25 Other Services.....	2,176	-641	1,535
26 Supplies and Materials.....	221	223	444
31 Equipment.....	297	238	535
TOTAL	5,649	595	6,244
Analysis of Increase			
Necessary Pay.....		171	
Program Funds.....		424	

ABSTRACT - The National Air and Space Museum (NASM) was created by Congress to memorialize the development of aviation and space flight; collect, preserve, and display aeronautical and space flight artifacts of historical significance; and serve as a repository for documentary and artistic materials related to air and space. An increase of $424,000 is requested to annualize the salaries of 57 custodial personnel to be hired in the last quarter of FY 1976. In addition, $171,000 are sought for necessary pay for existing staff.

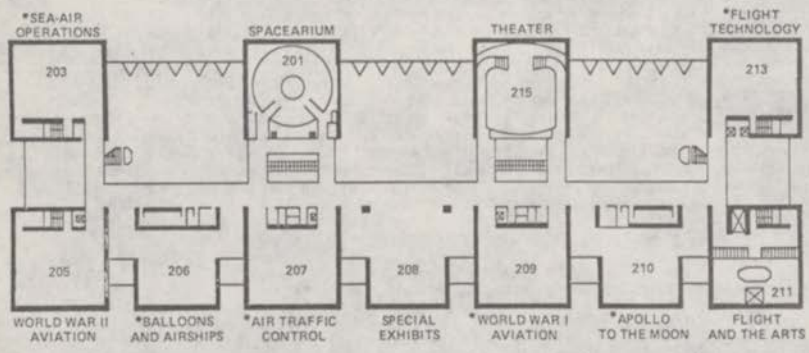
PROGRAM - FY 1977 will be the first year that the new National Air and Space Museum is open to the public. During that year, an estimated seven million visitors will see one of the finest and most comprehensive collections of historical aircraft and spacecraft displayed in 22 exhibit halls. In addition to its exhibit areas, the museum contains two public performance centers--a 70-mm film theater and a 70-foot domed spacearium. Spacearium programs will be designed to help visitors comprehend the relationships and significance of space and the universe while theater programs will enable the visitor to "experience" air and space flight and the achievements generated by the people, sciences, and technologies portrayed in the Museum.

Fiscal years 1975 and 1976 have been spent preparing for the opening with heavy emphasis on scripting, designing, and fabricating exhibits using the most modern techniques, including sophisticated audiovisual and electromechanical devices. This intensive effort will allow the opening of the entire building on schedule, but, as planned, 50 percent of the space in the galleries will contain long-term "core" exhibit units, while the remaining exhibit space will contain interim displays such as labeled aircraft and spacecraft. These latter exhibit areas will be completed in a program continuing through FY 1977 and subsequent years. In order for the Museum to produce this large number of quality exhibits in time for the opening and to avoid unnecessarily large staff increases, contractors have been used for the past two years to assist in exhibit design and production. Subsequent to the Museum's opening, this contract support will be substantially reduced, thereby necessitating replacement expenditures for exhibit supplies and equipment for the NASM exhibit staff, as reflected in the object class distribution.

NATIONAL AIR & SPACE MUSEUM



FIRST FLOOR PLAN



SECOND FLOOR PLAN

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* Galleries which, on July 4, 1976, will contain completed exhibit units. The balance of the exhibit halls will contain interim displays such as labeled aircraft and spacecraft.

In fiscal year 1977, the new Hall of Exploration will be installed. Although NASM personnel, supplies, materials, and equipment will be used to construct the exhibit, contracts will be awarded for such things as an animated film, a special theater, and flight simulators. It is also planned to upgrade the General Aviation Hall and Space Hall to core status. Again, inhouse labor, materials, and equipment will be used for exhibit construction, but contracts will be let for simulation displays, special films projectors, lens, and for the design and construction of special theaters. This upgrading includes elements contained in the original exhibit hall design which could not be included in the FY 1976 fabrication contracts because of the shortage of time and funds.

The exhibit in the temporary exhibit hall will be changed, which will require the temporary services of professional riggers to assist the staff in moving large artifacts. In addition, exhibits will be developed for corridor spaces in the building where none currently exist. FY 1977 will also be the time to begin to improve and replace audiovisual and electromechanical parts and equipment as well as to improve lighting and miscellaneous exhibits software.

The exhibits program is only one of several functions that make a museum an effective learning center. The education programs started in FY 1975 and 1976 will come to fruition when the new building opens. The contents of the Museum will be available to students in the metropolitan area, with specially designed tours; and an active "outreach" program is being developed to extend NASM to other parts of the country. In FY 1977 emphasis for the "outreach" program will be directed to the production of cassette tapes and slides of lectures, and filmstrips and records to show and describe exhibits in selected galleries. These tapes, slides, and filmstrips will be available for distribution to schools throughout the country. The training of over 225 docents, museum rovers, and museum aides will continue, and the development of museum assistance and materials for the handicapped will be accelerated. The ability to measure the learning experiences gained through museum visits is an important part of museology. To accomplish this evaluation, a program will be established using the latest information gathering and opinion research techniques. The results will be used to improve or revise exhibits and education programs.

Through FY 1976 the professional staff of the museum will be involved in the research and preparation of exhibit scripts. In FY 1977 the staff members will shift their focus to research and publication in the many subject fields of air and space technology, including Planetary Topography and Scientific Earth Observations from the Space Shuttle, Technology Transfer, History of Air Accident Investigations, and History of Air Racing. In addition, three publications in the new National Air and Space Museum Series, Smithsonian Studies in Air and Space, will be prepared as well as publications in the field of education; such as, the museum brochure in five languages, Teacher-Guides for Guided School Activities, Volunteer Handbook, and artifact monographs.

The preservation and restoration of major artifacts will continue in FY 1977 with four restorations and 20 preservations scheduled. The artifacts to be restored are: the Langley Aerodrome, one of the first major attempts to fly a power-driven aircraft; the Albatross D-5, an aircraft flown by Baron von Richthofen in approximately 60 of his 80 victories and one of the remaining two Albatross in existence; the Lockheed X-P80, America's first operational jet aircraft; and the Messerschmitt 262, the first jet aircraft to enter combat.

The following restorations started in FY 1976 will be finished in FY 1977: the Mustang-P51 (Excalibur), the airplane flown by Captain Charles Blair in pioneering over-the-pole air routes from California to Europe; and the Aeronca C-2, the first really successful light plane to be used in general aviation. In addition, the permanent warehousing and cleanup of all NASM artifacts now stored in outside temporary storage at the Silver Hill, Maryland, facility will continue. Emphasis will also be placed on setting aside space where restored air and spacecraft not scheduled for installation in the new museum might be viewed by the visiting public.

JUSTIFICATION OF THE $424,000 INCREASE (Buildings Management) - To supply the full range of janitorial and custodial maintenance service for the new museum, 57 persons, approved in the FY 1976 budget, will be hired in the last quarter of this year. An amount of $424,000 is requested to annualize the salaries of these employees in FY 1977.

CENTER FOR THE STUDY OF MAN

1975 Actual.....$337,000
1976 Estimate.....$372,000
1977 Estimate.....$407,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	12	0	12
11 Personnel Compensation.....	294	22	316
12 Personnel Benefits.....	26	2	28
21 Travel & Trans. of Persons...	7	2	9
23 Rent, Comm. & Utilities.....	5		5
24 Printing and Reproduction....	2	1	3
25 Other Services.....	30	5	35
26 Supplies and Materials.....	3	1	4
31 Equipment.....	5	2	7
TOTAL	372	35	407
Analysis of Increase			
Necessary Pay.....		9	
Program Funds.....		26	

ABSTRACT - The Center for the Study of Man (CSM) has several anthropological and human science programs: continued development of the Encyclopedia of North American Indians; sponsorship of an urgent anthropological program; coordination of international anthropological efforts on current social problems; conduct of an immigration and ethnic studies program; and the development of an anthropological film study center. An increase of $26,000 is requested for research support for the National Anthropological Film Center and Archive and the Immigration and Ethnic Studies Program. A further $9,000 are required for necessary pay for existing staff.

PROGRAM - The CSM coordinates research and development on a series of important anthropological and human science programs. The American Indian Program continues to be focussed on the development of the 20-volume encyclopedic Handbook of North American Indians. An experienced project manager is being hired to oversee production leading to publication of the full 20 volumes. The design and printing specifications have been completed and the volumes on California Indians and Indians of the Northeast should appear in 1976. Funds for the actual printing of this encyclopedic work are contained in the Bicentennial request.

The American Indian Program also provides scholarly educational materials concerning Indians to individuals, schools, and Indian communities. It helps coordinate educational intercommunication among Indians themselves, with scholars, and with appropriate Government and private agencies. The Center has worked closely with task forces of the new American Indian Policy Review Commission established by Public Law 93-580. The gaps in our knowledge of North American Indian cultures have become more evident as work on the encyclopedic Handbook has progressed. There is a real urgency to fill these wherever possible. The pressing need to interview tribal elders who are anxious to fill in the record of their proud past continues. The American Indian Program has continued to investigate the link between past and present in Indian communities. Field research is presently being carried out in Oklahoma, Arizona, Montana, Wisconsin, South Carolina, North Carolina, and Virginia. A map showing the present-day location of surviving Indian communities in the Eastern and Southern United States is being planned. Preliminary investigation indicates that more Indian groups have survived than previously estimated, but much additional work remains to be done.

The Urgent Anthropology Program, which identifies, publicizes, and finances by means of small awards, needed research in geographical areas that are undergoing rapid environmental change as a result of urbanization, improved communications, better transportation, and other factors has been helpful in this respect. Its objective is to salvage and preserve information in selected rapidly-changing areas before time and events eliminate opportunities to understand the cultures which existed there.

The Cross-Cultural Research Program coordinates the efforts of numerous anthropologists and other human scientists in developing new comparative information on contemporary world problems. An investigation of the cultural effects of rising world land values is in the planning stage.

The Immigration and Ethnic Studies Program is concerned with the peopling of America as an ongoing process. It has carried out basic research in Panama, the Caribbean area, Canada, and the United States. Small seminars on: adjustment of new migrants, i.e., Vietnamese; comparative studies, i.e., with Canada; and internal migration, i.e., from Puerto Rico, have been held. A major conference on new immigrants will take place during the Bicentennial year. This program is also exploring the problem of studying illegal immigrants and evaluating data from agencies with information about Pacific Islander immigration.

The National Anthropological Film Center was established to take fuller advantage of the scholarly potential of film as a tool of inquiry into the vanishing and changing ways of life and cultures of the world. It records, collects, and preserves the cultures of North American Indians and other peoples as recorded on film. Much of the film being collected is in great danger of destruction. Since its inception, the Center has collaborated with individuals and institutions in California, Massachusetts, Washington, Indiana, Illinois, New Mexico, and New York.

Physically, the Center will serve as a research facility and repository for visual studies in much the way that museums obtain and preserve important objects and materials for continued study and to support findings. The Center will also provide cultural information to peoples who have little written history, thereby helping fulfill their need for information related to their own development. As an example, American Indians are extremely interested in film records of their own past for educational purposes and for the small tribal museums now being established on many reservations.

Projects have been started which involve filming a number of cultural survivals. The Center is giving special attention to the few remaining small, isolated cultural groups of the world which have evolved independently over thousands of years, and to other small social enclaves which represent vanishing unique expressions of human organization and behavior. It also collaborates with documentary film projects sampling the range of better known, more stable cultural variation, including traditional folk cultures, as well as selected aspects of our changing modern society.

Presently being planned is a research film library in which film prints will permit review, study, and scholarly assembly, leaving original films undamaged to take advantage of future advances in the copying technology.

Though only in existence a short time, the Film Center and Archive has processed a number of important ethnographic films. It has acquired 125,000 feet of film from Afghanistan, Bolivia, and Kenya; 35,000 on New Hebrides; 75,000 on New Guinea; 42,000 on the Huichol Indians of Mexico; 2,400 on Cambodia and Thailand; 80,000 on the Pushtoon in Afghanistan; 80,000 on the Canala Indians of Brazil; and 27,000 on Polynesian dance in the Cook Islands.

JUSTIFICATION OF $26,000 INCREASE (Research) - The Anthropological Film Center has been able to develop collaborative projects with scholars in various parts of the world; and it has been able in a few crucial areas to provide raw film stock, film processing, equipment, and guidelines to anthropologist-filmmakers interested in preparing scholarly visual documents as a permanent research resource. Some experimental field studies are also underway in an effort to develop and improve visual sampling methods and equipment. The Center has also begun its search for existing anthropological film footage of research value which may be in danger of deterioration and loss. An initial $20,000 was provided for this important new program in the FY 1976 appropriation. A further $20,000 are sought in the FY 1977 budget to strengthen efforts by providing temporary secretarial help, travel and fieldwork, contracts for the assembly and preservation of film, and supplies and materials associated with film storage and safekeeping. A further $6,000 are requested for the significant companion effort of the Research Institute on Immigration and Ethnic Studies. This money is needed for consultants, seminars, and field research on new migrants. The Institute will produce valuable bibliographies, research notes, and articles on this subject matter.

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NATIONAL ZOOLOGICAL PARK

1975 Actual.....$5,429,000
1976 Estimate.....$6,207,000
1977 Estimate.....$6,695,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	301	4	305
11 Personnel Compensation.....	4,436	316	4,752
12 Personnel Benefits.....	487	28	515
21 Travel & Trans. of Persons...	22	4	26
22 Transportation of Things.....	10	2	12
23 Rent, Comm. & Utilities.....	350	89	439
24 Printing and Reproduction....	16		16
25 Other Services.....	249	8	257
26 Supplies and Materials.....	483	22	505
31 Equipment.....	127	15	142
Acquisitions for collections	25	4	29
41 Grants.....	1		1
42 Insurance Claims & Indem.....	1		1
TOTAL	6,207	488	6,695
Analysis of Increase			
Necessary Pay.....		273	
Other Uncontrollable.....		59	
Program Funds.....		156	

ABSTRACT - The National Zoological Park exhibits a large and varied animal collection; serves the information and education needs of the public; and conducts programs of research, animal health, and conservation on 156 acres in Rock Creek Valley and 3,000 acres near Front Royal, Virginia. For FY 1977, the National Zoo's budget requirements include an additional 4 positions, 2 part-time positions, and $156,000 to place into service new facilities opening in FY 1977 and to undertake the needed study of nutrition as it affects Zoo animals. Further amounts of $273,000 for necessary pay and $59,000 for utility rate increases are requested in the Uncontrollable Section (page A-5).

PROGRAM - In 1890, Congress established the National Zoological Park for the "advancement of science and the instruction and recreation of the people." To accomplish those purposes, the Zoo exhibits a great and varied collection of animals; maintains information, education, and visitor service programs for the public from all over the United States; and undertakes scientific research, including biomedical studies, for the increased understanding, preservation, and healthful well-being of valued exotic animals in captivity.

The National Zoo welcomes large numbers of visitors from every state. In FY 1976, Zoo hours have been lengthened to relieve crowding of very popular exhibits and to help the visitor enjoy a successful and unhurried stay. A critically-acclaimed graphics system consisting of pleasing symbols and informative panels aids the zoo-goer through new exhibits labeling. Useful and interesting educational insight is offered now with every major exhibit. New exhibits have opened on schedule as part of an overall improvement plan for the National Zoo. School tours and special tours for handicapped and disadvantaged children have been continued through volunteer efforts by the Friends of the National Zoo.

The Zoo provides, with increasing effectiveness, for the needs of its animals; each animal is given the greatest opportunity possible for natural movement and expression. At the Zoo such improvements are hard-won, step-by-step through rebuilding. With the greater space available at the Front Royal Conservation and Research Center, it has been possible to assemble already nearly 100 animals of 12 endangered or threatened species in successful breeding populations. Births of rare animals are occurring throughout the collection in larger numbers than ever before.

Taking advantage of its opportunities for national service, the National Zoo trains veterinary pathology interns for exotic animal practice; trains students in exotic animal study and management; hosts seminars on animal care attended by veterinarians from many zoos; and is developing new clinical information banks on anesthesia, x-ray, ocular diseases of exotic mammals, and antibiotic dosage levels for reptiles.

Research activities have led to better behavioral and physiological understandings of the necessary conditions for animal survival. The National Zoo, cited by a major publication recently as "one of the leading research zoos in the world," produced more than 40 publications of original research contributions by its staff last year. Two major conferences organized by the National Zoo brought together leading scientists working on problems of species survival from all over the world.

An example of the research productivity was the Zoo's determination of the particular social grouping necessary to achieve greater breeding and rearing success with a highly valued endangered primate, the Golden Marmoset. The technique was shared with other zoos to enhance the chances for survival of this beautiful animal. Studies progressed on determining reproductive strategies for the tiger, binturong, cheetah, lesser panda, gorilla, rare canids, giant panda, Pere David's deer, selected reptiles, and many birds. As another example of success, the National Zoo last year produced 19 Nene geese, more offspring than in any other place outside of the birds' hard-pressed natural habitat in Hawaii.

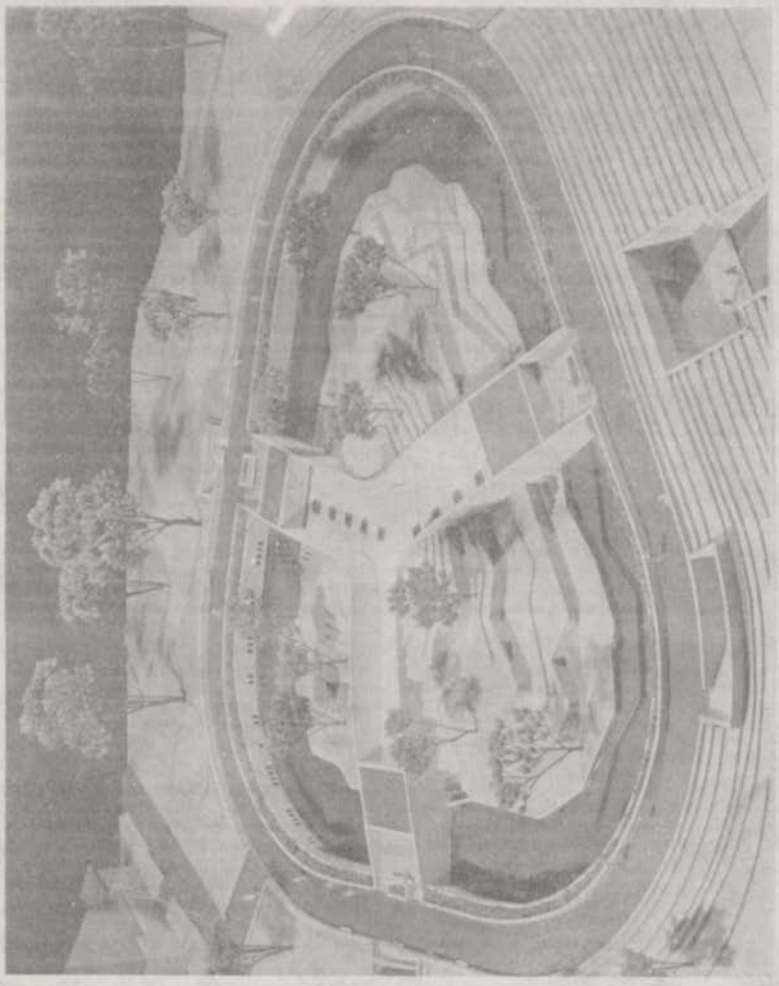
Joint breeding strategies were entered into by the National Zoo with seven other major zoos from across the country. The National Zoo is a leader in encouraging the kind of joint zoo collaboration increasingly essential for the successful preservation of precious species.

JUSTIFICATION OF $156,000 INCREASE:

New Facilities - FY 1976 has brought the first fruits of an ambitious, but greatly needed building program at the National Zoo. Bicentennial visitors are being welcomed to such new or renovated areas as the Lion-Tiger Complex; expanded Elephant and Giraffe Yards; and new Bird House Yards. The remodeled Monkey House interior has already become the standard for modern zoo structures--a rare combination of building for visitor interest and animal well-being.

FY 1977 will see full-year operation of those facilities and such new facilities as a Polar Bear Exhibit, Grizzly Bear Exhibit, and rebuilt Bear Lines. Altogether the new facilities with their complex new heating and refrigeration systems, greatly enlarged viewing and display areas, and opportunities for increased animal populations call for support of $61,000 for such requirements as:

--animal acquisition
--utilities
--animal food
--cleaning and maintenance supplies
--animal care equipment



MODEL OF LION AND TIGER EXHIBIT TO BE COMPLETED IN 1976

Travel to consult with other zoos on common efforts, to locate animals for new exhibits, and to move animals between institutions and the National Zoo will require an additional $4,000. Those funds will restore the level of funding for travel available to the National Zoo three years ago, before renovation of the Zoo began and travel was curtailed. Additional travel funds allowed in FY 1976 covered the new travel costs associated with operation of the Front Royal Conservation and Research Center.

Proper care of the collection and new facilities calls for the addition of two utility system repairers; two animal keepers for half of FY 1977, to come on board as new facilities open to the public; and one nutritionist who will initiate badly-needed, long-term practical studies to ensure the continued beneficial feeding of the Zoo's priceless and irreplaceable animals. The cost of these positions in FY 1977 will be $61,000.

Front Royal Conservation and Research Center - In Front Royal, Virginia, 3,000 acres devoted to breeding and animal care have greatly expanded the Zoo's ability to increase man's understanding of conditions that are essential for the preservation of rare and endangered species.

Acquired in FY 1975, the Center now is home for over 100 animals. By the end of FY 1977, at least 175 animals will be in Front Royal. Cooperative agreements with other zoos are in effect, resulting in pooled herds of the rarest animals, improving the chances of survival for those species. Research projects are underway involving animals important to the understanding of behavioral mechanisms vital to survival.

Protection and care of the animals and property call for one animal keeper to be added in 1977 ($10,000) and $20,000 for medicine, supplies, and necessary equipment.

OFFICE OF THE ASSISTANT SECRETARY FOR HISTORY AND ART

1975 Actual.....$256,000
1976 Estimate.....$280,000
1977 Estimate.....$304,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	11	0	11
11 Personnel Compensation.....	246	6	252
12 Personnel Benefits.....	20	1	21
21 Travel & Trans. of Persons...	4	3	7
24 Printing and Reproduction....		3	3
25 Other Services.....	4	7	11
26 Supplies and Materials.....	5	4	9
31 Equipment.....	1		1
TOTAL	280	24	304
Analysis of Increase			
Necessary Pay.....		7	
Program Funds.....		17	

ABSTRACT - The Office of the Assistant Secretary for History and Art advises and assists the Secretary in planning, implementing, and reviewing the progress of Smithsonian history and art programs. In addition, this office oversees the planning and coordination of the Smithsonian's Bicentennial programs and projects. Also included under this heading are the American Studies program and the Joseph Henry Papers project. An increase of $17,000 is sought for FY 1977 in support of the Joseph Henry Papers project. An amount of $7,000 is also requested for necessary pay for current staff.

PROGRAM - I. Immediate Office: With a base of five positions and $147,000, the Office of the Assistant Secretary for History and Art advises and assists the Secretary in planning, implementing, coordinating, and reviewing the progress of the programs of the Smithsonian history and art bureaus and offices. In addition, this office oversees the planning and coordination of the Smithsonian's Bicentennial programs and projects. The bureaus and offices reporting directly to the Assistant Secretary for History and Art are the Archives of American Art, Cooper-Hewitt Museum of Decorative Arts and Design, Freer Gallery of Art, Hillwood, Hirshhorn Museum and Sculpture Garden, National Collection of Fine Arts, National Museum of History and Technology, National Portrait Gallery, Office of Academic Studies, Office of American Studies, and the Joseph Henry Papers.

II. Other Central History and Art Activities: The remainder of the resources identified for this office, six positions and $133,000, supports the American Studies program and the Joseph Henry Papers project. The Office of American Studies organizes and conducts a formal program of graduate education in the material aspects of American civilization, and participates in the overall program of historical, archeological, and architectural history research at St. Mary's City, Maryland, funded by the State of Maryland, National Endowment for the Humanities, Rockefeller Foundation, and other foundations. The Editor of the Joseph Henry Papers and his staff have been gathering and preparing for publication the manuscripts of Joseph Henry (1797-1878), the pioneer American physicist and first Secretary of the Smithsonian Institution. Two volumes of the multi-volume letterpress series have been published by the Smithsonian Press, and the third volume will be substantially completed in FY 1977. In addition, a special volume of Henry's public lectures will be edited and there will be further work on

a supplementary microfilm publication. The Henry project has been endorsed by the National Historical Publications and Records Commission.

JUSTIFICATION OF $17,000 INCREASE (Research) - Though nearly half of the Henry Papers' support has come from grants, Federal funds have accounted for the remaining portion of the expenditures since the project's inception. Work on volume three of the letterpress series, on the special volume of Henry's lectures, and on the Alexander Graham Bell-Joseph Henry Library, recently donated to the Institution by Bell's descendants, will entail additional research, travel, photoduplication, supplies, and services, the costs of which cannot be borne by existing grants. Requested increases seek to augment travel funds ($3,000) and photoduplication allowances ($3,000) formerly provided only through grants. An increase of $4,000 is needed for general supplies to support extra work in preparation of the special volume and the initial installments of the comprehensive microfilm edition. Increases sought under "Other Services" will fund special searches of archives and manuscript depositories for the letterpress series ($2,000) as well as cataloguing of the Bell-Henry Library ($2,000). Also included are funds for computer time and paper costs ($3,000), which are necessary for cataloguing the library and maintaining the project's distinction as a center for scholarly research.

NATIONAL MUSEUM OF HISTORY AND TECHNOLOGY

1975 Actual.....$4,992,000
1976 Estimate.....$5,484,000
1977 Estimate.....$5,772,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	262	3	265
11 Personnel Compensation.....	4,133	218	4,351
12 Personnel Benefits.....	372	20	392
21 Travel & Trans. of Persons...	37		37
22 Transportation of Things.....	15		15
23 Rent, Comm. & Utilities.....	22		22
24 Printing and Reproduction....	55		55
25 Other Services.....	387		387
26 Supplies and Materials.....	229		229
31 Equipment.....	184		184
Acquisitions for collections	50	50	100
TOTAL	5,484	288	5,772
Analysis of Increase			
Necessary Pay.....		215	
Program Funds.....		73	

ABSTRACT - The National Museum of History and Technology (NMHT) is the repository of the collections documenting the historical and technological achievements of the American people. It has an active research and publications program, and its exhibits are seen by more visitors than any other museum in the world. The FY 1977 budget requests an additional 3 positions and $73,000 for the following purposes: (1) Collections Acquisitions -- $50,000 additional to augment purchase of objects for the National Collections; and (2) Collections Management -- 1 computer coder and 2 collections cataloguers ($23,000) to provide a computer inventory and begin a standardized cataloguing of the Museum's collections. An additional amount of $215,000 is required for necessary pay for existing staff.

PROGRAM - The NMHT is responsible for the following major programs: (1) research; (2) collections acquisition; (3) collections management; (4) exhibitions and performances; (5) education and public orientation; (6) conservation; (7) printing and reproduction (research publications); and (8) buildings and facilities management.

The NMHT occupies a unique position among the great museums of the world. As the repository of the National Collections documenting the American civilization, the Museum has responsibility for over 16,000,000 objects related to all facets of the American experience. Each of these objects deserves the highest level of professional care and preservation and must be stored, accessioned, conserved, and exhibited utilizing the best techniques and professional abilities available.

Since opening in 1964, the NMHT has provided a variety and richness of public exhibitions seen by 67,000,000 visitors. The Museum annually receives more visitors than any other museum in the world, receiving over 7,000,000 visitors during FY 1975. It is expected that this figure will exceed 12,000,000 during FY 1976, the Bicentennial year.

As a center for the scholarly study of the history of American material culture and the history of science and technology, this museum continues to support and encourage basic research and publication in its many subject fields, ranging from early exploration to studies of contemporary American culture. Education and public orientation activities include guided tours, demonstrations of trade and craft skills, lectures, and films. Programs and facilities for school children and for the handicapped are receiving special attention.

In FY 1976, the exhibit emphasis of the Museum has been applied to the two extremely large Bicentennial exhibitions, "A Nation of Nations" and, in the Arts and Industries Building, "1876: A Centennial Exhibit." Both exhibits will open during the spring of 1976. "Two Hundred Years of American Banking," an exhibit funded almost entirely by private sources, also opened in FY 1976. Also in progress is the "Hall of American Maritime Enterprise," funded jointly by the Museum and the maritime community. The Hall will celebrate the men, ships, and institutions that made possible the growth of our nation from a beachhead on a new continent to a flourishing maritime power. An important segment of the Hall, the S/S Oak Engine Room, will be open to the public in FY 1976, with total completion scheduled for FY 1978.

After completion of the Bicentennial exhibits, staff time will be devoted primarily to the complete redesign of permanent exhibits installed when the Museum opened in 1964. The first phase of this design will be concerned with a new Hall of American Science.

JUSTIFICATION OF $73,000 INCREASE:

Collections Acquisitions - Over the years, appropriations available to the Museum with which to acquire museum objects have reached the $50,000 level. This is a very small amount for a museum of this size and stature when market prices for necessary items to round out reference collections or to complete an exhibit are taken into consideration. The allocation of this amount among the NMHT's 21 curatorial divisions means that few significant items can be purchased. Unfortunately, competition for scarce objects does exist among museums, private citizens in this country and abroad, and other organizations, and many national treasures cannot be acquired for the benefit of the millions of visitors to their National Museum. Areas in which the National Collections need much strengthening are early work and everyday clothing, ethnic and Western materials relating to early settlement, medical sciences artifacts, significant time-keeping specimens, marine transportation articles, textiles, and postal history and numismatics items. Strenuous efforts are made to acquire objects by gift or by purchase with private donations. This effort will continue, but additional assured base funding is essential to allow orderly planning and execution of collections development. An additional amount of $50,000 is sought in the FY 1977 budget.

Collections Management - After the Bicentennial year is over, the Museum will direct its energies to expansion of the collections management program and development of a uniform, museum-wide inventory of collections resulting in computerization of some 16,000,000 specimens that were acquired before FY 1975. Pilot programs in this effort are now fully implemented and proving to be successful. A total of 37,800 specimens will have been computerized during FY 1975 and FY 1976. One computer coder ($9,000) is requested for this essential aspect of collections management. The Museum also plans to fulfill its commitment to the Institution's Upward Mobility Program by training low level, under-utilized persons to become collections management technicians at the target level, GS-7. Two cataloguers ($14,000) are requested to aid in the inventory system. They will be trained by professional staff members in the Museum and will be able to perform important technical work in any of the NMHT's divisions when they reach their target grade levels.

NATIONAL COLLECTION OF FINE ARTS

1975 Actual..... $2,046,000
1976 Estimate..... $2,330,000
1977 Estimate..... $2,520,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	104	2	106
11 Personnel Compensation.....	1,470	95	1,565
12 Personnel Benefits.....	132	9	141
21 Travel & Trans. of Persons...	21	1	22
22 Transportation of Things.....	95		95
23 Rent, Comm. & Utilities.....	20		20
24 Printing and Reproduction....	67	8	75
25 Other Services.....	308	15	323
26 Supplies and Materials.....	99	1	100
31 Equipment.....	18	11	29
Acquisitions for collections	100	50	150
TOTAL	2,330	190	2,520
Analysis of Increase			
Necessary Pay.....		79	
Program Funds.....		111	

ABSTRACT - The National Collection of Fine Arts (NCFA), the oldest national collection of art, is devoted to the conservation, study, and presentation of American painting, sculpture, prints and drawings, and, in the Renwick Gallery, to American design and crafts. In FY 1977, 2 additional positions and $111,000 are requested to meet the following requirements: (1) Collections Acquisitions--$50,000 to maintain a minimum acquisition program necessary to establish fully representative collections; (2) Research--$50,000 and 2 positions to continue the Bicentennial inventory; and (3) Building Management--$11,000 for a cabtruck and a trash compactor. Necessary pay funds of $79,000 are sought for existing staff.

PROGRAM - This major collection of American art, the origins of which go back to the 1830's, was uncatalogued and ill-housed until the present facility was opened in the former Patent Office in 1968. The growing collection of some 17,000 works is now registered on computer and arranged, either in carefully planned galleries or in systematic storage, so that every work is available for public pleasure or scholarly study. Exhibitions are presented in the United States and abroad, and an active program of education is maintained for the schools and the general public.

In FY 1976, 19 new exhibitions were presented by the NCFA. Of these, two were cooperative efforts with other institutions and 17 were designed and produced by the museum. These included "Sculpture: American Directions, 1945-1975", "The Designs of Raymond Loewy" (at the Renwick Gallery), "Emanuel Leutz: Freedom is the Only King" and smaller exhibitions featuring one artist, such as Peggy Bacon and Abraham Rattner. Exhibitions were accompanied by authoritative publications prepared by the museum. Some 15 separate publications were issued. A new gallery devoted mostly to European and Asian art, part of the extraordinary bequest of John Gellatly, was also opened, thus utilizing the final available gallery space in NCFA's part of the Fine Arts and Portrait Galleries Building. Other galleries were reinstalled. In addition to the above, NCFA's office of exhibitions abroad continued to circulate exhibitions outside of the United States.

The very active education program was expanded to offer further activities for school children and the public. Some 21,000 public school children attended sessions within the museum, and many others were reached in the schools themselves. This department also supervised 50 junior and senior high school students who participated in a junior intern program and 17 college students who worked in a similar program.

JUSTIFICATION OF $111,000 INCREASE:

Collections Acquisition - An increase of $50,000 is requested to maintain an active acquisition program at the National Collection of Fine Arts. The NCFA is, aside from its other functions, a museum of record. Its permanent collection strives to represent a cross-section of American art of all periods and types, and special attention has been given to those aspects of art that might otherwise be overlooked in the changing fashions in taste. The effort has been to represent each significant American artist by a group of studies, as well as completed works, in order to record both the artist's creative procedure and his ultimate achievement. Care has been taken to concentrate particularly on artists not already well represented in other national collections. In the past year the museum purchased, among other works, two particularly beautiful mother and daughter portraits by the noted American artist, Ralph Earl, and a painting entitled "Mountain Landscape" by Sonntag. Also acquired were representative works of young contemporary artists, including works by Werner Drewes, Darryl Abraham, and a sculpture entitled "Self-Portrait" by Eugenie Gershoy. The department of prints and drawings has been very successful in the quality of works purchased from both acquisition funds and private donations. Among the artists represented by purchase this year were Robert Cottingham, Andy Warhol, Philip Pearlstein, and Jasper Johns. Because of the rising costs in all areas of the museum's activities, it has been increasingly difficult to maintain the necessary minimum acquisition program. NCFA has been fortunate in being the recipient of many more gifts of paintings and sculpture than it is able to purchase. This year only six paintings were bought with acquisition funds while 41 paintings were given to the museum. Similarly, out of 199 prints and drawings accessioned, only 44 were bought with Federal or private acquisition funds. In all, NCFA had 274 accessions this year with only 63 being purchased by the museum. Major works, priced on the market today from $150,000 and up, cannot be considered for purchase on NCFA's present acquisition budget of $100,000 or even on the proposed budget of $150,000. Nevertheless, it is important to acquire such necessary works as can be afforded whenever possible. Each year the art market makes available any number of works which would greatly enhance the NCFA collection, but which the museum cannot even consider since its acquisition budget is so small.

Research - The Bicentennial Inventory of American Paintings Before 1914 has resulted in a data bank of approximately 150,000 descriptions and 35,000 reproductions of American paintings in the several years of the Bicentennial funding period. The Inventory begins to serve as a major research resource in July 1976. Where emphasis has been entirely on building the data file, beginning in FY 1977 the Inventory program will shift the emphasis of its activity to responding to public and scholarly inquiry. Staff is needed to receive inquiries by visit and mail and to determine how to put the Inventory to work to respond to the inquiries to maximum advantage. Simultaneously, however, content of the Inventory--records of American paintings--must continue to grow. Were the data bank not to grow, it would become obsolete, thereby losing the investment of work and funds made in the 1970-1976 period. Additional records, especially reproductions, must be actively sought and existing records must be upgraded as new information becomes available. Two positions, a coordinator and a clerk-typist ($25,000), and $25,000 for travel, printing, photographs, computer time, and supplies are requested to continue and maintain the Bicentennial Inventory of American Paintings.

Building Management - NCFA shares with the National Portrait Gallery (NPG) the Fine Arts and Portrait Galleries Building (which also houses the Archives of American Art). The two bureaus also share in the administration and budgetary support of the building's management. Funding of $11,000 is sought for two pieces of major equipment, a cabtruck ($5,000) and a trash compactor ($6,000). The NCFA, NPG, and the Archives have frequent requirements for the pickup and delivery of collection and loan items. In addition to the FAPG Building, NCFA is also responsible for the Renwick Gallery (a decorative arts and craft museum) and Barney House, currently housing a small collection and the offices of the Smithsonian Institution Traveling Exhibition Service. In order to service these three separate facilities as well as to improve the museum's very popular and successful "Discover Graphics" high school program, a cabtruck assigned to this building is necessary. The "Discover Graphics" program carries large presses to the area secondary schools to instruct students in the art of etching. The Renwick Gallery does not have a trash compactor, and, consequently, must be serviced several times each week for trash pickup. This is not only expensive, but is the cause of a serious rodent problem.

NATIONAL PORTRAIT GALLERY

1975 Actual.....$1,499,000
1976 Estimate.....$1,726,000
1977 Estimate.....$1,876,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	74	1	75
11 Personnel Compensation.....	1,135	82	1,217
12 Personnel Benefits.....	103	7	110
21 Travel & Trans. of Persons...	17		17
22 Transportation of Things.....	15		15
23 Rent, Comm. & Utilities.....	20		20
24 Printing and Reproduction....	17		17
25 Other Services.....	103	5	108
26 Supplies and Materials.....	61	5	66
31 Equipment.....	55	1	56
Acquisitions for Collections	200	50	250
TOTAL	1,726	150	1,876
Analysis of Increase			
Necessary Pay.....		69	
Program Funds.....		81	

ABSTRACT - The National Portrait Gallery (NPG) was established in 1962 as a museum for the exhibition and study of portraits depicting men and women who have made significant contributions to the history, development, and culture of the people of the United States. For FY 1977 an increase of 1 position and $81,000 is required for: (1) Collections Acquisition--$50,000 to augment the purchase fund and $20,000 to add a curator of photography to develop collections, and (2) Building Management--$11,000 for custodial supplies and services for the entire Fine Arts and Portrait Galleries Building. A further $69,000 are needed for necessary pay for existing staff.

PROGRAM - The National Portrait Gallery is the only national museum that tells the history of the United States primarily in terms of the men and women who made that history. The portraits of these individuals are crucial documents of historical evidence and bear strong witness to the roles these people have played in the American experience.

The Gallery's activities include: (1) the expansion and care of its collections; (2) public education through display of the permanent collection and specially organized temporary exhibitions; (3) the preparation and national distribution of scholarly and popular publications related to these exhibitions; and (4) the compilation of a definitive catalogue of American portraits, constituting a unique information resource in the areas of American history and biography, art, and iconography.

During the first half of FY 1976, attendance at the Fine Arts and Portrait Galleries Building (FAPG) was 230,000, a 30 percent increase over the corresponding period in FY 1975. It is projected that attendance for the entire fiscal year will exceed the half million mark for the first time despite the building's off-the-Mall location.

An even wider audience is reached through the publications which accompany every major NPG exhibition. Furthermore, by May 1976 over 560,000 persons throughout the nation will have seen a traveling version of the 1973 exhibition, "The Black Presence in the Era of the American Revolution, 1770-1800." More than 150 institutions are now on a waiting list to receive this exhibition. A similar reception is anticipated for traveling versions of the Gallery's Bicentennial exhibitions.

National Portrait Gallery--American Renaissance room (recently renovated and opened to the public). The use of this elaborate room as a temporary exhibition gallery will place an additional burden on the Gallery's maintenance staff.

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During FY 1975 and the first half of FY 1976, 132 portraits were added to the collection. Of this total, 103 were purchased including an important, but little known, miniature of Abraham Lincoln, painted from life in Springfield, Illinois, in August 1860; the only known likeness of Daniel Shays (a unique impression of a metal-cut print made during his lifetime); and a 1933 oil of Amelia Earhart by Edith Scott. Among the gifts were a self-portrait of the great American 20th century painter Thomas Hart Benton (which was appraised at $50,000) and portraits by Rembrandt Peale of George and Martha Washington (purchased by the donor for $150,000).

From April 19 to November 17, 1975, the Gallery presented its second Bicentennial exhibition, "The Dye is Now Cast: The Road to American Independence, 1774-1776," consisting of 98 portraits and 154 associative objects borrowed from collections in the United States and abroad. A second major exhibit, "Portraits from The Americans: The Democratic Experience," opened November 14, and was the first to be installed in a third floor area which, after renovation, was opened to the public for the first time. Several smaller exhibitions were devoted to specific individuals, including John Brown, Abraham Lincoln, Thomas Wolfe, and Winston Churchill. Following the relighting of the galleries devoted to the permanent collection, selected Presidential portraits were rehung with associative materials as the first step in a program which will involve reinstallation of the entire collection in a similar fashion.

The Gallery's third Bicentennial exhibition, "Abroad in America: Visitors to the New Nation, 1776-1914," will be on view from April 9 to November 13, 1976. Other major exhibitions in 1976 will be "Christian Gullager: Portrait Painter to Federal America" (May 11-September 6) and a show of Wedgwood portrait medallions of Revolutionary War period figures opening in July.

JUSTIFICATION OF $81,000 INCREASE:

Collections Acquisition - The Gallery requests an additional $50,000 in FY 1977 to increase its budget for acquisitions to $250,000. Of the Smithsonian museums which have come into being during the last decade, the NPG is the only one to have been established without a permanent collection. Although special temporary exhibitions, largely of borrowed objects, together with their accompanying publications, make an important contribution to the public, the National Portrait Gallery of the United States will never be worthy of its name until it has a permanent collection which is fully representative of the men and women who made this nation. During the past decade, the Gallery has made important strides toward this objective; but until it has funds adequate to purchase significant works which cannot be acquired by any other means, portraits such as the magnificent marble bust of Benjamin Franklin by Houdon, which recently sold at the Parke-Bernet for $310,000, inevitably will find their way into other hands. The Gallery is making every effort to find donors for certain works and to persuade private owners to donate portraits as well as to raise funds from private sources, but an increased Federal appropriation is vital to its acquisition program.

Recent legislation has authorized the Gallery to acquire photographic collections including prints, photographs, films, and other likenesses. In testimony before Congress, the Smithsonian stated that it has become increasingly clear over the years that the NPG cannot fully perform its legislated functions, either in exhibition or research, without use of this medium. More than half of our national history has occurred since the invention of photography. Many Americans who should be represented in the Gallery are best portrayed by photographs, and some are portrayed only by photographs. As a center for the study of history through portraiture, resources in all media are essential. A curator of photography ($20,000) is required to develop collections, perform research on them, and arrange exhibitions.

Building Management - The FAPG building services department requires an additional $11,000 to meet custodial needs largely associated with steadily increasing numbers of visitors. The cost of custodial supplies (especially for plastic containers, oil-based

solvents and solutions, and paper products) and services (trash removal, cleaning of drapes and carpets, etc.) has risen significantly during FY 1975 and 1976. Use of the building, including its courtyard and lecture halls, has increased as well, requiring the purchase of greater quantities of custodial supplies. Even greater attendance is expected following the completion of construction of the F Street pedestrian mall this spring and the opening of METRO's Gallery Place station. These funds are essential to maintain acceptable standards of cleanliness.

HIRSHHORN MUSEUM AND SCULPTURE GARDEN

1975 Actual..... $1,541,000
1976 Estimate..... $1,676,000
1977 Estimate..... $1,844,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	83	0	83
11 Personnel Compensation.....	1,091	72	1,163
12 Personnel Benefits.....	95	6	101
21 Travel & Trans. of Persons...	18		18
22 Transportation of Things.....	5	10	15
23 Rent, Comm. & Utilities.....	14		14
24 Printing and Reproduction....	40		40
25 Other Services.....	225	-10	215
26 Supplies and Materials.....	60	10	70
31 Equipment.....	30	30	60
Acquisitions for Collections	93	50	143
41 Grants.....	5		5
TOTAL	1,676	168	1,844
Analysis of Increase			
Necessary Pay.....		68	
Program Funds.....		100	

ABSTRACT - The Hirshhorn Museum and Sculpture Garden (HMSG) has attracted over 2,000,000 visitors to its galleries since opening in October 1974. The Museum is maintaining a full and balanced program of exhibitions, educational activities (including films and lectures), research, and curatorial and technical support including conservation, registration, and publications. The FY 1977 budget requires an additional $100,000 for the following purposes: (1) Collections Acquisition--$50,000 for the purchase of works of art; and (2) Building Management--$50,000 for evening hours custodial services and building maintenance and custodial services, supplies, and equipment. An amount of $68,000 is also sought for necessary pay for existing staff.

PROGRAM - A full range of museum activities, including curatorial, conservation, registration, exhibition, and loan activities, are made available to the public. Since the Inaugural Opening in October 1974, over 2,000,000 persons have visited the Museum and its Sculpture Garden through December 1975. Estimated public service statistics are shown in the following table:

	Estimated FY 1976	Estimated FY 1977
Museum Attendance	1,400,000	1,500,000
Docent Tours Conducted	3,200	3,800
Attendance	56,000	62,000
Number of Films & Lectures	154	160
Attendance	27,000	29,000
Major Exhibitions Scheduled	5	4
Other Exhibitions in Preparation	6	5
Conservation Laboratory		
Works Requiring Major Treatment	30	48
Works Requiring Minor Treatment	184	240

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JUSTIFICATION OF $100,000 INCREASE:

Collections Acquisition - For the visiting public, scholars, students, museum professionals, teachers, researchers, and art publishers, the HMSG is a major source of documentation and reference in the field of modern art. While the Hirshhorn collection forms a strong core of the Museum's holdings, it is essential that a continuing program of acquisitions by gift and purchase be pursued. This program has as one of its objectives the addition of works of art executed after 1966, which is the period subsequent to the acceptance of the Hirshhorn collection by the United States Government. Acquisitions are also necessary to fill gans in the collection, to incorporate representative works of newly recognized artists, and to provide the source materials for research studies and frequently changing exhibits. While the Museum has been successful in attracting gifts--some 17 works of art were received during the past year--these gifts tend to be of works from earlier periods and reinforce the original holdings of the Museum. Increased acquisition funds are required in order to maintain the Museum's standing as a contemporary art museum covering the spectrum of both American and world art--a program that is not manageable at the current funding level. An additional $50,000 are sought for this purpose.

Building Management - Special Bicentennial Program funds will enable this Museum to remain open in the evenings during the summer of 1976. These funds will not be available in FY 1977. An increase of $20,000 is requested to fund temporary custodial jobs and to purchase supplies and materials needed to make summer evening visiting hours a permanent program. A further $30,000 are required for such needs as equipment and gallery carpet replacement, regular cleaning of interior court windows, and lumber and paint supplies for carpentry and paint shops, all essential for building repair and maintenance. Rising prices and higher annual costs, as a result of heavier than expected public use of the Museum, further justify this requested increase. Included within the overall object class distribution are funding adjustments reflecting necessary pay for present staff and the costs of transportation of loan exhibitions.

FREER GALLERY OF ART

1975 Actual..... $380,000
1976 Estimate..... $477,000
1977 Estimate..... $511,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	28	1	29
11 Personnel Compensation.....	375	30	405
12 Personnel Benefits.....	34	2	36
24 Printing and Reproduction....	2		2
25 Other Services.....	21		21
26 Supplies and Materials.....	24	1	25
31 Equipment.....	21	1	22
TOTAL	477	34	511
Analysis of Increase			
Necessary Pay.....		15	
Program Funds.....		19	

ABSTRACT - The Freer Gallery of Art has a continuing program to search for and acquire Far and Near Eastern works of art of the highest quality and to conserve, study, and display these objects as keys to understanding the civilizations that produced them. For FY 1977 an increase of 1 position and $19,000 will be applied as follows: (1) Research--$14,000 for a translator to meet a heavy volume of technical material, inscriptions, and publications to be translated; and (2) Building Management--$5,000 for temporary staff, services and supplies required for building maintenance. An amount of $15,000 is required for necessary pay for current staff.

PROGRAM - The Freer Gallery of Art houses one of the world's most distinguished collections of Far and Near Eastern art. Included in the collections are over 12,000 works of art from China, Japan, Korea, India, and the Near East. The collection covers paintings, sculptures, and other objects in stone, wood, lacquer, jade, pottery, porcelain, bronze, gold, silver, and Biblical manuscripts. Items not currently on exhibition and the library of 40,000 volumes are available to students and scholars and are used extensively.

As our nation completes its second century, it is imperative that its cultural institutions reflect carefully on past accomplishments and prepare for the coming century. During our third century, Americans must renew their efforts to understand better the various peoples and cultures of the world. Cultural exchanges between the United States and the nations of the Far and Near East have already greatly expanded. At the Freer Gallery of Art there has been a corresponding increase in requests for assistance from the public and scholars, both at home and abroad, for docent service, for lectures, and for general information, as shown in the following table.

	July - December 1974	1975
Visitors in the offices	1,318	1,514
Visitors submitting objects for examination	296	346
Objects and photos examined	2,686	3,438
Visitors examining objects in storage	217	248
Inscriptions translated	69	111
Docent Tours		
Visitors in galleries	1,005	1,536
Visitors in storage areas	79	205

The number of inscriptions translated refers only to those provided visitors bringing objects into the Gallery for examination. A considerably larger number of inscriptions are translated by curators and librarians in response to inquiries by mail.

A special Bicentennial exhibition,"Arts of Asia at the Time of American Independence," opened December 15, 1975. A fully illustrated catalogue provides an introduction to more than 90 objects dating from the 18th century which were made in the Far and the Near East. A second exhibition,"American Art: The Vision of Charles Lang Freer," will open in August, 1976. Many items included in these exhibitions have never been shown; all have been thoroughly examined by the Freer technical laboratory staff.

Several essential pieces of scientific equipment recently acquired by the Gallery significantly improve the research and conservation activities of the technical laboratory. A teletypewriter, which serves as a computer terminal and is used with a time-share computer, enables laboratory technicians to perform complicated mathematical and statistical analyses. A portable x-ray unit replaces obsolete equipment and permits the laboratory to obtain much needed x-rays of such fragile materials as paintings, pottery, wooden sculpture, and lacquer. A camera used for x-ray diffraction allows for timely identification of microscopic samples from art objects. Two other important photographic attachments enable laboratory technicians to take 35-mm photomicrographs and to obtain images at unusually high magnification.

The FY 1977 budget for the Freer reflects the need to support its public service and research programs and the demands of building cleaning and maintenance.

JUSTIFICATION OF $19,000 INCREASE:

Research - The number of actual objects and photographs of objects submitted by the public has increased very substantially. Furthermore, the number and the availability of publications in Far Eastern languages has grown to the point that the staff can no longer provide the required number of abstracts or full translations. A full-time translator is needed. The translator will assist the public, curatorial, scientific, and library staff in translating into English original source materials, such as ancient Chinese and Japanese inscriptions on art objects, important articles in Japanese and Chinese publications, inscriptions on animal bones, etc. The subject matter is often unusual technical material in the fields of art, history, religion, and archeology. The vocabulary required is so peculiar to the subject of a given translation that the expressions, terms, and symbols used are not usually found in normal information media. An amount of $14,000 is required for the translator.

Building Management - Proper museum management and basic health standards demand that the Gallery provide clean public areas including restroom facilities to visitors every day that the Gallery is open. The present custodial staff of six persons is unable to cope with peak visitor periods such as when new exhibits are opened. Restroom maintenance on weekends is a particular problem. An amount of $5,000 is required to employ temporary personnel and to purchase supplies and equipment for building maintenance. The costs of such necessary items continue to rise.

ARCHIVES OF AMERICAN ART

1975 Actual.....$279,000
1976 Estimate.....$334,000
1977 Estimate.....$369,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	15	1	16
11 Personnel Compensation.....	239	24	263
12 Personnel Benefits.....	21	2	23
21 Travel & Trans. of Persons...	5	2	7
22 Transportation of Things.....	6		6
23 Rent, Comm. & Utilities.....	31	7	38
24 Printing and Reproduction....	14		14
25 Other Services.....	5		5
26 Supplies and Materials.....	6		6
31 Equipment.....	7		7
TOTAL	334	35	369
Analysis of Increase			
Necessary Pay.....		11	
Other Uncontrollable.....		2	
Program Funds.....		22	

ABSTRACT - The Archives of American Art (AAA) serves the research needs of private individuals, universities, museums, and other cultural institutions. It assembles, preserves, and makes available to students and scholars the documentary resources required for research and publication on American art history. Through microfilm and a network of regional centers, the Archives gives access to its holdings on a national basis. An FY 1977 increase of 1 position and $22,000 is requested for Collections Acquisition to establish a mid-Atlantic region collecting program and to fund travel and other office expenses. An additional $11,000 are needed for necessary pay for existing staff and $2,000 to fund other uncontrollable items (page A-5).

PROGRAM - The Archives gathers and preserves the personal and official records of artists, dealers, critics, and art organizations and, thereby, encourages scholarship by giving researchers access to the primary documentation they need. These collections of papers, which range in time from the 18th century to the present and reflect art activities in every state, are sought out, organized, catalogued, microfilmed, and made available to qualified scholars. Several million items are now at hand in the form of letters, journals, sketchbooks, business papers, photographs, and scarce publications. In 1975, 285 new collections of papers were received, 45 more than the previous year. This material is used intensively by Smithsonian staff and fellows and by graduate students, art historians, and curators across the country. In FY 1975, there were 1,750 research visits to all Archives offices and 460 rolls of microfilm were sent out through interlibrary loan, representing in both instances, a 35 percent increase over a two-year period. Over the past few years, several hundred completed books, articles, catalogues, and dissertations have acknowledged the AAA as a source of information.

"From Reliable Sources," the first of a series of public exhibitions of photographs and documents, inaugurated a new Archives program in FY 1975. The success of this show and its attendant catalogue led to the organizing of a traveling exhibition of representative Archives holdings to be shown in Dallas, San Francisco, and Cleveland during FY 1976. Additional displays of Archives material will be arranged in connection with the Bicentennial exhibitions of the Detroit Institute of Arts, the Cleveland Museum of

Art, the Toledo Museum of Art, and the De Young Museum in San Francisco.

The processing and chief reference center of the Archives is located in Washington, D.C. with other centers in Boston, New York, Detroit, and San Francisco. Each office is responsible for acquiring further collections of papers and for administering complete sets of microfilm containing all documents offered by the Archives. The Archives anticipates income from private funds of about $170,000 in FY 1976.

The Archives also has an important oral history program, begun in 1959, comprising today more than 1,400 transcripts of interviews with artists, dealers, collectors, and administrators. This program is subsidized by private funds, a part of them in the form of foundation grants generated by the Archives. Private funds are also used for the publication of the Archives of American Art Journal, a quarterly periodical based on and publicizing Archives resources.

JUSTIFICATION OF $22,000 INCREASE (Collections Acquisition) - The Washington, D.C. office of the Archives, which has served for six years as the chief processing (and most active) reference center, lacks an area director responsible for finding and acquiring collections in the lower-middle Atlantic region. The experience of the past few years indicates the existence of many important collections of papers in and around Washington as well as in Maryland, Delaware, Virginia, West Virginia, North Carolina, and even farther afield. These should be systematically sought out and acquired or filmed before they are lost or destroyed. The Archives therefore requests one position and $15,000 to engage a qualified staff member, thereby establishing the Washington office as a collecting center parallel to the regional offices in Boston, New York, Detroit, and San Francisco. A further $7,000 are required to provide more adequate travel funding in all regional areas (to locate collections, establish personal contacts with prospective donors, and to acquire and transport valuable materials) and to fund other office costs. Rent and communication costs have increased dramatically over the past two years. Some Archives offices, presently existing in rent-free museum space, are being requested to absorb some maintenance expenses. This, coupled with increased use and expansion of Archives offices, leads to rising costs.

COOPER-HEWITT MUSEUM OF DECORATIVE ARTS AND DESIGN

1975 Actual.....$209,000
1976 Estimate.....$276,000
1977 Estimate.....$359,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	15	4	19
11 Personnel Compensation.....	203	52	255
12 Personnel Benefits.....	18	5	23
21 Travel & Trans. of Persons...	2		2
22 Transportation of Things.....	1		1
23 Rent, Comm. & Utilities.....	39	14	53
24 Printing and Reproduction....	4		4
25 Other Services.....	2	2	4
26 Supplies and Materials.....	4	5	9
31 Equipment.....	3	5	8
TOTAL	276	83	359
Analysis of Increase			
Necessary Pay.....		11	
Other Uncontrollable.....		14	
Program Funds.....		58	

ABSTRACT - The Cooper-Hewitt Museum of Decorative Arts and Design is one of the world's most distinguished repositories of decorative arts and design. The collection currently numbers over 100,000 objects ranging from textiles, drawings, wallpaper, furniture, and jewelry to glass, ceramics, and silver. In FY 1977 an increase of 4 positions and $58,000 is sought for: (1) Conservation--a conservator ($18,000) to take care of the textile collections; and (2) Buildings Management--3 positions (a carpenter, groundskeeper, and laborer--$28,000) and $12,000 for program support for the Museum when opened to the public. An amount of $11,000 is sought for necessary pay for existing staff and an amount of $14,000 for utility rate increases; both are justified in the Uncontrollable Section (page A-5).

PROGRAM - The Cooper-Hewitt Museum in New York City is the only museum in the United States devoted exclusively to the study of historical and contemporary design. The collections currently span 3,000 years and include over 100,000 objects. Its textile collection is internationally known, its drawing collection is the largest in the United States, and its wallpaper collection is the largest in the world. In addition, the Museum contains fine examples of furniture, glass, ceramics, silver, metalwork, lighting fixtures, jewelry, and other decorative objects. In recent years, categories of architecture, urban planning, and industrial design have been added. The collection is supported by one of the finest and most complete decorative arts and design libraries in the country. The library encompasses a reference library, a rare book library (25,000 volumes), picture archives of over one and a half million items, and special archives on color and light, patterns, materials, symbols, sensory and technological data, interiors, advertising, design theses, and typography.

Renovation was begun in the summer of 1974 on the Andrew Carnegie Mansion--home of the Cooper-Hewitt Museum--at 91st Street and Fifth Avenue. Work is scheduled for completion early in 1976 at which time the Museum will install its collections, library, and exhibitions. In conjunction with the main exhibitions, the Museum is organizing satellite exhibitions in museums, libraries, and universities in New York--lending collections which are particularly suitable to those institutions.

In FY 1975, the Museum organized the first full-scale exhibition of Winslow Homer drawings, water colors, and paintings to appear in Europe. The Cooper-Hewitt participated in exhibitions at 20 museums and galleries. Its exhibition "Immovable Objects" invited visitors to view objects in Lower Manhattan--buildings, parks, street furniture, etc., either for their intrinsic architectural quality or for their effect on the design of the city. Catalogues were published to serve as guides to exhibits and as permanent references for research. The Museum accepted 886 gifts for the collections and over 39,000 items for the library.

As explained in the FY 1976 budget justification, the Smithsonian has adopted the principle that the program activities of the Cooper-Hewitt Museum should be operated with non-appropriated funds, and that appropriated funds should, insofar as possible, be limited to the protection and preservation of the collections and property. The FY 1977 budget request for an increase of $58,000 conforms to this principle.

JUSTIFICATION OF $58,000 INCREASE:

Conservation - The Museum has one of the great textile collections in the world, with approximately 30,000 examples ranging from a Chinese bonnet and mitts which are over 3,000 years old to very contemporary material. A textile conservation laboratory is being installed with private funds to provide facilities for cleaning, repairing, and studying these materials. A textile conservator is now requested to head the laboratory; someone who is trained in the field and who can work to preserve this important collection for future generations. One position and $18,000 are requested for this purpose.

Buildings Management - The current building renovation and opening exhibit plans (both financed with private funds) are scheduled to permit a public opening of the Museum in its Carnegie Mansion facilities this year. The attendant excitement and enthusiasm in New York and in the museum world will generate a large visitation and a resulting building maintenance workload in excess of that for which the Museum is currently budgeted. The FY 1976 appropriation increase which Congress granted for this purpose (four positions and $40,000) has gone far toward meeting the need. A further three positions and $40,000 will permit the Museum to handle its building management workload with an adequate staff and other object class funds. In total, this staff will have the responsibility for proper care of some 32,000 square feet of building space and 46,000 square feet of outdoor garden space. The requested funding will provide for a carpenter, a groundskeeper, and a laborer ($28,000) and $12,000 for the purchase of building and grounds maintenance supplies and materials.

OFFICE OF THE ASSISTANT SECRETARY FOR PUBLIC SERVICE

1975 Actual..... $192,000
1976 Estimate..... $191,000
1977 Estimate..... $205,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	8	0	8
11 Personnel Compensation.....	169	3	172
12 Personnel Benefits.....	15		15
21 Travel & Trans. of Persons...	4		4
25 Other Services.....		7	7
26 Supplies and Materials.....	2		2
31 Equipment.....	1	4	5
TOTAL	191	14	205
Analysis of Increase			
Necessary Pay.....		3	
Program Funds.....		11	

ABSTRACT - The Office of the Assistant Secretary for Public Service guides and supports the public service units in the development of programs to advance the Institution's objectives in education and information. A program increase in the amount of $11,000 is requested in FY 1977 to provide information services. Funds in the amount of $3,000 are sought for necessary pay for current staff.

PROGRAM - The primary functions of the Office of Public Service are to stimulate, coordinate, and supervise the steadily increasing activities of the Smithsonian's educational and public service components. These include the unique experimental efforts of the Anacostia Neighborhood Museum; the many-faceted work of the Division of Performing Arts in synthesizing and presenting to the American public across the Nation the historical and continuing development of the American aesthetic experience; the programs of the Office of Elementary and Secondary Education to make the Smithsonian's facilities and collections accessible and pertinent to visiting school children; the development of interdisciplinary symposia and seminars to enable leading scholars and specialists from the world community to examine themes of common concern conducted by the Office of Smithsonian Symposia and Seminars; and the dissemination of Smithsonian research and interests through the Smithsonian Press and the Smithsonian Magazine. Also included are the organization and conduct of meaningful adult and teenage educational presentations by the Smithsonian Resident Associates; the development and coordination of a program utilizing the services of volunteers to provide information to the public (in person, by phone, by mail) and administration of a placement service of volunteer assistants throughout the Institution by the Visitors Information and Associates Reception Center; and an active public affairs operation including television, film, and radio programming and audiovisual educational materials, dedicated to keeping Americans currently informed of the educational programs and exhibits available to them at or through the facilities of the Smithsonian Institution.

JUSTIFICATION OF $11,000 INCREASE (Education and Public Orientation) - In FY 1976 this Office has assumed direct responsibility for the Visitors Information and Associates Reception Center. In FY 1975, this Center used its small staff of three full-time and five part-time employees and a core of 500 dedicated volunteers to: reply to 167,000 telephone inquiries and 33,000 requests for information by mail; provide immediate information to more than 13,000,000 visitors; and perform a variety of clerical,

administrative, and professional duties throughout the Institution. During this period, volunteer services amounted to a total of 284,400 hours with estimated savings to the Institution of $2,220,000. While the major portion of support for the Reception Center is provided through private funding and volunteer services, a small amount of Federal funding can substantially enhance the orientation services offered to visitors. An increase of $11,000 in FY 1977 will be used for the production and update of visual aids, such as slide presentations, designed to acquaint visitors with the locations and offerings of Smithsonian museums and galleries. In addition, it would be used for the development and update of foreign-language tape systems to be installed at entrances to all the Mall museums.

ANACOSTIA NEIGHBORHOOD MUSEUM

1975 Actual.....$403,000
1976 Estimate.....$479,000
1977 Estimate.....$557,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	21	0	21
11 Personnel Compensation.....	298	49	347
12 Personnel Benefits.....	28	4	32
21 Travel & Trans. of Persons...	3		3
23 Rent, Comm. & Utilities.....	50	9	59
24 Printing and Reproduction....	28		28
25 Other Services.....	39	3	42
26 Supplies and Materials.....	27	13	40
31 Equipment.....	6		6
TOTAL	479	78	557
Analysis of Increase			
Necessary Pay.....		21	
Other Uncontrollable.....		9	
Program Funds.....		48	

ABSTRACT - One of the basic premises on which the Anacostia Neighborhood Museum was established was to provide the opportunity and the resource for a continuing museum experience for community groups and individuals who might not otherwise realize such an opportunity. Through a carefully researched educational program of exhibits and activities especially relevant to the community and its needs, Anacostia has become recognized as a center of black history and culture. Since its opening in September 1967, it has been visited by more than 500,000 people. The FY 1977 budget requires a further $48,000 to sustain the development of the minority training exhibits laboratory. Additional funding of $21,000 for necessary pay and $9,000 for utility rate increases are justified in the Uncontrollable Section (page A-5).

PROGRAM - The Anacostia Neighborhood Museum conducts a research program not only to support exhibits design and production but also, through its oral history program, to preserve the life styles and the cultural heritage of a community. Frequently the data resulting from staff research is published as catalogues to accompany exhibitions and as teacher aids. This program has resulted in the establishment of a bi-racial group, The Anacostia Historical Society, which through its volunteer efforts and community involvement, has made significant contributions to the oral history program as well as other research activities.

During the past year, substantial progress has been made in the completion and equipping of the exhibits laboratory to provide capability for the training of minorities in exhibits design and production and for the fabrication and maintenance of innovative, quality exhibits. A Bicentennial exhibition entitled "Black Woman" is under construction for installation at the Anacostia Museum with a traveling version being readied for circulation by the Smithsonian Institution Traveling Exhibition Service (SITES). Other exhibitions in various stages of production are "The Frederick Douglass Years" and "John Robinson Retrospective."

Anacostia's education department actively supports teachers and students through on-site and outreach programs and through these efforts has created a network of Anacostia teachers who now serve as liaison with the Museum. Teacher workshops and seminars are

conducted by the staff and work continues on the development of educational aids and materials. As a result of the cooperative efforts of the education staff, neighborhood teachers, and residents, Anacostia has published A Walk Through "Old" Anacostia, written especially for children, which serves as a guide for a walking tour of the historical area of Anacostia.

JUSTIFICATION OF $48,000 INCREASE (Education and Exhibitions) - With the completion of the exhibits laboratory, the Anacostia Neighborhood Museum will administer a program to train minorities in exhibits techniques including all aspects of design, production, installation, maintenance, and refurbishing. It will also have an equipped facility with the capability to design and produce better quality exhibits for the Museum and for other purposes. Following the conclusion of the Bicentennial Year with its emphasis on exhibitions for that purpose, Anacostia will resume its program of specialized exhibits which are pertinent to the Museum and its mission. It is anticipated that many of these exhibits will be duplicated in traveling versions for circulation by SITES. Two exhibits being planned are "Ancient Africa" and "King--At the Mountain Top." In addition, in order to meet the increasing outside interest generated in this new exhibit training/production concept, workshops and seminars will be conducted in the laboratory to inform museum officials and educators and to supplement the training programs of the Smithsonian and other museums. While the training program will emphasize on-the-job training in which the Anacostia exhibits staff will participate, personnel with specialized skills in exhibits techniques and lecturers with expertise on specific subjects will be required on an intermittent, part-time basis to supplement the small staff. For this purpose an increase in the amount of $35,000 is requested. An amount of $13,000 is requested to purchase supplies and materials for exhibits production.

INTERNATIONAL EXCHANGE SERVICE

1975 Actual.....$194,000
1976 Estimate.....$217,000
1977 Estimate.....$219,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	9	0	9
11 Personnel Compensation.....	117	2	119
12 Personnel Benefits.....	10		10
22 Transportation of Things.....	78		78
26 Supplies and Materials.....	11		11
31 Equipment.....	1		1
TOTAL	217	2	219
Analysis of Increase			
Necessary Pay.....		2	
Program Funds.....		0	

ABSTRACT - Through the International Exchange Service, public and private institutions in the United States exchange publications with organizations in other countries. This includes the exchange of official United States publications, including the daily issues of the Federal Register and the Congressional Record, and the weekly issues of the U.S. Patent Specifications, as well as private publications such as medical and dental texts. No program increase is sought for FY 1977. Funds in the amount of $2,000 are requested for necessary pay for existing staff.

PROGRAM - In 1849 the Smithsonian Institution established a system for the exchange of its publications with the learned societies of other countries. This program was so successful that later it was extended to other American organizations. The Exchange's responsibilities were formalized when the Brussels Convention of 1886 was adopted by the United States, and the Smithsonian Institution became the official exchange bureau in the United States for the international exchange of literary, scientific, and cultural publications. In addition, a Resolution to Provide for the Exchange of Certain Public Documents (14 Stat. 573, as amended) provides that the exchange of official United States publications shall be made through the Smithsonian Institution. In FY 1975, approximately 2.5 million publications were transmitted to over 100 countries for exchange documents. In addition to official United States publications, this outflow included publications from about 250 organizations representing every state in the Union. Approximately 100,000 packages were received from foreign institutions for distribution in the United States.

DIVISION OF PERFORMING ARTS

1975 Actual.....$482,000
1976 Estimate.....$411,000
1977 Estimate.....$447,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	11	0	11
11 Personnel Compensation.....	260	24	284
12 Personnel Benefits.....	22	1	23
21 Travel & Trans. of Persons...	18	1	19
22 Transportation of Things.....	2		2
23 Rent, Comm. & Utilities.....	10		10
24 Printing and Reproduction....	5	5	10
25 Other Services.....	76	4	80
26 Supplies and Materials.....	12		12
31 Equipment.....	6	1	7
TOTAL	411	36	447
Analysis of Increase			
Necessary Pay.....		10	
Program Funds.....		26	

ABSTRACT - The Division of Performing Arts (DPA) has primary responsibility for the production and presentation of live performance events of the Smithsonian Institution and its museums, with emphasis on programs that relate to and enhance museum collections and that deal with national aesthetic expressions.

The FY 1977 budget seeks a program increase of $26,000 for: (1) Research--$21,000 to support a program in the oral history of jazz in conjunction with the National Endowment for the Arts; and (2) Education--$5,000 to help meet printing costs. An amount of $10,000 is requested for necessary pay for current staff.

PROGRAM - DPA is the primary planning, producing, and supervising organization in the Smithsonian for all public performances. Its Federal appropriation provides for central administration and direction of these activities and funds for some program development. Most of the Division's activities are produced with other appropriated and non-appropriated funds. Upon the conclusion of the Bicentennial Festival of American Folklife, which will culminate ten years of the Festival experience, DPA will restructure its program, providing greater emphasis on those activities that most closely relate to the Division's mission.

With the advent of a National Associates program came a new opportunity to combine a touring performance program and a nationwide audience. The Division will be selecting and producing performance events, presenting them at Smithsonian facilities in Washington, then touring them to audiences around the country.

The 1975-1976 Winter Program's series of events at the Institution has been the most successful ever. Twenty thousand people will see and hear programs ranging from American Jazz to Burmese dancing--all events related to the Smithsonian and its collections. The Division's recording program, begun with the "Smithsonian Collection of Classic Jazz," is gathering momentum with four more releases of jazz, ragtime, and music from America's early history. Another release is scheduled to be available in the spring of 1976.

Renovations to the Arts and Industries Building necessitated the temporary closing of DPA's popular Puppet Theatre. With the reopening of the building in May 1976, DPA will again begin operations in the Theatre with a reconstruction of a play originally produced at America's Centennial celebration. Plans for 1977 call for a restructuring of the Puppet Theatre operation to include an entire program of events for children, to encourage them to visit the museums and to make their stay more exciting. The carousel and old-time popcorn wagons will continue operations. A major publication program is anticipated in the wake of the Bicentennial Festival, making information developed by the field program and the event itself available to the widest possible audience. This activity is augmented by DPA's education program which is developing teaching aids and other materials to help make the information more interesting and useful.

For ten years the Smithsonian has presented a Festival of American Folklife. The Bicentennial event--lasting for twelve weeks and involving a vast segment of the American people--cannot be continued. Fiscal and scholarly resources have been taxed to produce the very special Bicentennial program. Ethnic communities, regional groups, native American Indian tribes, and labor unions have--through their involvement with the Festival--rediscovered and become vitally interested in their traditional heritage.

The Smithsonian has sought ways to continue its service to the above-mentioned constituencies on a modest basis. Our plan is to continue research into folk cultural forms, the product of which benefits the community involved, and to present a series of "mini-festivals."

The "mini-festival" concept entails the production of a series of several short four- or five-day events spaced one month apart in the Mall area contiguous to the Institution's buildings, each of which would feature a major portion of the Bicentennial Festival--i.e., Old Ways in the New World, Memorial weekend; Native Americans, August 1; and Working Americans, Labor Day weekend. In this way, a smaller site with correspondingly less manpower, service, and other requirements provides an economical, yet satisfactory, frame for the presentations. Impact on the Division's resources is also reduced substantially.

By producing these "mini-festivals," the Institution continues a tradition of one of its most popular events, an event that is unique in the United States for its presentation of American folk traditions in an ordered, scholarly, and entertaining way, and at the same time provides summer-long activity for visitors and residents in the Washington area.

JUSTIFICATION OF $26,000 INCREASE (Research and Education) - Two years ago, DPA agreed with the National Endowment for the Arts to undertake a program to preserve the history of the development of jazz in America. Since most of the information exists only in the memories of musicians who participated in its development and since those musicians are becoming old, the country was in danger of losing a most valuable heritage. The Endowment in the past funded most of this program, but has requested that DPA assume a more active role in this regard. Funding ($21,000) is requested specifically to pay a temporary salary for a program coordinator and to fund payments for interviewers and musicians to record their recollections of the earliest days of jazz. Time is of the essence in this program. Much of the history is already lost to future generations and more will be lost each year. This funding will be used to augment that provided by the Endowment, enabling an acceleration of the program to an acceptable level. An increase in printing funds ($5,000) is also requested as essential to the preparation and making available of educational materials in support of this and other Division programs.

OFFICE OF PUBLIC AFFAIRS

1975 Actual.....$344,000
1976 Estimate.....$347,000
1977 Estimate.....$388,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	16	0	16
11 Personnel Compensation.....	261	11	272
12 Personnel Benefits.....	23	1	24
21 Travel & Trans. of Persons...	1		1
24 Printing and Reproduction....	53	15	68
25 Other Services.....	6	10	16
26 Supplies and Materials.....	2	3	5
31 Equipment.....	1	1	2
TOTAL	347	41	388
Analysis of Increase			
Necessary Pay.....		12	
Program Funds.....		29	

ABSTRACT - The Office of Public Affairs is responsible for the communication of information about the Smithsonian and its programs to the general public and specialized groups through various media--radio, television, newspapers, popular and scientific periodicals, press releases, documentary films, filmstrips, general information and visitor orientation pamphlets, and other items. In FY 1977 an amount of $29,000 is requested to cover the increased costs associated with the printing and distribution of informational publications. An additional amount of $12,000 is sought for necessary pay for current staff.

PROGRAM - The Office of Public Affairs serves millions of museum and gallery visitors annually as well as the general public through the communication of factual and educational data about the Smithsonian and its programs. A wide array of communications media is used: newspapers, wire services, popular and scholarly periodicals, radio and television, documentary films, recorded phone messages such as Dial-A-Museum and Dial-A-Phenomenon, and general information pamphlets and publications. Each year approximately 1.3 million brochures describing the Smithsonian's major attractions are printed in English, French, German, Japanese, and Spanish language versions and distributed without charge to visitor orientation centers, Congressional offices, and travel bureaus. Other informational publications include a calendar of Smithsonian-wide events; a staff newspaper, The Torch; and Research Reports, a quarterly publication which reviews significant current research of the Smithsonian's scientists.

In addition, this office responds to thousands of requests for interviews, research data, photographs, publications, and reference materials. Assistance often is rendered in the preparation of articles and graphics for school textbooks, encyclopedias, and special publications on subjects in which the Smithsonian has demonstrated a special competence. The Free Film Theater, a program offering documentary films to the public on a regularly scheduled basis, is also administered by this Office.

The still-developing medium of telecommunications has provided the Smithsonian Institution with a new potential for an even wider diffusion of knowledge about the Institution and its diverse programs and research. "Radio Smithsonian," aired weekly in the Washington, D.C. area, presents interviews with staff specialists, music based on the collections, and other topics of general interest. Pilot programs are now being

recorded for new radio features to be introduced in FY 1977. In the winter of 1974-1975, three successful television programs were shown on national television. Discussions are now underway regarding a new prime-time series focussing on the Smithsonian which would be broadcast on the public television network. It also is planned that educational films and filmstrips as well as visitor orientation programs will be developed in the years immediately ahead.

The Office of Public Affairs also administers the Office of Special Events, which assists with exhibition openings, seminars, meetings, and special activities held in Smithsonian facilities in Washington, D.C.

JUSTIFICATION OF $29,000 INCREASE (Education and Public Orientation) - Through its various publications, the Smithsonian seeks to disseminate to as wide an audience as possible information concerning significant current research, special performances, new exhibits, as well as information which will assist in visitor orientation and understanding. The cost of printing and distributing these publications has risen sharply in the last year. For example, the cost of printing one brochure is expected to increase this year from 3-1/2¢ to 5¢ for a total cost increase of almost $20,000.

Distribution costs, of course, continue to rise with each postage increase. A major concern of the Office of Public Affairs is the development and maintenance of improved, specialized mailing lists. The master Smithsonian mailing lists cannot be revised as often as is necessary, and consequently contribute to high distribution costs through duplications and outdated entries.

In FY 1977 an increase of $29,000 is requested for the following purposes: (1) $15,000 to assist in covering the rising costs of printing and reproduction; (2) $4,000 for necessary supplies, materials, and equipment; and (3) $10,000 to cover the increased costs of contracts for mailing services and to fund computer costs associated with updating the master mailing lists.

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SMITHSONIAN INSTITUTION PRESS

1975 Actual.....$586,000
1976 Estimate.....$643,000
1977 Estimate.....$679,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	27	1	28
11 Personnel Compensation.....	511	33	544
12 Personnel Benefits.....	46	3	49
21 Travel & Trans. of Persons...	2		2
23 Rent, Comm. & Utilities.....	3		3
24 Printing and Reproduction....	66		66
25 Other Services.....	6		6
26 Supplies and Materials.....	4		4
31 Equipment.....	5		5
TOTAL	643	36	679
Analysis of Increase			
Necessary Pay.....		19	
Program Funds.....		17	

ABSTRACT - The Smithsonian Institution Press is responsible for the editing, design, production, and distribution of printed material produced by historians, scientists, and curators. Included in this work are multi-volume monographs, 8 scientific series, exhibit catalogues for the several museums, education pamphlets, and information leaflets. An increase of $17,000 is requested to help fund 1 position for program planning. Necessary pay in the amount of $19,000 is also requested for existing staff.

PROGRAM - Press publication activity is a fundamental extension of the work of the Smithsonian's basic research laboratories. Necessary for ecological and agricultural advancement and other basic and applied studies by researchers, these reports are distributed to major libraries and scientific institutions in all 50 states and many foreign countries. The Press edits and designs manuscripts and issues contracts for the printing of exhibit catalogues, education pamphlets, and informative leaflets for the many millions of visitors to the Smithsonian each year, as well as for the growing number of outreach programs such as the Smithsonian Institution Traveling Exhibition Service, Division of Performing Arts, and Office of Elementary and Secondary Education programs which are increasingly serving to bring information on Smithsonian collections and research activities to communities and educational groups across the Nation.

The Press reviews each manuscript submission for editorial content and completeness, quality of typing, illustrations, etc. before acceptance. Inadequately prepared manuscripts (i.e., those that would be too costly to edit or manufacture) are not accepted for publication. Finally, the Press furnishes the Institution with a variety of necessary manuals, reports, and directories, including copies of Congressional materials and reports from Government agencies.

Press publications in FY 1975 included nine trade books, 16 art and exhibition catalogues, 84 booklets, pamphlets, and folders, plus 58 monographs published in the scientific and technical series. These publications received favorable critical review and the Press again received awards for editing and design.

JUSTIFICATION OF $17,000 INCREASE (Printing and Reproduction) - The number of offices and bureaus of the Smithsonian which rely on the Press for publishing services has grown

from 24 in 1966 to a total of 71 in 1976. This increase in the demand for Press services is a strong indicator of the Smithsonian's growing role in the diffusion of knowledge. These demands, however, have taxed the management, editorial, design, and fulfillment sections of the Press to the point that the current small staffs have difficulty keeping pace with program needs.

A recent careful study of the overall publishing needs of the Institution has resulted in a reorganization of the Press to utilize existing staff better and to provide a broader compass of service and control. A staff member at the deputy level is essential to the fulfillment of this reorganization plan. This person will be responsible for the following important duties not now adequately represented in the Press: long-range planning with the bureaus and offices to identify future publication needs and to program their implementation; development of orderly production practices; directing economic and effective arrangements for inventory control; directing and monitoring the performance of Press editing, design, and dissemination services to serve bureaus and offices more responsively; and other important assignments. The requested additional funding of $17,000 for this position will cover about one-half of the anticipated cost. The remaining cost will be available from the present base through savings achieved by filling vacancies at a lower grade level.

OFFICE OF THE ASSISTANT SECRETARY FOR MUSEUM PROGRAMS AND OFFICE OF MUSEUM PROGRAMS

1975 Actual.....$ 714,000
1976 Estimate.....$1,010,000
1977 Estimate.....$1,176,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	63	0	63
11 Personnel Compensation.....	744	38	782
12 Personnel Benefits.....	67	3	70
21 Travel & Trans. of Persons...	12		12
22 Transportation of Things.....	8		8
23 Rent, Comm. & Utilities.....	15		15
24 Printing and Reproduction....	12		12
25 Other Services.....	76	125	201
26 Supplies and Materials.....	36		36
31 Equipment.....	40		40
TOTAL	1,010	166	1,176
Analysis of Increase			
Necessary Pay.....		41	
Program Funds.....		125	

ABSTRACT - The Assistant Secretary for Museum Programs oversees, reviews, and supports the Institution's museum and exhibition activities, and assists and advises the Secretary on programs and special studies designed to improve those activities. This Office provides advice, technical assistance, and documentary resources to other museums, undertakes studies on the effectiveness of museums as learning environments and on visitor reaction to exhibits, develops training workshops for museum personnel, and disseminates technical information on museum practices and techniques. The Office also oversees the operations of the South Group Buildings Manager who is responsible for custodial maintenance of the Arts and Industries Building and the Smithsonian Institution Building.

An increase of $125,000 in program funds is requested to conduct a collections management study for the Institution, leading to preparation of a detailed plan for the most efficient and scientifically-sound program for registration, handling, preservation, care, storage and cataloguing of the Institution's collections, to be applied in existing museums on the Mall and in the proposed Museum Support Facility. No additional personnel are requested. Funding of $41,000 is required for necessary pay for existing staff.

PROGRAM - I. Assistant Secretary for Museum Programs: With 18 positions and $402,000 as base resources, the Office of the Assistant Secretary for Museum Programs administers, oversees, reviews, and supports the Office of Museum Programs, Office of the Registrar, Conservation-Analytical Laboratory, Office of Exhibits Central, Smithsonian Institution Libraries, Smithsonian Institution Archives, National Museum Act, Smithsonian Institution Traveling Exhibition Service, and South Group Buildings Manager. The Office cooperates with museum professionals and museum organizations, nationally and abroad, to improve the effectiveness of museums in the performance of scholarly and public educational functions. The Office is responsible, through coordination of these and related functions, for the development of improved programs related to training in museology and museography and for development of new techniques in museum administration and practice.

This Office maintains and directly oversees three major and closely related programs responsible for training museum personnel, dissemination of technical museum information, and investigation of museum exhibits and operations and their relationships to the museum audience.

The Museum Workshop Program offers workshops, seminars, and training courses to any individual gainfully employed by a museum. Workshops are taught primarily by Smithsonian staff and each is devoted to a specific museum method or problem. In FY 1975, 13 seminars, with 240 participants, were offered. For FY 1976, the number of seminars will be increased to 16 and the number of participants to approximately 260. Seminar topics will include exhibits design, label writing, museum lighting, training museum docents, museum photography, insurance, museum classes, crafts, seminars, and others. A special training program with emphasis on the proper methods of care of ethnographic collections will be prepared for the Native American community in cooperation with the National Museum of Natural History. For FY 1977 the number of seminars will be increased to 24 and will involve an estimated 360 participants. Course content will include museum bylaws, conservation through preventive care of collections, museum-school relationships, development and maintenance of collections, museum publications and public information programs, and others.

The Conservation Information Program engages in research, writes, and produces in cooperation with other Smithsonian units audiovisual informational programs, in the form of videotapes and slide-audiocassettes, on museum practices and techniques, with emphasis on museum conservation, for free loan to other museums, organizations, and individuals. In FY 1975, three new programs were produced, dealing with the care and exhibition of textiles and the mending of pottery, bringing to seven the total number available for distribution. A brochure describing the series was sent to museums throughout the country. A total of 129 organizations booked the programs for approximately 650 individual showings. During the same fiscal year, the unit completed videotaping for distribution the series of 80 lectures prepared by the Conservation-Analytical Laboratory on the chemical and physical principles involved in museum conservation. In FY 1976, five new slide programs will be completed covering prevention of damage to objects on exhibition, handling of furniture, handling of ethnological objects, methods of packing museum objects, and mending tears in paper. For FY 1977, seven additional slide-audiocassette informational programs are scheduled for production, and a new series of specialized videotapes on conservation and related topics will be prepared. Subjects will include the conservation aspects of exhibit case design, museum lighting techniques, museum storage methods, and use of proper methods and materials for applying catalogue numbers to museum objects.

The Psychological Studies Program examines the effectiveness of exhibits and visitor reaction to them. Studies include basic research on various exhibition techniques, labeling, floor plans, audiovisual and visitor-response devices; on the problems of visitor orientation, including directional and informational signage and related devices; and on various methods of deploying docent and security forces in museum galleries. In FY 1975, staff completed Part I of a major study for the National Museum of Natural History, completed a study on visitor orientation for the National Museum of History and Technology, and updated and edited an annotated bibliography on studies of museum visitor behavior. In FY 1976, the second portion of the Museum of Natural History report was completed. Evaluations of programs also were undertaken for the Hirshhorn Museum, the Discovery Room of the National Museum of Natural History, and educational activities at the National Collection of Fine Arts. In FY 1977, major psychological studies will be initiated in cooperation with several major museum bureaus of the Institution.

II. South Group Buildings Manager: With 45 positions and $608,000 as base resources, the South Group Buildings Manager's office plans and supervises cleaning, maintenance, and servicing for staff offices and work areas, and for the public exhibition areas, of the Smithsonian Institution Building and the Arts and Industries Building. This involves

daily cleaning of all office, exhibition, laboratory, and public facility areas; provision of moving services for building occupants; preparing and setting up areas for special events, including lectures, temporary exhibitions, meetings, and seminars; and transportation of objects, materials, and equipment as required. Services must be provided on a seven-day per week basis. The reopened Arts and Industries Building will be in operation permanently as a major public museum.

JUSTIFICATION OF $125,000 INCREASE (Collections Management) - The Institution's collections have continued to grow in size, scope, and diversity. Authorization has been given to plan a Museum Support Facility off the Mall to contain specialized storage, laboratory, research, and collections processing areas. A museum collections management study is required to draw together comprehensive information on current Institutional philosophy, policy, practice, and procedure regarding collection acquisition and disposal, storage, documentation, and retention (and other matters affecting space utilization and requirements, such as the availability and accessibility of collections for research and reference). The study will present recommendations as needed for improvements in these areas consistent with sound museum practices. All Smithsonian collections (except those of the National Zoological Park) will be considered with due regard for differing practices required by varying subject matters in the fields of art, history, and science collections. The study will provide useful information pertinent to the proposed Museum Support Facility and will serve as a general guide for effective and economical management of collection resources. The study will extend and accelerate efforts already in progress to assemble facts about the growth of collections and the options for managing the acquisition and disposal of collections consistent with their purpose. The requested increase of $125,000 will permit the Institution to retain consultants to work with staff to update, revise, and improve existing collections management systems to assure the most efficient and scientifically sound methods for controlling the growth of collections and for inventorying and disposing of unnecessary material.

OFFICE OF THE REGISTRAR

1975 Actual.....$221,000
1976 Estimate.....$220,000
1977 Estimate.....$227,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	16	0	16
11 Personnel Compensation.....	179	6	185
12 Personnel Benefits.....	16	1	17
21 Travel & Trans. of Persons...	1		1
23 Rent, Comm. & Utilities.....	2		2
24 Printing and Reproduction....	2		2
25 Other Supplies.....	6		6
26 Supplies and Materials.....	10		10
31 Equipment.....	4		4
TOTAL	220	7	227
Analysis of Increase			
Necessary Pay.....		7	
Program Funds.....		0	

ABSTRACT - Since the 1880's, the Office of the Registrar has provided centralized registration services for the natural history and history and technology collections. Through the years centralized support of these collections has become inadequate and antiquated; and, moreover, critical areas of collections management have not even been addressed. Registration at the Smithsonian is now undergoing decentralization and modernization. This office is providing guidance for the decentralization process and will provide continuing assistance to all bureaus in modernization of registration systems. No program increase is sought for FY 1977. Necessary pay in the amount of $7,000 is sought for existing staff.

PROGRAM - Since FY 1974 registration at the Smithsonian has been undergoing decentralization, modernization, and rationalization. Decentralization is aimed at giving each museum or gallery its own registration capability, a necessity for effective record keeping and control in view of the diversity of collections and activities of these bureaus. Services to the National Museum of Natural History (NMNH) and the National Museum of History and Technology (NMHT) have been separately identified, and decentralization of staff resources to these two museums should be completed some time in FY 1977 when space and facilities have been fully secured. The Office of the Registrar is providing guidance for this decentralization.

Modernization includes the streamlining of manual systems for control of the National Collections and computer applications where useful and efficient. After decentralization has been completed, a small central registrar's office will be retained to provide continuing assistance to bureaus in modernization of their systems, and, most important, to guide development of a Smithsonian-wide information system for effective intellectual integration of the National Collections. Rationalization, now complete, included removal of such extraneous functions as mail service and public inquiry from the Office of the Registrar to more appropriate Smithsonian units.

From a total FY 1976 budget of $220,000, $101,000 is projected for operation of the central office, and the balance will be made available for registration/shipping functions at the NMNH and NMHT. While it is anticipated that decentralization will be completed by FY 1977, modernization of registration systems and the creation of effective information systems are ongoing projects. The result of these programs will be improved physical and intellectual control over specimens and museum objects by the bureaus and vastly improved information systems at the Institutional level.

CONSERVATION-ANALYTICAL LABORATORY

1975 Actual.....$534,000
1976 Estimate.....$619,000
1977 Estimate.....$638,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	23	0	23
11 Personnel Compensation.....	364	17	381
12 Personnel Benefits.....	33	2	35
21 Travel & Trans. of Persons...	13		13
23 Rent, Comm. & Utilities.....	1		1
25 Other Services.....	77		77
26 Supplies and Materials.....	41		41
31 Equipment.....	90		90
TOTAL	619	19	638
Analysis of Increase			
Necessary Pay.....		19	
Program Funds.....		0	

ABSTRACT - Advising and assisting museums in preserving the National Collections is the primary responsibility of the Conservation-Analytical Laboratory (CAL). It advises on the suitability of buildings' environmental conditions for objects displayed or stored. It examines and advises upon or treats objects for their protection and preservation; analyzes objects for basic research data of interest to curators, scientists, and historians; and conducts training programs in association with the Office of Museum Programs. No program increase is sought for FY 1977. Necessary pay in the amount of $19,000 is required for existing staff.

PROGRAM - The CAL was established in 1963 to serve the museums of the Smithsonian Institution. Staffed by conservators and scientists, it ascertains and advises on the suitability, for artifacts displayed or in storage, of environmental conditions found in the buildings and suggests remedial action if necessary. Based upon examination or analysis, advice is given to curatorial units on conservation procedures for specific objects. Objects which cannot be treated locally, which present special problems, or require more specialized equipment than is available in these units are treated in this central laboratory.

Analyses of objects or their materials (e.g., pigments, fibers, alloys, or corrosion products) by advanced instrumentation serve to determine appropriate conservation procedures or to provide museum archeologists and historians with basic research data concerned with dates, attribution, and ancient production methods. Commercial products proposed for prolonged contact with artifacts (or fumigants used in storage) are examined for suitability.

The Laboratory's data processing system, which provides on-line access to the Office of Computer Services facilities, continues to support conservators through more efficient use of CAL reports. In addition, technical information on conservation practices in the form of video-taped programs and tape-slide lectures is prepared and made available to Smithsonian staff.

Progress in conservation during the past year has been multi-faceted. Despite the disruption caused by reconstruction of the Laboratory, 468 objects or samples were analyzed and treated. A joint project with the Brookhaven National Laboratory has resolved a long-standing analytical difficulty in radioactive dating from small samples. X-radiographic equipment has been installed and is now fully operational. The x-ray fluorescence equipment has been modified to give better service.

SMITHSONIAN INSTITUTION LIBRARIES

1975 Actual.....$1,564,000
1976 Estimate.....$1,804,000
1977 Estimate.....$2,026,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	90	5	95
11 Personnel Compensation.....	1,165	112	1,277
12 Personnel Benefits.....	105	10	115
21 Travel & Trans. of Persons...	11	1	12
22 Transportation of Things.....	2		2
23 Rent, Comm. & Utilities.....	25	2	27
24 Printing and Reproduction....	65	31	96
25 Other Services.....	70	13	83
26 Supplies and Materials.....	159	8	167
31 Equipment.....	202	45	247
TOTAL	1,804	222	2,026
Analysis of Increase			
Necessary Pay.....		72	
Program Funds.....		150	

ABSTRACT - The Smithsonian Institution Libraries provides library and information services to support research, exhibits, public service, and education programs. In FY 1977 an increase of 5 positions and $150,000 is requested to meet the following needs: (1) to acquire necessary library materials (1 position and $55,000); (2) to increase the application of automation to the cataloguing systems ($25,000); (3) to conserve valuable books (2 positions and $50,000); and (4) to augment on-site services to users (2 positions and $20,000). An amount of $72,000 is needed for necessary pay for current staff.

PROGRAM - The Smithsonian Institution Libraries is a decentralized service delivery system made up of 13 bureau libraries and many departmental library locations. This decentralized system is supported by centralized reference and circulation, acquisitions, cataloguing, conservation, and administrative services.

The Libraries' collections have achieved national significance in natural history, American ethnology, and history of science, American technology and culture, including the Dibner Collection of rare materials in the history of science and technology.

In recent years the Libraries has increased support of all library activity in the Institution. The Libraries has added staff to service locations, has augmented bureau and departmental book and binding funds, and has assumed full responsibility for library staffing for such bureaus as the National Air and Space Museum, the Smithsonian Tropical Research Institute, and Cooper-Hewitt. It is the goal of the Libraries to provide effective library service with the least duplication of resources and effort. For this reason, the Libraries maintains close communication with bureaus such as the National Collection of Fine Arts, the National Portrait Gallery, Hirshhorn, and Freer which have responsibility for the development of their own library operations. These bureaus fund their library operations to varying degrees, but the Smithsonian Institution Libraries provides general reference and circulation service, technical support, administrative advice, and assistance in funding the purchases and binding of library materials for some of these bureaus.

JUSTIFICATION OF $150,000 INCREASE (Libraries):

Acquisitions - The development of library collections was rated by users as their most important priority in a recent user survey. Improving the timeliness of the acquisition process was rated as the second most important priority.

Increased funding in FY 1975 enabled the Libraries to improve the timeliness of the acquisition process by allotting book and journal funds throughout the year rather than relying, as in the past , primarily upon funds that might be available at the end of the year after meeting other essential expenses. This procedure of acquiring library materials at a relatively consistent rate throughout the year will be continued in FY 1976. In order to maintain the timeliness of the acquisition process in FY 1977, one library technician ($10,000) is requested.

Inflation, although not as severe as in 1974, continued in FY 1975 at a rate of 9.4 percent for monographs and 12.0 percent for serials, thereby eroding the Libraries' ability to make significant gains in collection development. Increased funding in FY 1976 will not be sufficient to catch up with the severe inflation of FY 1974-1975, although some progress will be made especially if the projected inflation rate of 7.0 percent is accurate. An increase of $45,000 for the purchase of library materials in FY 1977 will continue to restore purchasing power to enable the Libraries to meet priority needs.

Cataloguing Systems - FY 1975 was the first complete year in which an on-line computerized cataloguing system was in operation for monographs. The Libraries used the Ohio College Library Center's (OCLC) growing data base, which now consists of about two million records contributed by more than 500 member libraries, to produce in FY 1975 almost 86,000 catalogue cards tailored to fit the specifications of the Libraries. Materials searched for bibliographic information increased 46 percent from FY 1974 to FY 1975. Materials completely catalogued increased 12 percent in the same period. In FY 1976 fuller application of the OCLC system is planned. The Libraries also plans to complete the cataloguing of the National Air and Space Museum library collection for the Bicentennial opening of that museum.

A $25,000 increase is requested in FY 1977 to continue to utilize fully the growing capabilities of the computerized cataloguing system for monographs and to begin the major conversion of the Libraries' serial record to machine-readable form. The goals are to improve the timeliness of the operation, eliminate backlogs, and begin to generate products which will assist librarians and users in the retrieval and control of materials.

Conservation - The conservation of library materials has received little funding in the past, and many valuable and irreplaceable works are seriously deteriorating. The Libraries has been able to bind commercially less than half of its currently received serials. FY 1975 expenditures increased from $39,000 to $50,000, but because of a 32 percent increase in costs per volume charged by commercial binders, the Libraries was able to bind 243 fewer volumes in FY 1975 than in FY 1974. Funding increases in FY 1976 may not be sufficient to enable the Libraries to keep pace with inflation in commercial binding rates projected at 7.5 percent. An increase of $50,000 and two positions is requested in FY 1977. Of this amount, $30,000 will restore some purchasing power for commercial binding and one library technician ($10,000) will improve the efficiency of this operation. If inflation permits, the FY 1977 increase also will enable the Libraries to initiate such activities as inhouse restoration, handwork, minor repairs and pamphlet work, and a pilot preservation project for brittle paper. One further technician ($10,000) is requested to assist in these activities.

User Services - In FY 1975 the Libraries' major priority was to place new staff in service locations--all of which were understaffed and some of which were not staffed at all. Thirteen new positions were assigned to on-site service locations in FY 1975. The initital success of this effort was demonstrated in the recently completed user

study: more than half of the users report that they frequently seek staff assistance and 80 percent rate the quality of assistance received as excellent. More than 36,000 reference questions were answered by library staff in 1975, 33 percent more than FY 1973. No further staff can be added to service locations in FY 1976.

An increase of two technicians ($20,000) is requested in FY 1977 to enable the Libraries to extend this successful program to other users. The addition of one position will increase the staffing to one man-year each at the Radiation Biology Laboratory and the National Zoological Park and will initiate part-time service at the Chesapeake Bay Center for Environmental Studies. The addition of the other position will extend on-site service to two major library locations in the Museum of Natural History--Mollusks and Mineral Sciences--which presently receive none, and will increase to one man-year staffing of the major anthropological collection in that museum.

OFFICE OF EXHIBITS CENTRAL

1975 Actual.....$ 936,000
1976 Estimate.....$1,046,000
1977 Estimate.....$1,080,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	50	0	50
11 Personnel Compensation.....	843	31	874
12 Personnel Benefits.....	76	3	79
21 Travel & Trans. of Persons...	6		6
22 Transportation of Things.....	1		1
23 Rent, Comm. & Utilities.....	6		6
24 Printing and Reproduction....	13		13
25 Other Services.....	24		24
26 Supplies and Materials.....	58		58
31 Equipment.....	19		19
TOTAL	1,046	34	1,080
Analysis of Increase			
Necessary Pay.....		34	
Program Funds.....		0	

ABSTRACT - The Office of Exhibits Central (OEC), working in close collaboration with museum scientists, curators, and historians, prepares exhibits and related products for those museums, programs, and other offices not having their own inhouse capabilities. OEC also provides specialized exhibit assistance to other bureaus and offices. No program increase is requested for FY 1977. Necessary pay in the amount of $34,000 is sought for existing staff.

PROGRAM - The Office of Exhibits Central provides design, production, installation, and maintenance services to those museums, programs, and other offices of the Institution not having their own inhouse capabilities for this work and provides specialized assistance to other museums whose programs do not require or allow full-time staffing and/or establishment of certain shop facilities. Consultation as well as job performance is available in the following specialized areas: label editorial services, exhibition lighting, exhibit motion picture production, audiovisual presentations, freeze-dry taxidermy, and the services of models, plastics, and restoration laboratories (specializing in fluid, thermo-setting, and reinforced plastics used in museum applications).

In coordination with the Office of Museum Programs, OEC also provides training in exhibition media and techniques and is developing programs to research, design, develop, evaluate, and communicate new exhibition techniques, systems, and procedures of value to the museum community.

During the first half of FY 1976, the OEC completed 81 exhibit-related projects for 20 separate Smithsonian "clients" and provided consultant services to ten museums outside the Institution. At the same time, 75 projects--long- and short-term--remained active on OEC schedules. Major OEC effort in the past 18 months has been devoted to providing assistance and/or full-program performance for the following exhibitions and activities: a special exhibit of Japanese art in the Smithsonian Institution Building designed to coincide with the visit of the Emperor; over 90 projects for the Traveling Exhibition Service; the Bicentennial exhibits, "City with a Plan" and "1876"; an Anacostia Neighborhood Museum exhibit, "Blacks in the West"; a motion picture and other exhibition support for the 1975 Festival of American Folklife; and a traveling exhibit for the National Associates, "American Archives of Art." Assistance in model making, plastics, restoration, and exhibition lighting was provided the Museum of Natural History exhibit staff in the production of "Our Changing Land" and "A Continent and Its Culture" and the Museum of History and Technology exhibit staff in "San Antonio Sculpture" and "We the People."

SMITHSONIAN INSTITUTION TRAVELING EXHIBITION SERVICE

1975 Actual.....$105,000
1976 Estimate.....$ 99,000
1977 Estimate.....$102,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	6	0	6
11 Personnel Compensation.....	66	3	69
12 Personnel Benefits.....	6		6
21 Travel & Trans. of Persons...	3		3
22 Transportation of Things.....	3		3
25 Other Services.....	18		18
26 Supplies.....	3		3
TOTAL	99	3	102
Analysis of Increase			
Necessary Pay.....		3	
Program Funds.....		0	

ABSTRACT - The Smithsonian Institution Traveling Exhibition Service (SITES) provides carefully selected, well-designed, and widely circulated traveling exhibits covering a diversified range in the fields of art, design, science, technology, history, and education. These exhibits include Smithsonian exhibits and those organized and lent by numerous Government agencies and individuals and organizations throughout the world. No program increase is sought for FY 1977. Necessary pay for existing staff in the amount of $3,000 is requested.

PROGRAM - SITES, in continuous operation for 24 years, is the only nationwide organization circulating exhibitions of an interdisciplinary curriculum serving specialized and general museums, galleries, and educational and cultural organizations throughout the nation. It is the sole official agency of the United States to circulate official exhibitions from abroad. Supplementing the SITES operating budget for FY 1976 will be an estimated $289,000 from rental fees; $227,000 of special purpose gifts, grants, and contracts; and $486,000 of Smithsonian Bicentennial program funds.

Approximately 6.4 million people view SITES exhibitions annually (upwards of 800 installations viewed by an average of 8,000 each). The Federal appropriations for this activity have enabled exhibition rental fees to be kept lower than would otherwise be possible. In FY 1976 continued progress in maintaining low rental fees is projected. Using $200 as a measure of exhibition accessibility, the following pattern emerges:

Number of Exhibitions that rent for $200 and less	Fiscal Year	Number of Exhibitions that rent for more than $200
29	FY 1973	72
52	FY 1974*	52
68	FY 1975	49
107	FY 1976	70

* The first year of Federal support for SITES.

Bicentennial exhibitions and program planning have dominated program activity during FY 1976. There are two types of Bicentennial exhibition: (1) those that contain original objects, and (2) panel shows. Exhibitions with original objects are composed of objects borrowed for tour from the Smithsonian, other United States lenders, and from collections in other countries. Panel exhibitions are of two types: (1) those that stand alone--without the addition of artifacts, and (2) the so-called "information core" exhibitions--shows that prompt exhibiting institutions to add objects from collections in their area, thus providing a conceptual framework which can be fleshed out from local resources. Information core exhibitions are a new demension in the travel of shows. They save transportation costs and begin a new era of cooperation between the Smithsonian and museums throughout the United States.

As SITES moves into the post-celebration period, it finds a continuing need for exhibitions on our nation's history. The Bicentennial has provided the stimulus to hundreds of organizations to avail themselves of the resources represented by traveling exhibitions. SITES will continue to serve this need while relying heavily on its non-federal operating budget.

The international Bicentennial program begun with American Revolution Bicentennial Administration (ARBA) assistance will enable SITES to host for the United States large exhibitions of foreign origin. Tours of 25 shows will begin in 1976 and early 1977. In negotiation are 15 additional shows. The international program will be continued after the ARBA support is no longer available through the application of substantially increased rental fees.

As of January 9, 1976, SITES has the following bookings:

Alabama	13	Kentucky	5	North Dakota	4
Alaska	3	Louisiana	6	Ohio	26
Arizona	4	Maine	5	Oklahoma	7
Arkansas	6	Maryland	22	Oregon	16
California	85	Massachusetts	21	Pennsylvania	30
Colorado	19	Michigan	34	Rhode Island	3
Connecticut	11	Minnesota	15	South Carolina	9
Delaware	4	Mississippi	10	South Dakota	3
District of Columbia	9	Missouri	16	Tennessee	27
Florida	21	Montana	2	Texas	53
Georgia	6	Nebraska	1	Utah	1
Hawaii	2	Nevada	2	Vermont	0
Idaho	1	New Hampshire	4	Virginia	15
Illinois	36	New Jersey	19	Washington	13
Indiana	22	New Mexico	3	West Virginia	11
Iowa	12	New York	64	Wisconsin	41
Kansas	34	North Carolina	8	Wyoming	3

Partial Listing of Exhibitions Beginning Tours During 1976

Based on Smithsonian Collections

The Men and Machines of American Journalism (6 copies)
American Prints from Wood
American Art in the Making
Romaine Brooks
Mr. Audubon and Mr. Bien
The Dye is Now Cast (6 copies)
WPA/FAP Printmaking
Jack Tar: American Merchant Seafarers (3 copies)
Bridges: The Spans of North America
Tropical Blossoms
Floorcoverings
American Presidential China

Based on Other Sources

Contemporary Crafts of the Americas
Danish Expressions in Textile
Finnish Icons
Swiss Toys
Edvard Munch
Argentine Silver
Epstein Sculpture
The American Eagle: Symbol for Survival (3 copies)
Dream of America
Antarctica: Two Views

SMITHSONIAN ARCHIVES

1975 Actual.....$180,000
1976 Estimate.....$196,000
1977 Estimate.....$209,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	11	1	12
11 Personnel Compensation.....	171	12	183
12 Personnel Benefits.....	14	1	15
21 Travel & Trans. of Persons...	2		2
25 Other Services.....	6		6
26 Supplies and Materials.....	2		2
31 Equipment.....	1		1
TOTAL	196	13	209
Analysis of Increase			
Necessary Pay.....		6	
Program Funds.....		7	

ABSTRACT - The Smithsonian Archives is the official memory of the Institution and a valuable research resource for scholars working in the history of American science and in the history of the cultural institutions which are under Smithsonian care. The Archives currently has control over six million documents and is developing intellectual control over several million additional documents held in research and curatorial areas.

The FY 1977 budget request proposes a program increase of 1 position and $7,000 to provide additional clerical assistance for the preserving and servicing of archival records. An amount of $6,000 is sought for necessary pay for existing staff.

PROGRAM - The Smithsonian Institution holds a unique collection of museum objects and archives for research and exhibition. Natural history specimens, art objects, and other collections are interpreted by archival documentation which supplements and explains them. Archival records of the Smithsonian's activities also attract historians and other scholars interested in science and art in the nation's capital from the 1830's to the present. Some six million documents are now in the central archives, while approximately ten million more under the care of the Archives remain spread throughout the Institution.

The Smithsonian Archives strives to achieve intellectual control over the vast and dispersed archival resources of the Institution amounting to several million documents. In calendar year 1975, the Smithsonian Archives completed records surveys of the National Collection of Fine Arts and the National Portrait Gallery and began a records survey of the Office of the Treasurer. Systematic records retention schedules are being implemented for these bureaus. Microfilming of the Institution's main accession file continued. Additions to the Archives totalled almost two million documents, including records of the divisions of reptiles, mammals, and crustacea, National Museum of Natural History; records of the Smithsonian Astrophysical Observatory; and the papers of Charles G. Abbot, fifth Secretary of the Institution; and the Society of Systematic Zoology, among others.

A major effort in FY 1976 will be concentrated in the National Museum of Natural History, where a backlog of records, amounting to some 6,000,000 items, requires attention. It is anticipated that a guide to these records will be published in FY 1977 or FY 1978.

JUSTIFICATION OF $7,000 INCREASE (Collections Management)- One position and $7,000 are requested to assist the Archives in its new responsibilities for registration records. The accession files of the United States National Museum, 1846-1958, are being transferred from the central registrar's office to the Smithsonian Archives. Consisting of some 400,000 documents, these records are invaluable for specimen documentation and other historical research. A program for microfilming these records is expected to continue for approximately seven years. The Archives needs clerical assistance to preserve and service these records. This position will also be available as required to assist in the entire range of activities of the Archives, including microfilming, preparation of finding aids, and the oral history program.

NATIONAL MUSEUM ACT

1975 Actual.....$802,000
1976 Estimate.....$769,000
1977 Estimate.....$807,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	3	0	3
11 Personnel Compensation.....	37	1	38
12 Personnel Benefits.....	3		3
21 Travel & Trans. of Persons...	14		14
23 Rent, Comm. & Utilities.....	1		1
24 Printing and Reproduction....	4		4
25 Other Services.....	5		5
26 Supplies and Materials.....	1		1
31 Equipment.....	1		1
41 Grants.....	703	37	740
TOTAL	769	38	807
Analysis of Increase			
Necessary Pay.....		1	
Program Funds.....		37	

ABSTRACT - The National Museum Act is a technical assistance program granting funds for specific proposals which advance the museum profession at large through training, research, publication, or professional assistance. Through these programs, museum personnel have the opportunity to receive training which was not available previously; and a number of important studies, many related to museum conservation, have been undertaken. For FY 1977, an additional $37,000 are requested for the grants program and $1,000 necessary pay for the administering staff.

PROGRAM - Public Law 93-345, approved July 12, 1974, reauthorized appropriations for the National Museum Act through FY 1977 and funding of $1,000,000 to the Smithsonian Institution each year. Particular concern is expressed in the legislation for the needs of museum conservation through training, research, and coordination.

Funds appropriated to the Smithsonian Institution for the implementation of the National Museum Act are made available, through grants and contracts, to museums, professional associations, and universities. Such funding is determined by the National Museum Act Advisory Council appointed for this purpose by the Smithsonian Institution. The membership of the Advisory Council encompasses the principal museum disciplines--art, science, and history--and is broadly representative of all regions of the United States. The Council advises and assists the Secretary in determining priorities and assessing the quality of programs seeking support under the Act. Only programs which demonstrate to the Advisory Council careful structure and sound administration receive support. The major aim of the National Museum Act is to provide opportunities for professional enhancement and research which can be demonstrated to be of usefulness to museums.

In FY 1975, 149 applications for support were received and reviewed, and 56 grants, totaling $752,000, were made. Of these, 13, for a total of $213,000, applied to conservation projects.

In FY 1976, 160 applications have been received; 80 of these were reviewed at the November 1975 Advisory Council Meeting, and 28 grants totaling $357,000 were awarded. Six grants were given for seminar workshop activities, six for conservation studies,

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four for advanced academic degree work, six for museum internship programs, and six for graduate/professional museum education and training. These grants were distributed among ten individuals, eight museums, six educational institutions, and four professional museum organizations. The remaining 80 applications, which cover travel/study and professional exchange programs, professional assistance, and special studies and research, will be reviewed in March 1976.

The staffs of the National Museum Act and the Office of Museum Programs work closely with individuals, museums, educational institutions, and professional organizations involved in the training and research activities. Continuous liaison is maintained with the National Conservation Advisory Council (NCAC), funded by the Act, whose aim is to assess the nation's needs in conservation training, research, facilities, and the requirements that could be served by the creation of regional conservation centers. Under support provided in FY 1975, the NCAC studied thoroughly all issues related to a national institute for museum conservation in addition to other aspects of conservation activity and has begun preparation of reports containing findings and recommendations.

JUSTIFICATION OF $37,000 INCREASE (Other Services) - A program increase of $37,000 will enable additional grants to be made for projects in keeping with the purposes of the Act and thus extend the benefits of this important program to a larger number of museum personnel. Many worthy projects must be turned down at each review session of the Advisory Council for lack of funds.

SMITHSONIAN INSTITUTION SPECIAL PROGRAMS

These special programs make use of total Institutional resources, including staff research competence, collections, and space for exhibits, to produce outstanding scholarship, exhibits and other presentations, and additional opportunities for public education. These special programs include:

--The American Revolution Bicentennial Program will conclude the Institution's efforts to celebrate and portray "The American Experience," the first two-hundred years of American history and what they may mean for the future.

--The International Environmental Science Program is designed to shed light on complex biological processes that need to be better understood before solutions to national ecological programs can be determined.

--The Major Exhibition Program funds the design and production of exhibits of unusual national significance and timeliness.

--The Academic and Educational Programs offices conduct interdisciplinary seminar series, coordinate educational programs for students at the elementary and secondary school level, and provide opportunities for outstanding pre- and post-doctoral investigators from across the Nation to work under the supervision of the Institution's professional staff.

--The Research Awards Program enables the Institution to fund especially meritorious studies through a competitive selection process.

Full descriptions of these programs appear in the following sections of this budget.

AMERICAN REVOLUTION BICENTENNIAL PROGRAM

1975 Actual..... $3,855,000
1976 Estimate..... $4,284,000
1977 Estimate..... $ 417,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	2	0	2
11 Personnel Compensation.....	1,075	-840	235
12 Personnel Benefits.....	90	-66	24
21 Travel & Trans. of Persons...	199	-197	2
22 Transportation of Things.....	103	-63	40
23 Rent, Comm. & Utilities.....	76	-76	
24 Printing and Reproduction....	614	-586	28
25 Other Services.....	1,686	-1,637	49
26 Supplies and Materials.....	283	-259	24
31 Equipment.....	150	-136	14
42 Insurance Claims & Indemn....	8	-7	1
TOTAL	4,284	-3,867	417
Analysis of Increase			
Necessary Pay.....		0	
Program Funds.....		-3,867	

ABSTRACT - The Smithsonian Institution is now in the midst of its Bicentennial program, The American Experience. By July 4, 1976, 17 of its 23 major projects will have been completed with 2 more taking place in September 1976 and the remaining 4, 3 publications and a symposium, during 1977. Of the 23 projects, 19 have received special Bicentennial appropriation. These plus the other 4 and the additional supporting events scheduled in each of the museums make up a total of some 60 special Smithsonian exhibitions and programs during the Bicentennial period. Final funding of $417,000 is sought in FY 1977 for the special Bicentennial program, a reduction of $3,867,000 from the FY 1976 level.

PROGRAM - Of the Bicentennial program's major projects, 13 have resulted in 15 major Bicentennial exhibitions in Washington. These involve 10 Smithsonian buildings and cover more than 200,000 square feet incorporating some 40,000 objects. More than 200 traveling exhibitions are currently circulating in every state of the country. There are 32 special Bicentennial exhibitions, eight with artifacts or objects, and 24 panel exhibitions in over 100 copies. The total number of bookings for the Bicentennial and panel exhibitions alone over a two-year period is 1,680. Next summer, the Festival of American Folklife will be held on the Mall between the Lincoln Memorial and the Washington Monument for 12 weeks beginning in June and ending with Labor Day weekend. Some 550 participants will take part in the Festival each week, with more than 5,000 people from all over the country and the world having shared some of their rich, cultural traditions before the end of the summer. Finally, more than 1,000 scholars will take part in various symposia relating to the United States in the world and to the contributions from all nations in the world to the making of a new nation. The symposia will result in major publications, and these, along with the Encyclopedia of North American Indians, the Bibliography of American Art, the Inventory of American Paintings, The American Experience Portfolio Series, and more than two dozen exhibit catalogues and books, will endure as permanent records of the Bicentennial Era. The following listing details required FY 1977 funding.

A New Museum	
The National Air and Space Museum*	--
Exhibitions in Washington	
A Nation of Nations (National Museum of History and Technology)	$ 45,000
Ecology 200--Our Changing Land (National Museum of Natural History)	--
1876--A Centennial Exhibition (Arts and Industries Building)	115,000
Revolutionary Period Exhibitions (National Portrait Gallery)	15,000
America as Art (National Collection of Fine Arts)	4,000
Americas and Symbols in the City (Renwick Gallery)	29,000
Artist-Immigrants of America: 1876-1976 (Hirshhorn Museum and Sculpture Garden)	--
Arts of Asia* (Freer Gallery of Art)	--
The Federal City (Smithsonian Institution Building)	--
	$208,000
Traveling Exhibitions	
Information and Exhibit Systems	--
Object-oriented Exhibitions (Smithsonian Institution Traveling Exhibition Service)	$ 24,000
Exhibits Design and Production Laboratory (Anacostia Neighborhood Museum)	--
	$ 24,000
Festival	
Festival of American Folklife	$ 63,000
Major Scholarly Projects	
Inventory of American Paintings Before 1914 (National Collection of Fine Arts)	$ 25,000
Bibliography of American Art (Archives of American Art)	30,000
Encyclopedia of North American Indians (Center for the Study of Man)	--
Sternwheeler Bertrand (National Museum of History and Technology)	--
The United States in the World (International Conference - Smithsonian Institution, American Studies Association, American Council of Learned Societies)	--
Kin and Communities: The Peopling of America* (Smithsonian Institution, American University)	--
	$ 55,000
Support	
Visitor Orientation and Services for the Bicentennial Year	--
General Administration	$ 67,000
Protection	--
Buildings and Facilities Management	--
	$ 67,000
TOTAL	$417,000

*Not funded by Bicentennial appropriation.

JUSTIFICATION OF $417,000 PROGRAM - FY 1977 will mark the completion of the Smithsonian's special Bicentennial program. Five of the major exhibitions will be on view throughout the year, three of the major scholarly projects will be published, and the final symposium will take place. As exhibitions close, objects on loan must be returned to the lending institutions, and records of all of the projects prepared for the Smithsonian Archives. A total sum of $417,000 is requested for this final phase of the program.

Of that amount, $308,000 are needed to cover temporary personnel and contracts which will provide the manpower necessary to manage the remaining exhibitions, close down the enlarged Festival of American Folklife, administer the traveling exhibitions, fulfill the Smithsonian's commitments to other institutions across the country, and organize records and archival material.

Travel and transportation of persons and things along with insurance in conjunction with returning borrowed objects will require another $43,000.

The Bibliography of American Art will be published in 1977, and $28,000 are requested for completion of this project.

Finally, $38,000 are requested to provide the supplies and equipment necessary to keep "A Nation of Nations" and "1876--A Centennial Exhibition" running. These two exhibitions are the largest shows ever mounted by the Smithsonian, and both contain considerable amounts of operating machinery as well as audiovisual equipment.

Smithsonian Institution

EXHIBITIONS AND EVENTS IN THE BICENTENNIAL PERIOD

Openings Before 1975			
		Medals of the American Revolution	National Museum of History and Technology
		*In the Minds and Hearts of the People, 1760-1774	National Portrait Gallery
		Suiting Everyone	National Museum of History and Technology
		*Anacostia Exhibits Design and Production Laboratory	Anacostia Neighborhood Museum
Openings:	1975		
April	20	*The Dye is Now Cast	National Portrait Gallery
September	14	*Blacks in the Westward Movement	Anacostia Neighborhood Museum
September	18	American Banking	National Museum of History and Technology
October	3	Sculpture: American Directions, 1945-1975	National Collection of Fine Arts
November	14	Portraits from the Americans: The Democratic Experience	National Portrait Gallery
November	14-15	Music and Dance from the Age of Jefferson - Premier	Division of Performing Arts
November	20	*Ecology 200 - Our Changing Land	National Museum of Natural History
December	5	Peggy Bacon: Personalities and Places	National Collection of Fine Arts
December	6	American Presidential China	National Museum of History and Technology

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December	9	Artists and Models	Archives of American Art
December	15	Arts of Asia at the Time of American Independence	Freer Gallery of Art
December	18	The Sculpture and Drawings of Elie Nadelman	Hirshhorn Museum and Sculpture Garden
December	18	Drawings from the Permanent Collections	Hirshhorn Museum and Sculpture Garden
December	19	Bob Thompson: 1937-1966	National Collection of Fine Arts
Openings:	1976		
January	16	Emanuel Leutze, 1816-1868: Freedom is the Only King	National Collection of Fine Arts
January	23	...and there was light: Studies by Abraham Rattner for the stained glass window. Loop Synagogue, Chicago	National Collection of Fine Arts
February	6	*Signs of Life: Symbols in the City	Renwick Gallery
February	8	*The Black Woman	Anacostia Neighborhood Museum
February	13	George Miller and American Lithography	National Collection of Fine Arts
February	23	*The Federal City: Plans and Realities	Smithsonian Institution Building
March	4	David Levine: Satirical Drawings	Hirshhorn Museum and Sculpture Garden
March	12	*A Nation of Nations	National Museum of History and Technology
March	12 or 31	Presentation of Bicentennial Inventory of American Paintings executed before 1914	National Collection of Fine Arts
April	9	*Abroad in America: Visitors to the New Nation, 1776-1914	National Portrait Gallery

Openings:	1976 (continued)		
April	16	Behind the Scenes at the National Collection of Fine Arts	National Collection of Fine Arts
April	30	*America as Art	National Collection of Fine Arts
May	5	Drawings from the Permanent Collection	Hirshhorn Museum and Sculpture Garden
May	9	Retrospect: John Robinson	Anacostia Neighborhood Museum
May	11	*1876: A Centennial Exhibition	Arts and Industries Building
May	11	Christian Gullager - Portrait Painter to Federal America	National Portrait Gallery
May	13	Arne Jacobsen	Renwick Gallery
May	20	Artist-Immigrants of America: 1876-1976	Hirshhorn Museum and Sculpture Garden
May	22	Children's Day	National Collection of Fine Arts
May	24-29	Restaurant, Bird House, Elephant House, Lion and Tiger House	National Zoological Park
May	28	Centennial 1876	National Collection of Fine Arts
June	14-16	Kin and Communities: The Peopling of America (workshops)	Office of Smithsonian Symposia and Seminars
June 16 - Sept.7		*Festival of American Folklife	Division of Performing Arts
June	25	Miniature Paintings	National Collection of Fine Arts
July		Wedgwood Revolutionary Period Portraits	National Portrait Gallery
July	1	Rauschenberg's "Stoned Moon Series"	Hirshhorn Museum and Sculpture Garden
July	4	National Air and Space Museum	National Air and Space Museum

Openings:	1976 (continued)		
July	5	*The Anacostia Story	Anacostia Neighborhood Museum
July	6	*Bicentennial Inventory of American Paintings (Directory to be published and resources opened)	National Collection of Fine Arts
July	8	Southworth and Hawes Daguerreotypes	National Portrait Gallery
September	9	*Americas - The Decorative Arts in Latin America in the Era of the Revolution	Renwick Gallery
September	9	Drawings by Philip Evergood	Hirshhorn Museum and Sculpture Garden
September	16	John Covert	Hirshhorn Museum and Sculpture Garden
September	24	Washington Print Club: Members Show	National Collection of Fine Arts
September	26 - Oct.1	*The United States in the World — International Conference	Office of Smithsonian Symposia and Seminars
September/October		*The New Immigration - Implications for American Society (a forum)	The Research Institute on Immigration and Ethnic Studies
October	12	Columbus and His Time (tentative)	National Museum of History and Technology
October	15	Hans Hofmann	Hirshhorn Museum and Sculpture Garden
October	15	American Presidential Political Cartoons	National Portrait Gallery
October	29	Robert Rauschenberg	National Collection of Fine Arts
November	19	Jacob Kainen: Print Retrospective	National Collection of Fine Arts
November	24	Poetry and Visual Arts	Renwick Gallery
December	17	Painted American Furniture	Renwick Gallery

*Indicates projects funded by special Bicentennial appropriation.

INTERNATIONAL ENVIRONMENTAL SCIENCE PROGRAM

1975 Actual.....$176,000
1976 Estimate.....$328,000
1977 Estimate.....$376,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	2	0	2
11 Personnel Compensation.....	153	4	157
12 Personnel Benefits.....	14	1	15
21 Travel & Trans. of Persons...	30	8	38
22 Transportation of Things.....	4		4
23 Rent, Comm. & Utilities.....	3		3
25 Other Services.....	61	15	76
26 Supplies and Materials.....	31	10	41
31 Equipment.....	32	10	42
TOTAL	328	48	376
Analysis of Increase			
Necessary Pay.....		5	
Program Funds.....		43	

ABSTRACT - This program is designed to use the special abilities of the Smithsonian's science bureaus to study those ecosystems now under stress from human interference. Scientists are identifying key indicators, such as the amount of nitrates in a stream, to improve the predictability of environmental changes. Such prediction, when possible, can result in wiser management decisions for protecting our disappearing renewable resources--everything from the number of fish in an estuary to the quality of hay in a field. Smithsonian scientists have been emphasizing the study of tropical ecosystems because these are the most fragile and are where most of the world's people live. Efforts have concentrated on those few places in the tropics that are still relatively free of human stress. In this way, it may be possible to learn what is necessary to conserve the endangered plants and animals that still survive there. For FY 1977 an increase of $43,000 is requested for further selective development of this program. An amount of $5,000 is required for necessary pay for existing staff.

PROGRAM - The Environmental Science Program was established in FY 1971 as a multi-bureau, interdisciplinary effort to understand better and to monitor stressed ecosystems at two specific Smithsonian research facilities, the Tropical Research Institute in Panama and the Chesapeake Bay Center for Environmental Studies in Maryland. The International Environmental Program is an interbureau, interdisciplinary effort aimed at studying various ecosystems in the tropics and subtropics. These two programs have now been integrated because of their close scientific relationships. The Smithsonian Institution is uniquely qualified to undertake this type of research since it has had both traditional expertise in international environmental research and the capability to sustain scientific programs on the necessary long-term basis. Prior to this program, the Smithsonian had as many as 40 to 60 scientists doing individual field work overseas at any one time, but until now was unable to maximize its resources in those regions that are of pan-Institutional interest.

Staff resources consist primarily of specialists from several Smithsonian bureaus--the National Museum of Natural History, National Zoological Park, Radiation Biology Laboratory, Tropical Research Institute, and the Chesapeake Bay Center for Environmental Studies--as wellas others from several research organizations both in this country and abroad. The most intensive and detailed studies are based at two of the Smithsonian's

permanent facilities. At the Tropical Research Institute, a tropical forest on Barro Colorado Island and an intertidal coral reef at Galeta Point are the focus of close ecological monitoring. For comparative purposes, an equally intensive study is underway on a temperate estuary and its watershed in the Rhode River at the Chesapeake Bay Center for Environmental Studies. The other elements of the International Environmental Science Program network are at non-permanent facilities in the tropics where the goal is to involve host country nationals to such a degree that they will ultimately support the research centers themselves.

Projects are currently being carried out on the marine ecosystem of the Galapagos Islands, Ecuador; the Fly River region of Papua, New Guinea; the Amazonian region surrounding Manaus, Brazil; the Savanna and forest sites south of Maracay, Venezuela; and Chitawan National Park in the terai of Nepal. At the majority of these sites, scientists have keyed their research to the endangered species of the regions under study. Assisted by the advanced work done at the permanent Smithsonian sites, important contributions have already been made by field biologists at these overseas projects to the better management of such threatened animals as the big cats of Asia and New World primates. Effective management decisions are possible only because the entire habitat is under interdisciplinary study.

JUSTIFICATION OF $43,000 INCREASE (Research) - In order to develop a more comparative program between the various research sites, several types of monitoring projects are needed. To understand the interaction between insects and plants in the tropics, funds are requested to concentrate on leaf-eating ants and for work on the relationship between mammals and plants, especially where and how small mammals get their food when their main sources (fruiting trees) are not in season. Since the tropics will have to support an ever increasing human population, we must learn the actual limiting factors to plant production. Promising results are expected from the expansion of the solar radiation monitoring program at the Tropical Research Institute, which measures intensity and quality of sunlight reaching above and below the forest canopy and in the water around the coral reef. Further work is also needed to understand the nitrogen-nutrient relationship especially to complement the ongoing phosphorus-nutrient studies. These studies are important in setting up the methodology to understand ecosystems better. Funds are also needed to offset the severe inflationary costs being experienced for necessary equipment, particularly at the sites in developing countries. Support is also needed to computerize the ever increasing amount of data being produced so that vital comparative insights can be gained.

MAJOR EXHIBITION PROGRAM

1975 Actual.....$ 38,000
1976 Estimate.....$260,000
1977 Estimate.....$ 50,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	0	0	0
24 Printing and Reproduction....	1	-1	
25 Other Services.....	257	-207	50
31 Equipment.....	2	-2	
TOTAL	260	-210	50
Analysis of Increase			
Necessary Pay.....		0	
Program Funds.....		-210	

ABSTRACT - The major permanent exhibitions of the Smithsonian Institution are nationally and internationally recognized to be among the best examples of public communication and education in the museum world. The Major Exhibition Program has as its purpose the production of exhibitions which will supplement the regular exhibits programs of the museums. Funds appropriated in FY 1976 will allow completion of the "Benefits of Flight" exhibit which will be displayed in the new National Air and Space Museum building. Funding of $50,000 is requested for this program in FY 1977, a reduction of $210,000 from FY 1976, to initiate planning for an exhibit focussing on food supply problems and possible solutions in the 21st century.

PROGRAM - The "Benefits from Flight" exhibit will present the many benefits that have accrued to man and society since the advent of powered flight. The scope of this exhibition has been broadened from the earthbound benefits of space flight alone to the consequences of air and space flight which have emerged over the course of this century. The thematic structure of the hall establishes the relationships among air and space research, development and operations, and the persons to whom the results of these activities accrue.

The most significant benefits which have emerged in the historical development of air and space are those directly associated with flight: high-speed transportation of people, staple supply and disaster relief, airborne defense and reconnaissance, satellite monitoring of earth conditions and resources, relay of information, and basic scientific knowledge. Our view also includes the broader social impact such as flight in the arts and in popular culture, flight as a homogenizing and educating influence, and flight as a source of entertainment.

The high technology associated with, and nurtured within, the aerospace industry continues to be adapted to serve many other needs of our society. The exhibit will also explain how these needs are met through the transfer of aerospace technology to ground-based applications in medical, transportation, public service, managerial, and other segments of society.

JUSTIFICATION OF $50,000 PROGRAM (Exhibition) - Public Law 94-74, approved August 8, 1975, reserved the last remaining building site on the Mall between 3rd and 4th Streets, Independence Avenue and Jefferson Drive for the Smithsonian to develop for public purposes. Until plans for its permanent use can be formulated and presented to Congress, this two and a half acre site offers an attractive potential for temporary exhibitions focussing on major predicaments and possible solutions that face mankind

in the next hundred years, our Nation's third century. Such an informed projection into the future would complement the Smithsonian's current array of exhibits which essentially document the past, including special presentations for the Nation's Bicentennial. The sweeping advances in science and technology depicted in the new National Air and Space Museum immediately to the west of this site certainly will exemplify what might be accomplished were a similar mobilization of intellect to be concentrated on humanity's greatest needs.

This space though relatively small is ideal to present modest, flexible exhibits including some outdoor agricultural displays having to do with problems Americans and others must come to grips with in the 21st century, with special emphasis upon the provision of those life support systems essential to sustain human populations. An initial exhibit could show new advances and potentials in food production, preservation, and distribution. Improved hybrid varieties of food grains, such as wheat and rice, might be shown growing alongside traditional strains to demonstrate their potential for vastly increased yields when combined with higher inputs of fertilizer, pesticides, and the use of mechanization. Attention would be called to the potential environmental hazards associated with such inputs. One exhibit might illustrate how American farmers through research can reduce energy requirements without significant declines in yield, or it might show how our agricultural technology can be adapted to meet the needs of energy-deficient countries. Compelling displays of new sources of food and protein substitutes together with a visual assessment of the potential of aquaculture, hydroponics, new approaches to insect and disease control, storage, and transportation, etc., could be housed in demountable prefabricated pavilions or geodesic domes.

For FY 1977, an amount of $50,000 is requested to develop plans for this initial exhibit, including scripts and other visual matters. Funds would be used for consultants, term appointments of specialists, and other non-recurring expenses. Funding for the actual fabrication of the exhibits will be requested in the FY 1978 budget.

ACADEMIC AND EDUCATIONAL PROGRAMS

1975 Actual.....$620,000
1976 Estimate.....$637,000
1977 Estimate.....$813,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	11	1	12
11 Personnel Compensation.....	173	19	192
12 Personnel Benefits.....	16	2	18
21 Travel & Trans. of Persons...	6		6
23 Rent, Comm. & Utilities.....	2		2
24 Printing and Reproduction....	27	5	32
25 Other Services.....	407	150	557
26 Supplies and Materials.....	4		4
31 Equipment.....	2		2
TOTAL	637	176	813
Analysis of Increase			
Necessary Pay.....		9	
Program Funds.....		167	

ABSTRACT - A major Smithsonian objective is to make its resources for learning (collections, professional staff, libraries, and laboratories) available to the general public and the formal education community. These efforts take the form of programs in higher education, symposia and seminars, and activities at the elementary and secondary education level. The FY 1977 budget requests increases of 1 position and $167,000 to strengthen research training, seminar, and other education activities. A further $9,000 are required for necessary pay for current employees.

PROGRAMS AND JUSTIFICATIONS OF INCREASES (Education):

Office of Academic Studies - The Smithsonian's academic studies program is designed to offer individual research training, at small cost per individual, to young scholars who require access to Smithsonian staff and collections. The Institution has resources in many specialized areas where the combination of staff expertise and specimen collections is not available in universities. Both the visiting investigators and the Smithsonian research staff find that these opportunities for training and guidance provide significant intellectual stimulation and important research results.

Academic visitors to the Smithsonian come from and return to schools all across the Nation. The period of intense study spent at the Smithsonian allows them to carry to many universities specialized knowledge to be used in their development as better teachers and researchers. One person, who received his Ph.D. from the University of Utah, spent a year studying North American archeology at the Smithsonian. Since leaving to teach at the University of Pittsburgh, he has discovered at the Meadowcroft Site in Western Pennsylvania Paleoindian cultural remains 13,000 years old. This is the oldest human habitation discovered in the Eastern United States and will add greatly to our knowledge of man's development in America. Another individual, who received his Ph.D. from the University of Washington, left the Smithsonian to teach at the University of Hawaii. He studied the development of the submarine in America while at the Smithsonian and is currently completing research for a two volume reference work on the subject at the Philadelphia Maritime Museum.

Since 1965, as a major part of its higher education programs, the Smithsonian has offered support to 254 Ph.D. candidates and to 238 postdoctoral scholars. Over 540 undergraduate and first- and second-year graduate students have been offered the opportunity to consult the research staff and collections for short periods.

During the past year some 7,500 verbal and written inquiries were received from individuals interested in all academic programs, of which about one half asked about the predoctoral and postdoctoral program at the Smithsonian. After intensive screening and counseling to eliminate all but those who might expect to have a strong chance of receiving appointment, about 200 applications were received. More than 50 percent of these were considered excellent and worthy of appointment, but only 20 percent could be offered an appointment.

The Institution is now able to fund approximately 40 predoctoral and postdoctoral scholars yearly. There has been no increase in this number for nine years, during which period demands from the academic and research community have grown increasingly urgent. New Smithsonian museums opened during this period offer expanded areas for study. The need for additional support could be partially met by a $150,000 increase. This would allow appointment of 17 additional predoctoral and postdoctoral scholars.

A further increase of $3,000 is requested to provide the additional funds needed to hire an administrative assistant to replace the part-time services of an employee who is no longer available.

Office of Smithsonian Symposia and Seminars - The Office of Smithsonian Symposia and Seminars will continue its Bicentennial program "Kin and Communities: The Peopling of America" beyond 1976 into the following year, when the Institution's sixth international symposium will take place June 14-17, 1977, reflecting on the role of family institutions and communities in shaping the nation during its first two hundred years and as continuing links to African, Asian, European, and other cultures (including those of the American Indian) which have enriched American civilization. Dr. Margaret Mead, American Museum of Natural History, is honorary chairperson of the two-year program, which will begin with public lectures, workshops, and discussion groups on June 14-16, 1976. Administration of the Smithsonian's international symposia series included publication in June 1975 of The Nature of Scientific Discovery, based on the Institution's fifth symposium (April 1973).

A major international conference, "The United States in the World," will be held in Washington September 26-October 1, 1976, sponsored jointly by the Smithsonian, the American Council of Learned Societies, and the American Studies Association. About two hundred scholars and specialists from other countries are being invited to examine the differences two hundred years of American culture have made in other parts of the world. The conference is designed around three major themes: science and technology, politics and society, and arts and the media.

Continuing its consulting and resource services, the Office also is assisting in the Bicentennial program, "From Religious Toleration to Freedom of Religion," to be held in Newport June 1-6, 1976, under auspices of Brown and Columbia Universities and the Redwood Library of Newport, oldest United States library (in continuous use since 1748).

The requested increase of one position ($9,000) will provide full-time assignment to the Office of Smithsonian Symposia and Seminars of an employee now serving as its assistant director, but whose time and costs are shared with another office. The increasing responsibilities and workload of the Institution's symposia and seminar programming and the development of related educational materials make this an urgent need.

Office of Elementary and Secondary Education - A major objective of the Office of Elementary and Secondary Education is to make Smithsonian resources for learning available to the area school community. These efforts take the form of planning and conducting teacher workshops, developing audiovisual materials, preparing school publications, and supervising a teachers' resource center. The preparation of materials for a national teacher audience is also of high priority.

This office coordinates education programs which are located in the museums. It prepares publications, audiovisual aids, and other educational materials, directed at pre-college students and their teachers. It also serves as the liaison between the

Smithsonian and the D.C. metropolitan area schools, conducting workshops for over 2,500 teachers in FY 1976. The office is active with area schools in developing special outreach projects. FY 1976 brought the development of outreach kits with both Fairfax County, Virginia, and Montgomery County, Maryland, teachers. During FY 1976, the initial steps were taken to prepare materials and workshops for a national teacher audience. A national classroom newspaper entitled Art to Zoo was tested with over 250 teachers in 35 schools across the country. Following this pilot project and evaluation period, regular publication of this newspaper will begin during the 1976-1977 school year. Through regularly scheduled training activities, assistance is provided to the Smithsonian docent program with particular emphasis on teaching techniques.

An increase of $5,000 is requested to the FY 1977 budget for the purpose of producing a museum teaching resource booklet for schools. This booklet will contain a compilation of projects from the classroom newspaper Art to Zoo and other exemplary teaching units developed by the Office and museum staffs. The booklet will also contain an annotated listing of Smithsonian outreach materials, audiovisual packages, and printed materials developed by the various museum education offices. Production and distribution of this booklet are an important next step to extend Smithsonian educational resources to a national audience. It will represent the first effort ever made by the Smithsonian Institution to provide a comprehensive package of museum teaching methods and information for a national teacher audience.

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SMITHSONIAN RESEARCH AWARDS PROGRAM

1975 Actual..... $450,000
1976 Estimate..... $450,000
1977 Estimate..... $600,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	0	0	0
41 Grants.....	450	150	600
TOTAL	450	150	600
Analysis of Increase			
Necessary Pay.....		0	
Program Funds.....		150	

ABSTRACT - The Research Awards Program finances special research projects which cannot be supported from the regular budgets of the bureaus. Since 1966, over 300 such special projects have been funded through this program and have resulted in more than 300 publications. As this program is one of the most scientifically productive ones of the Institution, a program fund increase of $150,000 is being requested for FY 1977.

PROGRAM - Prior to FY 1966, Smithsonian scientists applied for funds competitively from the National Science Foundation (NSF) for research projects as individual staff members. In 1964, however, the Congress limited the authority of the NSF to make grants for scientific research to individual Federally employed scientists. The Research Awards Program was thus begun in FY 1966 by an appropriation of $350,000 to the Smithsonian Institution to replace partially those research funds theretofore competitively available from NSF.

To ensure that quality is maintained, proposals are submitted each year by members of the Smithsonian Institution staff to an outside advisory committee of senior scientists. Awards are made on the basis of creativity and imaginative new approaches to research and scholarship. Consideration is also given to how the results of such research might possibly be applied to current problems.

The flexibility afforded the researchers by the Research Awards Program has produced valuable results. Research teams have been formed which encompass several disciplines. Students have been hired for work in the field, and the Institution has been able to work very closely with similar organizations and universities both in this country and abroad. Some examples of results that have potential economic and political value are the development of techniques for monitoring whale populations, the analysis of animal and bird parasites as potential vectors of human diseases, and how to use balloons to carry telescopes high enough to avoid some of the barriers imposed by the earth's atmosphere. Information thus gained has a direct bearing on human nutrition, human disease, and understanding potential new energy sources in space.

JUSTIFICATION OF $150,000 INCREASE (Research) - The program is highly competitive in that only 37 of 64 proposals were funded before the limit of $450,000 was reached. The 64 proposals submitted represented a total of $1,790,000. Many excellent projects, therefore, had to be turned down. There has been no funding increase in this program since FY 1973. The Institution has put a very high priority on requesting additional funds of $150,000 to offset what has been lost by inflation and more positively to encourage and sustain the quality of research for which the Smithsonian is justly known.

OFFICE OF THE SECRETARY

1975 Actual.....$800,000
1976 Estimate.....$807,000
1977 Estimate.....$830,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	29	0	29
11 Personnel Compensation.....	594	21	615
12 Personnel Benefits.....	54	2	56
21 Travel & Trans. of Persons...	8		8
23 Rent, Comm. & Utilities.....	19		19
24 Printing and Reproduction....	2		2
25 Other Services.....	93		93
26 Supplies and Materials.....	22		22
31 Equipment.....	15		15
TOTAL	807	23	830
Analysis of Increase			
Necessary Pay.....		23	
Program Funds.....		0	

ABSTRACT - The Office of the Secretary is responsible for planning, implementing, and reviewing the progress of all Smithsonian operations. No program increase is requested. Funding of $23,000 is sought for necessary pay for current staff.

PROGRAM - I. Immediate Office of the Secretary including the Office of the Under Secretary and Secretary's Files: With base resources of 19 positions and $517,000, the Office of the Secretary with the assistance of the Office of the Under Secretary is responsible for the formulation and performance of all programs of the Institution which include: the establishment of objectives and priorities; budget formulation and execution; changes in current programs; and legislative proposals and implementation of all statutory requirements; all of which culminate in decision-making affecting total Smithsonian operations.

II. Other - The remainder of the resources identified for this Office, ten positions and $290,000, fund the Director of Support Activities, the Travel Services Office, and the Curator of the Smithsonian Institution Building.

The Director of Support Activities directs and reviews the Support Activities group. This group includes the Office of Personnel Administration, Office of Equal Opportunity, Office of Supply Services, Office of Computer Services, Management Analysis Office, Office of Protection Services, Office of Facilities Planning and Engineering Services, Office of Plant Services, and the Office of Printing and Photographic Services--all justified elsewhere--and the Travel Services Office.

The Travel Services Office assists official Smithsonian travelers in developing domestic and foreign plans, estimating costs, and planning the most economical routing in keeping with Government and Smithsonian Institution regulations. In FY 1975 the Office, with the Institution's Accounting Division, implemented a new automatic payment procedure system for the purchase of airline tickets. In connection with the eighth annual Festival of American Folklife, the Office assisted in planning for and providing tickets to foreign participants from Greece, Nigeria, Scandinavia, and Tunisia, including a tour of the United States.

The Curator of the Smithsonian Institution Building is responsible for the selection and acquisition of artifacts and materials for exhibition in this historic building for viewing by the public. The Curator is also responsible for authentic furnishing of public spaces in this building as well as other buildings.

OFFICE OF THE GENERAL COUNSEL

1975 Actual..... $314,000
1976 Estimate..... $330,000
1977 Estimate..... $345,000

s in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
r of Permanent Positions...	11	0	11
Personnel Compensation.....	285	14	299
Personnel Benefits.....	25	1	26
1 Travel & Trans. of Persons...	5		5
23 Rent, Comm. & Utilities.....	5		5
25 Other Services.....	3		3
26 Supplies and Materials.....	4		4
31 Equipment.....	3		3
TOTAL	330	15	345
Analysis of Increase			
Necessary Pay.....		15	
Program Funds.....		0	

ABSTRACT - The Office of the General Counsel (OGC) is responsible for all Smithsonian legal matters. These legal matters combine those arising from the operations of a university-like, charitable corporation with those common to Government organizations. No program increase is requested for FY 1977. An increase of $15,000 is requested for necessary pay for current employees.

PROGRAM - The OGC serves as counsel to the Board of Regents, the Secretary, and the staffs of bureaus, programs, and support offices of the Institution on the legal adequacy of proposed administrative actions and decisions and on the resolution of legal problems arising from operations. As such, the scope and volume of the OGC's workload parallel the direction of and developments in the diverse programs of the Institution. The legal problems combine those arising from the operations of a university-like, charitable corporation with those common to Government organizations, and include: the limitations and obligations of Smithsonian operations in relation to the functions, authorities, and regulations of Government entities; legislative review, drafting, and liaison; the uses and restrictions of trust funds; litigation; application of judicial decisions and executive branch directives and regulations; contract negotiation; tort claims and settlements; Federal and State excise, sales, and gift taxes, deductions, and exemptions; patents and trademarks; copyrights; review of transfers by gift, loan, purchase, or bequest; and many areas of international law.

OFFICE OF THE TREASURER

1975 Actual.....$711,000
1976 Estimate.....$866,000
1977 Estimate.....$885,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	36	0	36
11 Personnel Compensation.....	583	17	600
12 Personnel Benefits.....	142/1	2	144
21 Travel & Trans. of Persons...	4		4
23 Rent, Comm. & Utilities.....	100		100
24 Printing and Reproduction....	10		10
25 Other Services.....	25		25
26 Supplies and Materials.....	1		1
31 Equipment.....	1		1
TOTAL	866	19	885
Analysis of Increase			
Necessary Pay.....		19	
Program Funds.....		0	

ABSTRACT - The Office of the Treasurer has overall responsibility for the financial assets of the Smithsonian Institution. No program increase is sought for FY 1977. An additional amount of $19,000 is sought for necessary pay for existing staff.

PROGRAM - The Treasurer, as chief financial officer of the Institution, assisted by the various important staff offices described below, carries primary responsibility for Smithsonian financial and accounting functions. These include overall direction for financial planning and budgeting, accounting and financial reporting functions, administration of grants and insurance, management of business-type operations, bank relations, and oversight for handling of investments. As noted below, continuous efforts are made to achieve more efficient procedures to handle expanding demands upon these support functions with minimum additions to staff.

The Office of Programming and Budget participates in program planning for the Institution. As such, it is responsible for formulation, presentation, implementation, and review of operating and construction budgets for both appropriated and non-appropriated funds. In carrying out these responsibilities this office works closely with all operating and managerial levels of the Institution and participates in presenting Federal budgets to the President's Office of Management and Budget and the Congress. During the past year improved planning for budget submissions was assisted by planning statements and detailed analysis of currently available financial resources obtained in advance from all operating units. The third annual meeting on Institution Goals and Priorities in June 1975 again proved to be a valuable tool for developing prudent allocation of the Institution's resources.

The Accounting Division handles all funds of the Institution, both Federal and non-Federal, including payrolls, payment for materials and services, receipt of incoming monies from a great variety of sources, and the regular provision of over 600 monthly financial reports to Institution managers. Important procedural improvements by this division in FY 1975 resulted in raising our reputation for prompt payments to vendors to among the best in the Washington area. In addition, the development of its Key-to-Disk data entry system, installed in May 1974, now permits data entry directly to the computer from various accounting documents thereby reducing clerical

/1 Includes $85,000 payment to Workmen's Compensation Fund.

and keypunching operations. A major task force operation is now underway to bring about basic updating of accounting and related procedures.

The Grants and Insurance Administration Division, which administers gifts, grants, and contracts received by the Institution as well as our risk management and insurance program, also achieved important improvements in FY 1975. The development of an Institution-wide means of handling insurance risks substantially reduced these costs. The negotiation of a new formula for assessing administrative costs to the Institution's grants and contracts in line with changes in the Institution's activities has brought about a realistic updating of such charges, with benefits both to granting agencies and to our research scientists.

In our Business Management and Investment Accounting Divisions, the continual efforts to achieve sound contracting and investing procedures, as well as improved operation of our Museum Shops and arrangements for restaurants and parking facilities have resulted in better services for our visiting public and a strengthened financial position.

OFFICE OF PERSONNEL ADMINISTRATION

1975 Actual.....$620,000
1976 Estimate.....$712,000
1977 Estimate.....$786,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	34	2	36
11 Personnel Compensation.....	611	48	659
12 Personnel Benefits.....	55	4	59
21 Travel & Trans. of Persons...	4		4
23 Rent, Comm. & Utilities.....	6		6
24 Printing and Reproduction....	1		1
25 Other Services.....	30		30
26 Supplies and Materials.....	4		4
31 Equipment.....	1	22	23
TOTAL	712	74	786
Analysis of Increase			
Necessary Pay.....		18	
Program Funds.....		56	

ABSTRACT - The Office of Personnel Administration (OPA) is responsible for providing services in the following program areas: recruitment and placement; classification and compensation; performance appraisal; benefits; retirement; awards and recognition; leave administration; employee relations; training and development; manpower analysis; personnel management evaluation; labor-management relations; and other personnel programs and services. A program increase of 2 positions and $56,000 is requested to improve services provided by this Office. An additional amount of $18,000 is sought for necessary pay for existing staff.

PROGRAM - The Office of Personnel Administration is responsible for recruitment, placement, position classification, training and career development, employee relations, labor-management relations, and equal opportunity as it relates to personnel management. The Office also has the responsibilities for implementing new laws and policies and making contributions to Smithsonian-wide efforts, such as reducing personnel costs.

In FY 1975 more than 1,200 recruitment requests were submitted by the units and 8,000 job inquiries were received from perspective employees. New employees in FY 1975 numbered 1,789, while 1,342 separations occurred. Recruitment activity was concentrated in the Hirshhorn Museum and the Bicentennial Programs.

Negotiations with the United States Civil Service Commission resulted in the issuance of a police officer examination announcement for the Smithsonian Institution. The announcement--a new method of announcing recurring vacancies--significantly reduced the time-lag between the advertising of vacancies and the filling of these critical positions.

Labor-management relations continued to reflect mutual respect and cooperation. Negotiations for a multi-unit labor agreement were concluded after difficult bargaining, and consultations were held with the unions on a number of subjects in accordance with existing agreements. Also, formal grievance and complaint procedures were utilized in several instances, and these problems were resolved subsequently.

Ten new courses were offered by the Training Office for both professional and support staff. These courses ranged from Labor Management Relations to English Usage Refresher and Filing for Secretaries. In addition, courses of a more general nature were offered, such as General Education Development (leading to a High School Equivalency Certificate), and, for female employees, the Sexual Assault Prevention Program conducted by the Smithsonian Office of Protection Services. Another new course was the Career Planning Workshop which was open to professionals and nonprofessionals alike. These courses, coupled with the regular courses, enabled training to be offered to 1,433 employees in the past year: 591 in courses offered inhouse, 828 in courses outside of the Smithsonian, and 14 in executive development courses.

In FY 1976 a formal position classification program was implemented with the position descriptions for the entire Institution being reviewed. New descriptions were prepared where necessary. In the first half of FY 1976, 3,000 personnel actions have been processed. Recruitment has continued on Bicentennial Programs and also for the staffing of the National Air and Space Museum.

Future plans for FY 1976 include initiation of a system to provide supplemental instructions to the Federal Personnel Manual to Smithsonian managers. A direct terminal will be installed in the Office of Personnel Administration linked to the Smithsonian Institution computer, reducing manual work and providing better quality control to official records.

The Office of Personnel Administration also will seek two ways to bring vacancy announcements to the attention of employees. In several buildings a special telephone will be installed which will relay vacancy announcements to interested staff. Plans also are being developed to place additional bulletin boards in key locations to display printed vacancy announcements.

Plans for FY 1977 include the training of Smithsonian managers in the United States Civil Service Commission's new approach to the classification of positions. In April 1976 the United States Government will change the classification of positions from the present "whole position" approach to a "factor analysis" approach.

JUSTIFICATION OF $56,000 INCREASE (General Administration) - Two new positions are requested for FY 1977 at a cost of $34,000: a personnel management specialist, who will be involved in labor-management relations, classification, legislation, policy development, and writing; and a clerk-typist to assist him. A new filing system ($22,000) is requested which will be used for all official personnel folders. Current equipment is obsolete and insecure, especially in light of the new Privacy Act.

OFFICE OF AUDITS

1975 Actual..... $182,000
1976 Estimate..... $205,000
1977 Estimate..... $213,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	7	0	7
11 Personnel Compensation.....	178	7	185
12 Personnel Benefits.....	14	1	15
21 Travel & Trans. of Persons...	5		5
25 Other Services.....	6		6
26 Supplies and Materials.....	1		1
31 Equipment.....	1		1
TOTAL	205	8	213
Analysis of Increase			
Necessary Pay.....		8	
Program Funds.....		0	

ABSTRACT - The Institution's size, diversity, and variety of funding sources create a large volume of essential auditing assignments. Since its establishment, the Office of Audits has made important contributions to effective management. For FY 1977 an amount of $8,000 is required for necessary pay for existing staff. No increase in program funds is sought.

PROGRAM - The Office of Audits, established in FY 1970, is responsible for performing all internal auditing functions of the Smithsonian Institution. With more than 50 Federal operating units, programs, and staff offices, several major appropriation accounts (totalling about $96 million in FY 1976), and several private activities and a wide variety of other funds, there is a large volume of auditing to be done. In order to ensure the utilization of effective management practices, it is the policy of this office to audit all principal programs, including administrative, financial, and supporting programs during each five-year period. It is estimated that it would take a total of ten auditors to implement the five-year reaudit program. Recent audits have included a review of the Smithsonian's procurement practices, the Smithsonian Traveling Exhibition Service, the Office of Protection Services, and the Division of Performing Arts.

OFFICE OF EQUAL OPPORTUNITY

1975 Actual.....$125,000
1976 Estimate.....$148,000
1977 Estimate.....$203,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	6	5	11
11 Personnel Compensation.....	130	50	180
12 Personnel Benefits.....	11	5	16
21 Travel & Trans. of Persons...	1		1
25 Other Services.....	4		4
26 Supplies and Materials.....	1		1
31 Equipment.....	1		1
TOTAL	148	55	203
Analysis of Increase			
Necessary Pay.....		5	
Program Funds.....		50	

ABSTRACT - The Office of Equal Opportunity (OEO) works to assure equality of opportunity in employment and in all policies and practices of the Institution. Several current programs involve the development and better utilization of the skills of employees occupying dead-end or low-graded positions through an Upward Mobility Program, an improved communication system for handling complaints, and an improvement of women's career advancement opportunities. A program increase of 5 positions and $50,000 is requested to further implement the Upward Mobility Program. An amount of $5,000 is being requested for necessary pay for current staff.

PROGRAM - The Equal Opportunity Program, established by Executive Order 11246 and further implemented by the "Equal Employment Opportunity Act of 1972" (P.L. 92-261), requires the Smithsonian to conduct a positive action program which will provide true equality in all Smithsonian employment practices. It is the responsibility of the Office of Equal Opportunity to conduct such a program. Major efforts currently underway include counseling, upward mobility, a Women's Program, a Sixteen Point Program for the Spanish-speaking, and assuring equality of opportunity through affirmative action.

The Counselor Program provides a channel through which employees may raise questions, discuss complaints, and receive resolutions of problems on an informal basis. Counselors, 26 permanent employees with regular duties who work part-time on OEO matters, handled over 200 inquiries with only eight formal complaints filed, illustrating that the pre-complaint system is working.

The Smithsonian Institution's Upward Mobility Program provides a comprehensive approach to ensure that upward mobility is facilitated throughout the Institution. This program reinforces the Smithsonian's commitment to provide upward mobility training and career opportunities for eligible employees at the lower grade levels so that they may perform and advance in accordance with their highest potential. The Program provides an additional means to achieve equal opportunity in employment and greater utilization of all Smithsonian employees at the bureau and office levels. Six upward mobility programs are now operating in the National Museum of Natural History, Office of Plant Services, National Zoological Park, the Freer Gallery, National Air and Space Museum, and the National Museum of History and Technology. Additionally, the Office of Equal Opportunity oversees Smithsonian civil rights compliance with direct assistance programs and contracts and grants to ensure that the recipients practice equal opportunity.

The Women's Coordinator Program functions as the principal advisory service to management on all matters pertaining to the equal employment status of women. The Smithsonian Women's Coordinator was appointed as Smithsonian representative to International Women's Year, a United Nation's Observance. The Institution held its successful third Women's Week in August.

The 16 Point Program Coordinator--a regular employee who has accepted these extra duties--serves as the focal point within the Smithsonian for advising agency management and the Director of OEO on the special employment concerns of Spanish-speaking citizens, assists in assessing the Spanish-surnamed employment situation, and participates in eliminating systemic barriers for Spanish-speaking citizens.

The Office of Equal Opportunity is developing and implementing training to enable counselors to process complaints because of age in accordance with the Civil Service Commission Federal Personnel Manual Letter 713-28. Personnel actions will continue to be reviewed by the OEO on a monthly basis in order to monitor statistical improvement. A further aim, to underline positive Affirmative Action Plan results, will be to report on a regular basis successes and failures as they occur. From failures in the calendar year 1975 Plan of Action, from problems which develop within the Smithsonian, and from consultations with employee groups and managers, the OEO will plan the Action Plan for 1976 for submission for Civil Service Commission approval. The Office will continue to conduct programs demonstrating achievement exemplified in such activities as Achievement Awards, Women's Week, and programs of similar worth.

JUSTIFICATION OF $50,000 INCREASE (General Administration) - An Institution-wide Upward Mobility Program has been developed to provide a comprehensive approach throughout the Smithsonian. All bureaus and offices are now able to participate in the planning and development of upward mobility programs consistent with their individual organizational requirements. Six upward mobility programs of 18 trainees are now in operation in six bureaus and offices. These programs and the trainees are progressing, and improvement is anticipated under the comprehensive approach.

Frequently units are reluctant to nominate candidates for upward mobility training because it would deprive that unit of a needed employee during the training period. In order to provide additional opportunities for upward mobility training, a pool of five new positions is requested with annual funding of $50,000. When a current employee is selected for upward mobility training, that employee will be financed with these funds while the unit will be allowed to replace the trainee with another employee to accomplish needed work. It is expected that the trainees will be financed from these funds for periods ranging from six months to one year at which time they will be placed in existing vacancies in the bureaus and offices. At that time, the trainee's position and funds will revert to this requested pool for reassignment to a new upward mobility candidate.

OFFICE OF PRINTING AND PHOTOGRAPHIC SERVICES

1975 Actual.....$812,000
1976 Estimate.....$867,000
1977 Estimate.....$882,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	39	0	39
11 Personnel Compensation.....	612	13	625
12 Personnel Benefits.....	55	2	57
21 Travel & Trans. of Persons...	2		2
23 Rent, Comm. & Utilities.....	9		9
24 Printing and Reproduction....	20		20
25 Other Services.....	53		53
26 Supplies and Materials.....	98		98
31 Equipment.....	18		18
TOTAL	867	15	882
Analysis of Increase			
Necessary Pay.....		15	
Program Funds.....		0	

ABSTRACT - The Office of Printing and Photographic Services (OPPS) is the Institution's central office for technical advice, guidance, and production in all matters concerning photographic, duplicating, and inhouse printing services. The office coordinates photographic and printing activities and supplies technical support to the curatorial, scientific, technical, and administrative staffs. It also provides photographs, slides, and transparencies with lectures to the general public, schools, research foundations, educational publications, other museums, and government agencies. No program increase is requested for FY 1977. An amount of $15,000 is sought for necessary pay for current staff.

PROGRAM - OPPS provides photographic, printing, and other reproduction services in support of research, collections management, and public education. Photographic services include studio and on-site photography, photographic copy restoration, processing and printing, filing and retrieval of negatives, preparing responses to public inquiries, and filling orders. Most of the photographic assignments are carried out in the photographic studios located in the major exhibition buildings as standard museum practice does not allow valuable specimens to be moved out of the building. This practice is necessary to prevent deterioration by improper handling, changes in environment, or loss. There are presently four photographic studios under the jurisdiction of this office. One is located in the History and Technology building, one in the Natural History building, one in the Arts and Industries building, and one in the National Air and Space building. In FY 1975, the Office processed some 120,000 color slides and transparencies and produced more than 200,000 black and white prints.

Printing and reproduction services include the production of certain exhibits catalogues, education pamphlets, and information leaflets. In addition, OPPS prints and reproduces a variety of manuals, reports, specimen labels, and administrative directives. These services are accomplished through the use of inhouse multilith, electrostatic copier, and letterpress equipment.

OFFICE OF COMPUTER SERVICES

1975 Actual.....$444,000
1976 Estimate.....$502,000
1977 Estimate.....$594,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	23	2	25
11 Personnel Compensation.....	425	36	461
12 Personnel Benefits.....	37	4	41
21 Travel & Trans. of Persons...	2		2
23 Rent, Comm. & Utilities.....	23		23
25 Other Services.....	10	51	61
26 Supplies and Materials.....	2		2
31 Equipment.....	3	1	4
TOTAL	502	92	594
Analysis of Increase			
Necessary Pay.....		16	
Program Funds.....		76	

ABSTRACT - Computer specialists, mathematicians, statisticians, and support personnel of the Office of Computer Services (OCS) develop and apply mathematical techniques for research projects and design systems and programs for automated administrative and collections management applications. An increase of 2 positions and $76,000 is requested in FY 1977 to meet the following support needs: (1) an additional mathematician ($12,000) and support funds ($1,000) to meet an increasing demand for mathematical and statistical analysis assistance by curators and researchers in the areas of historical, biological, chemical, and geological research; (2) a computer specialist ($12,000) and support funds ($1,000) to permit expanded use of ADP in the collections management and administrative areas; and (3) funding of $50,000 to give the professional research staff and others an interactive processing capability. An additional amount of $16,000 is requested for necessary pay for current staff.

PROGRAM - Computer specialists, mathematicians, and support personnel in OCS work with curators, historians, scientists, and management personnel to apply mathematical techniques, such as statistical analysis, mathematical modeling, data reduction, and cluster analysis, to research problems and to develop automated administrative and collections management systems. Approximately 75 percent of the Office's resources are expended in support of research and collections management while the remainder is used on management support functions, such as accounting, payroll, and procurement. Work performed by OCS contributes annually to producing information that is published in approximately 100 scientific publications.

Presently, to reduce development costs, scientific and collections management computer programs are being developed that can be utilized in many areas with minor modifications. The Office maintains a computer program library containing over 350 active programs and is currently serving researchers, curators, and administrators throughout the Institution. The Smithsonian's main collections data management system, SELGEM, has been distributed to over 50 universities, government agencies, and other museums, representing valuable assistance to those institutions.

JUSTIFICATION OF $76,000 INCREASE (Automatic Data Processing):

Scientific Research Applications - An increasing demand for mathematical and

statistical analysis assistance by curators and researchers in the areas of historical, biological, chemical, and geological research has outstripped current resources. Seven departments in the National Museum of Natural History and ten other bureaus are major users of these resources. Projects vary from the application of mathematical/statistical techniques to solve day-to-day research needs, to reducing large quantities of data from electron microprobe equipment, to portraying research information in a graphic form. During FY 1976, the present staff of four will be involved with projects such as those concerned with ecological studies, animal behavior, radiation analysis, and anthropological studies, to name a few.

The Institution initiated a study several years ago to develop data for a five-year ADP plan for the planning and efficient allocation of resources. This plan, which is updated annually, is based upon historical experience and projected needs in all areas of ADP usage. Based upon the recent update, a backlog of five man-years of effort is projected for FY 1977 in the area of research applications. Since it is estimated a mathematician can complete approximately two projects per month, this backlog is equivalent to approximately 120 projects. Backlogged projects will extend across the entire museum complex from art to zoology. Additional staffing of one mathematician ($12,000) and support funds of $1,000 for equipment, supplies, training, and computer time will reduce the projected backlog for FY 1977 to four man-years.

Collections Management and Administrative Applications - To assist in the management of the National Collections, the Institution has developed a general purpose information system called SELGEM. Although still under development, SELGEM has become widely recognized, particularly in the museum community, as a reliable vehicle for information processing. Current SELGEM development is centered on reducing processing costs and extending application of the system throughout the various museums to provide automated retrieval and indexing of data pertaining to the National Collections. Results benefit the professional staff by providing catalogues, cross-referencing indexes by categories, correlation of data, better inventory control, and a future vehicle for responding to technical and non-technical queries by the research community or general public. Automated files now permit curators, researchers, and scientists to analyze, present, and interpret their data in ways that were impractical with manual files. The system also allows for an economical means of exchanging data via magnetic tape without physically transporting specimens or visiting other locations. In FY 1977 seven man-years of effort are available for systems analysis, computer programming, program maintenance, documentation, and customer liaison in the collections management area.

To date, approximately 2,500,000 specimens have been indexed into over 300 distinct collections management files and over 200 various processing requests are performed monthly against those files. From past experience it is estimated that 30 to 35 percent of a computer specialist's time is devoted to continual maintenance and liaison once a project is considered in production. Based upon the aforementioned five-year resource study, a backlog of five man-years is projected for collections management applications in FY 1977.

Administrative applications of ADP resources involve areas such as payroll, personnel, libraries, accounting, supply, public service, and plant and protection services. The six man-years of effort available to the above areas for systems analysis, computer programming, program maintenance, documentation, and customer liaison fall short of filling current requirements, and a four man-year backlog of work is projected by FY 1977. Of major concern is the Institution's need to enhance the use of ADP with remote job entry processing, source data automation teleprocessing, and optical character reading.

Staffing of one computer specialist ($12,000) and support funds of $1,000 for equipment, supplies, training, and computer time are requested to assist in reducing the backlogs in the collections management and administrative areas.

Interactive Processing Capability - In 1975 a panel of Smithsonian administrative and scientific personnel, convened by the Secretary, completed a comprehensive review of computer services currently available to the Institution as compared with the computer needs of the staff. Special emphasis in the study was directed to OCS activities. The group strongly recommended that the Institution move to acquire an interactive processing capability, principally to serve the needs of individual researchers, including visiting students and scholars, but also to be available to meet the needs of business managers. Such an interactive capability, which is not now provided by the current computer, allows a user to work directly with a computing system without the delays and interruptions posed by coding, keypunching, batch processing, and slow turn-around time. In the research area, this capability would allow scientists and historians to follow individual lines of investigation by personally performing calculations or comparisons (e.g., on environmental data associated with endangered plants or animals) in one continuous mental process, submitting data, getting results, testing hypotheses, and if necessary revising the approach. In the business management area, this capability would permit much quicker and more accurate processing in areas where up-to-date information is particularly important, such as on inventory levels. Funding of $50,000 is sought to provide this capability either by the purchase of commercial services or by the leasing of equipment on a cost-shared basis with user units, whichever is determined to be most cost effective.

OFFICE OF SUPPLY SERVICES

1975 Actual.....$448,000
1976 Estimate.....$483,000
1977 Estimate.....$523,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	26	1	27
11 Personnel Compensation.....	334	25	359
12 Personnel Benefits.....	30	2	32
21 Travel & Trans. of Persons...	2		2
23 Rent, Comm. & Utilities.....	14		14
24 Printing and Reproduction....	3		3
25 Other Services.....	11		11
26 Supplies and Materials.....	86	11	97
31 Equipment.....	3	2	5
TOTAL	483	40	523
Analysis of Increase			
Necessary Pay.....		15	
Program Funds.....		25	

ABSTRACT - The Office of Supply Services (OSS) procures supplies, materials, contractual services, and equipment for Smithsonian activities. The FY 1977 budget seeks an increase of 1 position ($12,000) to handle an increasing number of procurement actions. An amount of $13,000 is sought to purchase essential stockroom inventory items. Funding in the amount of $15,000 is required for necessary pay for existing staff.

PROGRAM - The Office of Supply Services procures supplies, materials, contractual services, and equipment for research, curatorial, exhibit preparation, and other Smithsonian activities. OSS stocks and issues United States Government and Smithsonian Institution standardized office supplies such as letterhead paper, envelopes, and forms required in daily management operations and serves as a central receiving unit for the Institution. It also procures, stocks, and distributes all photostatic copier paper used by the Smithsonian's Washington area offices. It operates a property management program obtaining excess property in lieu of new procurement whenever possible. OSS also maintains all property records and schedules and oversees periodic inventories to ensure adequate control, accountability, security, and utilization of equipment.

In FY 1975, an estimated 650 contracts valued in excess of $15,000,000 and approximately 9,200 procurement actions valued in exeess of $10,000,000 were handled by this Office. Present information indicates an appreciable increase in workload in FY 1976 and FY 1977.

In FY 1975 portions of the Office of Supply Services' administrative stockroom were decentralized. Funds were transfered to Smithsonian Washington area offices and bureaus, allowing these units to purchase directly from GSA stores items such as pens, pencils, and other small office supplies used in their day-to-day operations. Resulting benefits are: (1) freeing of OSS procurement agents to handle the burgeoning number of contracts and non-office supplies procurements; (2) offices and bureaus can make direct purchases of small office supplies as they are needed; and (3) freeing space that was needed to stock these supplies.

JUSTIFICATION OF $25,000 INCREASE (General Administration) - During the first half of FY 1976 the Office of Supply Services enacted a number of austerity measures designed

to cope with the diminishing effect of inflation on stockroom inventories and to handle an increasing number of contracts and procurement actions occasioned by the general expansion in many Smithsonian programs. Chief among these measures are increased emphasis on bulk purchasing to take advantage of vendor discounts when possible and a reorganization within OSS to utilize more fully current personnel resources. Still, OSS is unable to maintain sufficient inventory levels to provide supplies to Smithsonian units as they are needed; nor is current staff able to keep pace with the increased number of contracts and procurement actions which it is required to process annually.

Additionally, the Smithsonian Office of Audits concluded a study of OSS in late FY 1975 in which its major finding was that Supply needed to establish a telephone order desk procedure whereby numerous purchases currently being made by the Smithsonian Washington area offices directly with vendors instead could be phoned into OSS and consolidated into reduced numbers of procurements. Some cost savings will be possible as a result of larger purchases and the prompter receipt and processing of invoices, thus assuring that discounts can be taken. The principal benefit will be the reduction of paperwork in the ordering units and in the Accounting Division by doing away with the forms now associated with units' direct purchasing. One procurement agent ($12,000) is requested to establish and man this new telephone order desk and to help alleviate current procurement backlogs. An additional amount of $13,000 is requested to purchase and stock essential supplies needed to support research, curatorial, and exhibits-related activities in the Washington area.

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MANAGEMENT ANALYSIS OFFICE

1975 Actual.....$201,000
1976 Estimate.....$231,000
1977 Estimate.....$236,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	10	0	10
11 Personnel Compensation.....	198	4	202
12 Personnel Benefits.....	17	1	18
23 Rent, Comm. & Utilities.....	7		7
24 Printing and Reproduction....	1		1
25 Other Services.....	5		5
26 Supplies and Materials.....	3		3
TOTAL	231	5	236
Analysis of Increase			
Necessary Pay.....		5	
Program Funds.....		0	

ABSTRACT - The Management Analysis Office (MAO) performs a wide range of general management staff assistance and advisory services related to museum, research, and support operations in the Smithsonian. No program fund increase is requested for FY 1977. Necessary pay in the amount of $5,000 is sought for current staff.

PROGRAM - Under the executive direction of the Director of Support Activities, the Management Analysis Office is responsible for assisting in the development, recommendation, and implementation of effective business administration and management improvement programs.

The Office provides management advisory services, makes studies of systems and procedures particularly as they relate to proposed administrative instructions, and assists in the evaluation and analysis of management problem areas. Staff consultants provide specialized information to aid Smithsonian staff managers in such areas as the development of organizational, functional, staffing, and flow charts; planning and development of internal procedures; and implementation of management improvement programs.

MAO is responsible for the overall development and administration of the directives management system through which proposed Smithsonian procedures and policies are reviewed, coordinated, and approved by the Secretary before being disseminated and implemented. In addition, the Management Analysis Office provides for the administration and management of a comprehensive forms program for internal and external operations of the Smithsonian's various programs.

Significant projects completed or initiated during FY 1975 included publishing new staff handbooks on correspondence, automatic data processing, and identification credentials, and a second edition of the requisitioning (purchasing) handbook. At year's end, the handbook on travel procedures was in final form with publication scheduled for FY 1976.

OFFICE OF PROTECTION SERVICES

1975 Actual.....$5,329,000
1976 Estimate.....$6,645,000
1977 Estimate.....$7,606,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	527	32	559
11 Personnel Compensation.....	5,530	862	6,392
12 Personnel Benefits.....	498	78	576
21 Travel & Trans. of Persons...	7		7
23 Rent, Comm. & Utilities.....	2		2
24 Printing and Reproduction....	1		1
25 Other Services.....	377	21	398
26 Supplies and Materials.....	153		153
31 Equipment.....	77		77
TOTAL	6,645	961	7,606
Analysis of Increase			
Necessary Pay.....		224	
Program Funds.....		737	

ABSTRACT - The Office of Protection Services (OPS) is responsible for the protection, security, health, and safety programs of the Institution. An increase of $737,000 and 32 positions is requested for FY 1977. Of this dollar amount, 71 percent is related to two new museums (National Air and Space Museum and Cooper-Hewitt Museum). The remaining 29 percent is related to new exhibitions, halls, and galleries to be opened during the Bicentennial celebration. Specifically, the request covers: (1) National Air and Space Museum--$458,000 for the annualization of 55 new FY 1976 positions, $11,000 for the annualization of support costs, $12,000 and 1 position for a registered nurse, and $14,000 and 1 position for an electronics technician; (2) Cooper-Hewitt Museum--$26,000 for the annualization of 14 new FY 1976 positions; and (3) New Exhibitions--30 guards ($206,000) and support funds of $10,000 to provide coverage for new halls and galleries. An amount of $224,000 is also sought for necessary pay for existing staff.

PROGRAM - The Office of Protection Services is charged with two major missions: (1) to secure and protect 12 major and several lesser facilities in the Washington area, including their collections, employees, and visitors; and (2) to ensure a safe and healthful environment for employees and an annual public visitation of almost 18 million persons to buildings on and near the Mall. These responsibilities stem primarily from Public Laws 82-206 and 88-391 relating to the policing and grounds of the Smithsonian Institution and its constituent bureaus, and Public Law 91-596 and E.O. 11807 which deal with occupational health and safety. Additionally, the OPS provides policy guidance on security and safety matters for the entire Institution, whether in Washington or elsewhere.

The OPS carries out its mission through a staff of guards and special police officers who guard and protect the facilities, staff, and visitors, and enforce laws on Smithsonian property; safety officials who administer occupational safety and health; medical staff who administer services to staff and visitors; technical personnel who work with electronic and other physical security systems; and administrative support personnel who are involved in managing the operation (including personnel, budget, training, investigative and clerical functions, and the like).

During FY 1975, the Smithsonian's canine program got underway with six handlers selected from the ranks of guards and police officers already authorized and with six dogs donated to the Institution by private citizens. The canine teams operate almost exclusively during the hours the buildings are closed to the public, conducting patrols either on foot or in vehicles. In the first half-year, the teams discovered and reported more than 300 safety and security hazards; have been involved in 22 police-type actions; and have rendered six assists to other police departments.

During FY 1976, the first comprehensive Institution-wide policies on security, safety, and health were completed. A comprehensive health services program is currently in the developmental stages and should be completed in FY 1977.

The first phase in the development of a Smithsonian-owned and operated alarm system control center was completed with the renovation of the space for the center and the installation of the first monitoring equipment. Although initially limited to the South Mall museums, the system will eventually cover all Smithsonian museums in the District. By converting from the current use of leased, externally-maintained and monitored equipment and systems, the Institution will enhance its ability to detect and handle emergency situations in the fastest possible time.

A new, modern central health unit was opened in the National Museum of History and Technology, and a first-aid station, open half-days, has been established in the Hirshhorn Museum. The health unit to be opened in the new National Air and Space Museum during the Transition Quarter will be the first full-time health unit on the south side of the Mall. During FY 1974, the health units provided 18,323 treatments (an average of 50 per day); during FY 1975, 22,231 treatments (an average of 61 per day); and during the first five months of FY 1976, 9,619 treatments (an average of 63 per day).

The number of misdemeanor and felonious incidents committed on Smithsonian Institution premises in 1975 declined by 16 percent from the total in 1974. Since 1971, there had been increases each year: in 1972, 19 percent over 1971; in 1973, 59 percent over 1972; in 1974, 0.3 percent over 1973. Significantly, in 1975 there was a 40 percent decline in the number of larcenies of government property. Extraordinary efforts were made in 1975 in an attempt to reduce larcenies, including the use of canine teams after hours and the use of plainclothes officers.

JUSTIFICATION OF $737,000 INCREASE (Protection):

National Air and Space Museum - The FY 1976 budget approved the final increment of 55 positions required for protecting the new National Air and Space Museum, along with funds for one quarter of the year. An additional $458,000 are required to annualize funding for the 55 positions, along with $11,000 to annualize support costs. Two additional non-guard positions are required in FY 1977: one nurse to staff the new health unit ($12,000) and one electronics technician to maintain fire and intrusion systems ($14,000).

Cooper-Hewitt Museum - The FY 1976 budget authorized 14 positions for guards for the new Cooper-Hewitt Museum in New York City for three quarters of a year. An additional $26,000 are required in FY 1977 to annualize the funding for these positions.

New Gallery and Exhibit Protection - In 1976 new halls, galleries, and exhibitions will be opening for the Bicentennial observance and will remain open thereafter for the public's education and pleasure. Included in this category are the "Nation of Nations" exhibit (with a new terrace entrance) in the History and Technology Museum, the Portrait Gallery's new third floor gallery, and the "1876" exhibition in the Arts and Industries Building. Certain of these spaces were not previously open to the public. In other cases,

the scope, layout, and contents of the new exhibits will require more extensive protection. Special Bicentennial Program funds will provide protection services to these areas during the summer of 1976 but will not be available the following year. An increase of 30 positions ($206,000) with $10,000 in support funds for services, supplies, and equipment is requested to provide long-term coverage of these areas.

Manpower and budget requirements for guarding are based on the designation of "posts." A post may be either one point (for example, an entrance to a museum) or an area, varying in size, based upon: the use of the area; the value of objects on display; the vulnerability of those objects to damage, theft, and vandalism; and the effective field of vision of the guard assigned to that post. The number of guards required to man one post may vary from one (the post must be manned eight hours a day, five days a week) to five (the post must be manned 24 hours a day, seven days a week). All the guard positions requested in this budget are for new exhibit areas. Even if all new positions are approved, the OPS will still be roughly 140 guards short for manning all currently designated posts. This number is equivalent to 82 guard posts.

OFFICE OF FACILITIES PLANNING AND ENGINEERING SERVICES

1975 Actual.....$602,000
1976 Estimate.....$612,000
1977 Estimate.....$676,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions....	24	2	26
11 Personnel Compensation.....	512	47	559
12 Personnel Benefits.....	46	5	51
21 Travel and Trans. of Persons..	11		11
24 Printing and Reproduction.....	6	2	8
25 Other Services.....	26	4	30
26 Supplies and Materials.....	7	2	9
31 Equipment.....	4	4	8
TOTAL	612	64	676
Analysis of Increase			
Necessary Pay.....		29	
Program Funds.....		35	

ABSTRACT - The Office of Facilities Planning and Engineering Services (OFPES) provides professional architectural and engineering services for the buildings and facilities management function, including long- and short-range planning, design, cost and budgetary estimates, contract supervision, construction management, engineering analysis, and general construction administration. For FY 1977 an increase of 2 positions and $35,000 is requested to meet the following needs: (1) a planner/estimator ($15,000) to provide in-depth analysis of construction projects and increased accuracy in cost estimating; (2) a clerk-typist ($8,000) to assist in the timely preparation of data related to construction contracts; and (3) support funds of $12,000 for related supplies, equipment, and contract services. An additional $29,000 are requested for necessary pay for current staff.

PROGRAM - Planning and design, engineering, architectural, and construction supervision functions are important components of buildings and facilities management. Assistance provided by the Office of Facilities Planning and Engineering Services ranges from architectural/engineering consultation to full planning, engineering, and construction management services. Services may either be provided by staff professionals or by consultants. Projects include: major repair and maintenance; restoration and renovation; improvement and alterations including those needs associated with new exhibitions; site development; new construction; and long-range planning.

Through revision of management methods, improved staff professionalism, and restructuring of operating procedures, OFPES is striving to increase its overall production capability. In-depth analysis of construction projects, improved administration, and increased sophistication in cost estimating are resulting in more efficient construction planning and budgeting, and more effective utilization of appropriated funds. During FY 1976, emphasis is being placed on formulation of definitive long-range planning for facilities development together with preliminary budget estimates. In addition, approximately 200 individual repair, alteration, improvement, and restoration projects will be developed, processed, and administered. Major new projects in preliminary planning and development stages include South Yard, Museum Support Facility, and master plans for facilities at the Mt. Hopkins Observatory, Chesapeake Bay Center for Environmental Studies, and the Tropical Research Institute.

JUSTIFICATION OF $35,000 INCREASE (Buildings and Facilities Management) - The large number of buildings comprising the physical plant require constant inspection, repair, and renovation for their protection, for the safeguarding and exhibition of museum collections, and for the safety and accommodation of staff and visitors. Specialized requirements supportive of research and education efforts further contribute to the facilities planning and engineering workload.

If this essential work is to be accomplished on an efficient and economical basis, extreme care must be taken in project planning and in the development of cost estimates. The accuracy of these estimates influences not only the planning/budgeting process but also the subsequent development and supervision of contracts. The variety, age, and historical importance of the facilities composing the Smithsonian's physical plant present unique problems in planning and budgeting for their renovation and improvement. With buildings ranging in age from new to over 120 years old, the quality and accuracy of relevant architectural and engineering data vary significantly. Furthermore, rapid price increases experienced over the past few years have served to complicate the development of cost estimates while, at the same time, increasing the need for their accuracy. In order that sufficient in-depth analysis can be devoted to this function, an additional planner/estimator ($15,000) is requested.

Timely processing, recording, and preparation of data related to construction contracts is necessary to prevent work delays and resultant cost increases. There are approximately 60 active contracts during any given period. A clerk-typist ($8,000) is required to process and prepare contract documents, proposals, cost records, payment receipts, and construction reports.

Support funds in the amount of $12,000 are requested to meet the increased costs of printing and reproduction of architectural and engineering plans and specifications ($2,000), to provide specialized contract services ($4,000), and to purchase miscellaneous supplies and equipment such as architectural drafting tables, calculator units, etc. ($6,000).

OFFICE OF PLANT SERVICES

1975 Actual.....$ 9,838,000
1976 Estimate.....$12,002,000
1977 Estimate.....$14,028,000

(Dollars in thousands)	Base FY 1976	Increase Requested	Est. FY 1977
Number of Permanent Positions...	319	34	353
11 Personnel Compensation.....	4,169	714	4,883
12 Personnel Benefits.....	375	64	439
21 Travel & Trans. of Persons...	6		6
23 Rent, Comm. & Utilities.....	6,356	1,140	7,496
24 Printing and Reproduction....	4		4
25 Other Services.....	551	65	616
26 Supplies and Materials.....	415	30	445
31 Equipment.....	126	13	139
TOTAL	12,002	2,026	14,028
Analysis of Increase			
Necessary Pay.....		279	
Other Uncontrollable.....		884	
Program Funds.....		863	

ABSTRACT - The Office of Plant Services (OPLANTS) operates, maintains, and repairs 10 museum and art gallery buildings and a number of other work and collection storage areas. It provides utilities, transportation, mail, telephone, and horticultural services in support of research, exhibit, education, and other public programs. An FY 1977 budget increase of 34 positions and $863,000 is sought for the following Buildings Management requirements: (1) National Air and Space Museum--25 new mechanic, gardener, and window washer positions ($332,000) and the annualization of funding for 25 persons hired in FY 1976 ($72,000) plus $48,000 for services, supplies, and equipment to operate and maintain the new building; (2) General Maintenance Services--9 new pest control, custodial laborer, and gardener positions ($95,000) for other facilities; (3) Rental Space--$150,000 for rent and related expenses; and (4) Utilities--$166,000 for expected higher consumption of utilities resulting from new facilities. Further amounts of $279,000 for necessary pay and $884,000 for utility, postage, and communication rate increases are justified in the Uncontrollable Section (page A-5).

PROGRAM - OPLANTS operates, maintains, and repairs the Smithsonian's buildings on and near the Mall and certain storage, service, and collections preservation facilities elsewhere. These include approximately four million square feet in ten museums and art galleries. Operational responsibilities for utilities funding and management include large and complex airconditioning, heating, and ventilating systems and electric or electronic environmental controls and systems for the protection of buildings, visitors, natural history specimens, paintings, sculpture, and objects of American history and technology. Trade and craft assistance, such as carpentry, painting, and electrical work, is provided to hundreds of research projects, exhibition installations, and special public events every year. Packing, crating, warehousing, and moving services are provided for museum objects and collections.

In FY 1975, communications responsibilities included the management and funding of telephone installations and services handling some 280,000 long distance (Federal Telecommunications System) and 1.8 million local calls; the processing of 850,000 pieces of outgoing mail; and the delivery of 2.6 million pieces of incoming mail.

Transportation services cover maintenance, repair, and operation of about 50 vehicles. OPLANTS also provides horticultural services to 80 acres of grounds and to building interiors and will provide support to the newly-installed conservatory in the Arts and Industries Building and to the new Victorian gardens south of the original Smithsonian Institution Building.

Other management services include providing information to bureau directors concerning status of work requests and costs, utilities consumption and costs, and supply data. OPLANTS has responsibility for overall management of the insect and rodent control program. The computerized power management system installed in the History and Technology Building in early 1975 is being expanded to take in the Natural History, Arts and Industries, Smithsonian, and Air and Space Buildings. Increased savings in utilities costs and energy consumption will be realized by late spring or summer of 1976. Furthermore, OPLANTS is establishing an efficient supply management system to support its operations.

JUSTIFICATION OF $863,000 INCREASE (Buildings Management):

National Air and Space Museum - This new museum building will open officially to the public in July 1976. The 25 additional positions requested for FY 1977 represent the last increment of the planned 55 positions needed to operate and maintain heating, airconditioning, and humidity control systems; accomplish a comprehensive preventive maintenance program on all installed mechanical equipment; and provide necessary trade and craft support to NASM's exhibits and other programs. An amount of $300,000 is required to cover personnel costs for 22 additional mechanic positions, $20,000 are required to provide two additional gardeners for maintenance of plantings, $12,000 are needed to provide one window washer for extensive window cleaning requirements in this heavily glassed building, and $48,000 are sought for supplies, services, and equipment to support the above personnel. A further $72,000 are required to annualize the funding for the 25 part-year jobs approved in FY 1976.

General Maintenance Services - Four positions ($30,000) are required to provide more adequate custodial/labor support to the Anacostia Museum, the Silver Hill, Maryland, Storage Facility, and the Smithsonian Institution Service Center. Anacostia's custodial work was provided under contract in the past, but the services obtained were totally unsatisfactory. Exhibits preparation and other spaces must be cleaned during work hours for personnel safety, fire hazards due to sawdust and trash collection must be controlled, and restrooms must be serviced and kept in a sanitary condition. The Silver Hill custodial effort is presently done by National Air and Space Museum mechanics when time permits. Assignment of a full-time custodial/laborer position will result in better cleaning and safer working conditions, elimination of fire hazards, the improvement of health conditions, and free the mechanics for more highly skilled work. The Smithsonian Institution Service Center is a newly-opened facility and must be provided with sufficient custodial and labor assistance to ensure adequate cleanliness and elimination of safety hazards.

Landscape maintenance of the newly-completed four-acre Victorian garden in the Smithsonian Institution Building South Yard and the conservatory in the reopened Arts and Industries Building will require four additional gardener positions at a cost of $51,000. The garden, installed by contract, will consist of seasonally-changing flower borders, 10,000 annuals, 10,000 chrysanthemums, and 30,000 spring bulbs, plus sheared topiaries and lily ponds. A garden of this size and intricacy should have one gardener per acre of garden. The maintenance of this garden can only be done through the use of inhouse staff under proper supervision. Maintenance of the conservatory in the reopened Arts and Industries Building, which will have many large and valuable tropicals, includes daily watering, manual humidity control, periodic fertilizing, and specialized pruning. Such work cannot be contracted.

An amount of $14,000 is required for one insect and rodent controller position to coordinate the total program. This individual will supervise contract work and inhouse efforts to ensure overall effective and safe results. The recent rodent infestation in the general Mall area must be controlled, especially with expected increased visitor levels. This program has been very ineffective in the past due to lack of trained personnel, funds, and contract monitoring.

Space Rental and Related Expenses - An additional $150,000 are required in FY 1977 to cover increased rental costs and to upgrade ventilation at the Service Center for its industrial work areas. The Smithsonian is required by the terms of its leases at L'Enfant Plaza and the Service Center to assume the costs for increased operating expenses. These additional costs and the estimated Federal Building Fund increase for the Oceanographic Sorting Center located at the Washington Navy Yard will total approximately $90,000 in FY 1977. Also, it is very desirable from the standpoint of health and safety to improve ventilation systems for the various industrial activities located at the Service Center and to provide some airconditioning. An estimated $60,000 would be required to install circulation and airconditioning equipment which the Smithsonian has salvaged from the renovation of the Arts and Industries Building and the demolished South Yard buildings.

Utilities - Additional funding to cover known and projected costs of utility rate increases (steam, gas, electricity, and telephone) is budgeted in the requested FY 1976 supplemental appropriation and in the Uncontrollable Section of the FY 1977 budget. Presented here is a request for a further $166,000 to fund projected higher consumption resulting from the availability of new public facilities. These include the new National Air and Space Museum, the renovated and airconditioned Arts and Industries Building, the South Yard garden area, and the new education and restaurant facility built in the previously open West Courtyard of the Natural History Building. At the rates expected to be in effect in FY 1977, an amount of $129,000 is required for an expected additional use of three million KWH of electricity and $37,000 for five million additional pounds of heating and humidification steam. The expected additional consumption of electricity for the new facilities is six million KWH, but energy conservation measures in all facilities will save about three million KWH.

SMITHSONIAN SCIENCE INFORMATION EXCHANGE

1975 Actual	$1,805,000
1976 Estimate	$1,944,000/1
Transition Quarter Estimate	$ 523,000/2
1977 Estimate	$1,900,000

The Smithsonian Science Information Exchange (SSIE) was established in 1949 to provide a national collection and source of information on research in progress. Its purpose continues to be to facilitate research planning, management, and coordination through the dissemination of information designed to prevent the unnecessary duplication of research and to foster scientific communication within the Nation's research community. The Exchange works closely with policy makers in an increasing number of Federal agencies to develop ways in which the SSIE data base might be more effectively applied to the solution of problems of national and international importance. As a result, a number of large-scale support activities have been initiated in areas such as energy, cancer, and pesticides research which are earning a high degree of recognition for the Exchange and an increasing appreciation of the value of its services. Significantly, the General Accounting Office recently documented the importance of SSIE's policy analysis support capabilities (and identified a need for strengthening them) in a report to Congress which analyzed Federal funding for materials research and development based on information drawn from the SSIE data base./3

The operation of the Exchange has two principal components. The first is the collection, indexing, and entry into its computer system of information on research in progress in all fields of science. The extent of this effort is measured by the number of projects received each year from organizations which voluntarily register their research with the Exchange. The fact that input volume has risen significantly in recent years (Table I) not only reflects the importance attached by a growing number of organizations to the purposes of the Exchange, but serves, as well, as an indication of the comprehensiveness of its coverage, the effectiveness with which the data base can be applied to meeting user needs, and the extent to which the Exchange can continue to expand the use of its services.

The second major component of SSIE's operation is the delivery of information products and services through the retrieval of information from the data base. The Exchange not only provides services directly to users, but also supplies data to a growing number of specialized information centers. In addition, information is regularly used in the preparation of catalogues of research in progress in specific subject areas, such as pesticides, water resources, cancer, and dental research. Distribution of these catalogues by the organizations which sponsor their compilation brings SSIE information to users on a significantly broader scale than would be possible through response to requests submitted by individuals directly to the Exchange.

One major example of services of this kind has been the establishment and operation by SSIE of a Current Cancer Research Project Analysis Center under the International Cancer Research Data Bank program. Funded by the National Cancer Institute for an initial period of three years, SSIE, through the Center, has undertaken to expand input in the field of cancer research, improve existing indexes and indexing techniques involving this research, and provide a wide variety of information services to the cancer research community, not only nationally, but internationally as well. As an

/1 Includes supplemental appropriation request of $69,000 for October 1975 General Schedule pay raise costs.

/2 Includes supplemental appropriation request of $23,000 for October 1975 General Schedule pay raise costs.

/3 Comptroller General of the United States, Federal Materials Research and Development: Modernizing Institutions and Management, OSP-76-9, December 2, 1975.

integral part of this effort, SSIE's file of information on cancer research in progress is also being made available to on-line users through the computerized MEDLINE system operated by the National Library of Medicine.

Demand for SSIE output services, all of which are charged for, has increased dramatically over the past five years (Table I). As this demand has grown, SSIE has consistently pursued policies designed to maximize user revenues and minimize requirements for Federal support. The success with which it has done so is reflected by the fact that, despite the increased costs of rapidly expanding input and output workloads, SSIE has been able to hold its requirements for Federal support to a level below the rate of inflation alone. This success can be attributed in part to major improvements in both the comprehensiveness and the timeliness of the information in the data base, which have attracted a growing number of users to the system. It is also the result of actions by the Exchange to increase user fees steadily whenever it has been possible to do so without these increases being counterproductive to the goal of maximizing revenues. SSIE expects to continue to improve its data base and to expand user revenues in a manner designed to yield increasing user contributions to the total cost of operating the Exchange.

SSIE's proposed budget for FY 1977 (Table II) contains a request for $1,900,000 in Federal support. In order to make up the difference between this request and the amount believed to be required to process input at the projected FY 1977 level and to meet continuing increases in operating costs caused by inflation, SSIE has undertaken to study the possibility of further increasing its user fees and is examining a number of other steps which might be taken to reduce input processing costs and avoid increases in processing backlog. The Exchange believes it will be able to do so barring unanticipated increases in project registration.

A number of technical improvements have already been made, two of which stand out as having contributed significantly to the effectiveness with which SSIE has been able to control its costs and expand its services. The Exchange has successfully negotiated for larger percentages of its Federal input to be supplied in magnetic tape form, a change which has had the effect of reducing the overall cost per project registered. SSIE has also developed and implemented a system of machine-assisted indexing which has measurably reduced unit indexing costs. Both improvements also have had the effect of facilitating the entry of projects into the system and of significantly reducing the delay between receipt of the project summary and its availability for retrieval.

Further improvements in the system are still required, however, as the GAO report makes clear. Greater attention needs to be paid to obtaining complete project funding information from Federal agencies, for example, and coverage of research in the private sector by SSIE is still limited by a lack of the resources necessary to encourage registration. More computer storage capacity also would be required if SSIE were to maintain the recommended two complete fiscal years of information on active file, in addition to data being registered in the current year. These improvements must, of necessity, continue to be deferred. Moreover, the current budget request does not include funds which would be necessary to improve the comprehensiveness of the SSIE data base through a mechanism such as mandatory input, as was recommended by GAO in the area of materials research.

Within the limits imposed by available resources, SSIE has nevertheless operated effectively and efficiently, and, as a result, has come to play an increasingly important role in the nation's research community. It has significantly expanded the level and quality of its user services and has generated, thereby, resources which have contributed more and more to the overall cost of its operation. This FY 1977 budget request has been prepared to reflect requirements believed to be necessary if SSIE is to continue to meet effectively the Nation's need for ongoing research information and if the level of Federal support required for it to do so in future years is to be held to a minimum.

Table I

SSIE Processing Workload and Sources of Revenue

	Actual FY 1972	Actual FY 1973	Actual FY 1974	Actual FY 1975	Projected FY 1976	Projected FY 1977
Processing Workload						
Input Volume [1]	92,403	85,530	102,368	125,531	130,000	136,000
Output						
Report Volume [2]	502,856	348,600	605,300	671,000	805,200	885,700
Contracts						
- No. active during FY	16	15	13	18	20	21
- Average $ cost ($000)	$ 8.6	$ 14.2	$ 8.5	$ 27.5	$ 39.4	$ 42.4
Sources of Revenue & Total Costs						
Federal Support [3] ($000)	$1,600.0	$1,600.0	$1,695.0	$1,805.0	$1,944.0	$1,900.0
User Revenues ($000)						
Search Products	230.9	213.9	305.9	339.0 [3]	375.0 [3]	400.0 [3]
Contract Services	148.3	216.3	110.4	495.0	788.4	890.0
Total User Revenues	379.2	430.2	416.3	834.0	1,163.4	1,290.0
Total Costs of Operation	$1,979.2	$2,030.2	$2,111.3	$2,639.0	$3,107.4	$3,190.0
Distribution of Total Costs						
Federal Support	81%	79%	80%	68%	63%	60%
User Revenues	19%	21%	20%	32%	37%	40%

1/ Notices of Research Projects indexed.
2/ Notices of Research Projects disseminated in the form of SSIE search products.
3/ Federal support per Notice of Research Project indexed has been reduced by 19% during period shown.
4/ Includes contract support to the National Cancer Institute under the International Cancer Research Data Bank program.

TABLE II

SMITHSONIAN SCIENCE INFORMATION EXCHANGE, INC.

PROPOSED BUDGET FY 1977

	Total Cost of Operations	Federal Support Requested	User Support
Personnel			
Salaries	$1,952,600	$1,269,900	$ 682,700
Benefits	300,700	195,600	105,100
Contract Services			
Travel	33,900	13,000	20,900
Transportation of Things	3,600	2,100	1,500
Rents			
Telephone	12,000	7,200	4,800
Computer	274,900	148,500	126,400
Photocopying	17,600	10,500	7,100
Building	120,800	72,000	48,800
Other	45,100	5,100	40,000
Printing	77,900	7,900	70,000
Other Services			
Equipment Maintenance	12,400	7,400	5,000
Other	96,600	16,600	80,000
Supplies	91,900	54,800	37,100
TOTAL	$3,040,000	$1,810,600	$1,229,400
SI Services	150,000	89,400	60,600
GRAND TOTAL	$3,190,000	$1,900,000	$1,290,000

SMITHSONIAN INSTITUTION
MUSEUM PROGRAMS AND RELATED RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM)

1975 Appropriation	$2,000,000	Equivalent in Excess Foreign Currencies
1976 Appropriation	$ 500,000	
Transition Quarter Appropriation	$ 0	
1977 Estimate	$4,481,000	

An appropriation of $4,481,000 in foreign currencies determined by the Treasury Department to be in excess of the normal needs of the United States is requested for FY 1977. The appropriation will be used to continue a program of grants to United States institutions for field research in the program's areas listed below in those countries where excess local currencies are available. In addition, it will allow payment of $1,000,000 equivalent in excess Egyptian pounds (the third of four equal annual contributions) to the Campaign to Save the Monuments at Nubia.

Obligations of Funds by Program Area
(dollar equivalents)

	FY 1975 Obligations	Estimated Obligations/1 FY 1976	Trans. Qtr.	FY 1977
Archeology and Related Disciplines	$1,946,843/2	$845,140	$ --	$3,434,420/2
Systematic and Environmental Biology	708,654	211,303	30,000	690,214
Astrophysics and Earth Sciences	212,905	19,651	--	430,431
Museum Programs	261,656	16,317	--	--
Grant Administration	100,339	30,589	--	10,000
Transfer to NSF--Science Information Program	--	83,000	--	--
Total	$3,230,397/2	$1,206,000	$30,000	$4,565,065/2

/1 Obligations based on most current information.

/2 FY 1975 and FY 1977 amounts include respectively the second and third of four annual payments, each of $1,000,000 equivalent in excess Egyptian pounds, which together would constitute the United States' contribution to the Project to Save the Temples of Philae which were inundated by Nile River waters regulated by the Aswan Dam. President Kennedy in his letter to the Congress dated April 6, 1961, proposed that the United States contribute to the salvage of these temples as a part of the United States' contribution to the large Campaign to Save the Monuments of Nubia.

PROGRAM OF GRANTS FOR FIELD RESEARCH

The purpose of the Smithsonian Foreign Currency Program is, like that of the Institution itself, "the increase and diffusion of knowledge among men." The Smithsonian Foreign Currency Program supports this purpose by making grants to United States universities, museums, and other institutions of higher learning primarily for basic research and

advanced professional training in fields of traditional Smithsonian competence. An appropriation of $3,481,000 equivalent in excess foreign currencies is sought for these grants.

The Smithsonian program is the principal source of excess foreign currency support for basic research carried out by United States institutions in the excess currency countries. The Smithsonian program contrasts with other Special Foreign Currency Programs in that the full responsibility for the design, execution, and publication of research results rests with a scholar at a U.S. institution.

The basic research programs of U.S. institutions should have full access to excess foreign currencies. This is so because the importance of this source of funds grows as the pressure of inflation and of the consequent institutional and governmental economies diminishes funds available from other sources for research.

The Smithsonian program strengthens the research and training activities of collaborating institutions abroad as well because most projects directly involve host country institutions and scholars. Enduring professional ties result from such joint efforts and scholarly exchange which contribute to the strongest form of U.S. cultural relations with other nations. These contribute both directly and indirectly to the integration of the worldwide scientific process which is vital to narrowing the politically dangerous gap between the industrial and the developing nations. The critical importance of efforts to close this gap is well summed up in the following words of M. Mesarovic and E. Pestel in the preface to Mankind at the Turning Point: The Second Report to the Club of Rome:

> Two gaps, steadily widening, appear to be at the heart of mankind's present crisis: the gap between man and nature, and the gap between 'North' and 'South', rich and poor. Both gaps must be narrowed if world-shattering catastrophes are to be avoided;...

THE IMPORTANCE OF PROGRAM CONTINUITY

The very nature of field research expeditions in the excess foreign currency countries requires continuity of funding. Sensible planning by the United States grantee institution and by the host country collaborator involves the advance commitment of personnel, professors, and graduate students, as well as of facilities. The larger objectives of the participating institutions depend on the coordination of such resources. In a similar way, the programs of major research consortia, like the American Institute of Indian Studies (AIIS), the American Schools of Oriental Research (ASOR), and the American Research Center in Egypt (ARCE) require continuity of funding. Their programs embrace field expeditions as well as major national fellowship programs. Their membership looks to them to provide the uninterrupted research opportunities which are fundamental to the conduct of their graduate programs as well as to the maintenance of an American community of scholars knowledgeable about these critical areas of the world.

The Smithsonian Foreign Currency Program appropriation has been sufficient in the past to provide funding only on an annual basis for most of its grantees. Multi-year funding, the standard practice of other Special Foreign Currency Program agencies, has been undertaken primarily when it was essential to protect investments in successful projects against the contingency that some excess currency accounts would be exhausted. This happened in Ceylon, Israel, Morocco, and Yugoslavia.

The FY 1977 appropriation request seeks funds to ensure completion of projects, including multi-year projects, in Poland and Tunisia where the excess currency accounts will soon be exhausted. In addition, multi-year funds are requested to assist the consortia to meet their ongoing responsibilities for successful research projects and for fellowships.

THE IMPORTANCE OF BASIC RESEARCH

Basic research is important because it has been the basis of most technological advance over the past 175 years. The worth of such research is hard to measure project-by-project; it is easy to measure over an extended period of time. Applied research must rely on basic research to succeed, and development of a useful industrial process or instrument rests just as certainly on sound basic research. In the words of Isaac Asimov in the introduction to The Greatest Adventure:

> In fact, unless we continue with science and gather knowledge, whether or not it seems useful on the spot, we will be buried under our problems and find no way out. Today's science is tomorrow's solution--and tomorrow's problems, too--and, most of all, it is mankind's greatest adventure, now and forever.

PROGRAM ACCOMPLISHMENTS

Smithsonian grants have been made to 185 United States institutions in 29 states and the District of Columbia over the ten year period from FY 1966 to FY 1975. In FY 1975 alone, 303 American scholars from 63 United States institutions in 29 states and the District of Columbia received program support.

Publications known to have resulted from program grants totaled 915 at the end of calendar year 1975, up from 507 at the end of FY 1974, as the final results of research completed some time ago began to appear as formal publications more rapidly.

More than 100 research collections have been returned to United States universities and museums over the ten year life of the Smithsonian program. A similar number of collections have been added to the research resources of the excess currency countries. These collections are the original biological specimens and the archeological and ethnographic materials acquired in the course of field research. They will remain available for further study and interpretation by other generations of scholars long after the research teams supported by the Smithsonian have dispersed and their conclusions have been published.

The benefits of the program have been felt by a far larger number of institutions than the 185 mentioned above which were direct grant recipients. For example, three of the grantee institutions are consortia of United States scholarly institutions. They are the AIIS in Chicago, Illinois, with 28 institutional members; the ARCE in Princeton, New Jersey, with 30 institutional and 500 individual members; and the ASOR in Cambridge, Massachusetts, with 153 member institutions, including three scholarly associations.

These consortia must be considered major United States national resources. They are the principal funding sources for research and training of American specialists in ancient and modern India and Egypt, and in the archeology of the Near East, including Biblical archeology.

The consortia are of national importance also because they contribute to the maintenance of United States cultural relations with India and Egypt, and through ASOR with Cyprus, Iraq, Israel, Jordan, and Tunisia by maintaining a year-round scholarly presence and active scholarly collaboration with these nations even during times of political stress between the United States and the host countries.

Smithsonian grants have supported the research in India of 115 AIIS fellows over the eight year period from FY 1968 through FY 1975. The fellows were drawn from 43 United States institutions in 22 states. Program grants have also supported 37 ARCE projects over the ten year period from FY 1966 through FY 1975. Nine ASOR excavations in Israel and Tunisia over nine years have provided research opportunities for more than 260 senior U.S. scholars and field training for more than 324 graduate students. Moreover, ASOR's

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adminsitrative director states that "The current highly developed state of interdisciplinary communications throughout Near Eastern archeology has been a direct result of the policies and recommendations of the Smithsonian Foreign Currency Program."

SOME "USEFUL" RESULTS OF SMITHSONIAN GRANTS

Some basic research projects provide examples of "usefulness" even if the "usefulness" is accidental. Some examples follow:

--The Utah State University study in Tunisia of the advance of the Sahara Desert at the expense of agricultural or grazing land is an example of a research design which is "useful." This study proposes to integrate data on the biology of the plants, animals, and human populations in such a way as to assist the human populations to alter their use of the land and stop the advance of the desert. Progress is satisfactory to date.

--The Southern Methodist University studies of the early history of man in Egypt's now uninhabited western desert is an example of a project demonstrably "useful" even if only by accident. The basic research plan is being competently carried out. But one accidental result has been the location of a large area, previously undescribed, with a vast subterranean water pool and with excellent potential for agricultural development.

--The University of Michigan at Ann Arbor is studying the snails of Africa in association with Ain Shams University in Cairo, Egypt, and with the Lowell University in Lowell, Massachusetts. The University of Michigan group seeks to describe the snails of the genus Bulinus well enough for Lowell University scientists to determine which snails of the genus spread one of man's most serious parasitic diseases, urinary schistosomiasis, and to find a way to control these vector snails.

--The Smithsonian study of tropical lakes in South India revealed an inadequate command of research techniques among participating Indian graduate students. One American scholar consequently took it upon himself to develop a series of lectures addressed to these students to equip them to participate effectively in this and other limnological research.

--A Duke University Marine Laboratory-sponsored symposium in Yugoslavia in 1973 on the development of marine larvae, a sensitive pollution indicator, resulted in new research collaboration which so far has brought six Yugoslav scientists to Duke and sent four Americans to Yugoslavia.

SPECIAL FOREIGN CURRENCY PROGRAM APPROPRIATIONS AND THE U.S. TAXPAYER

An appropriation for this program does not add to the tax burden of Americans because the money used for foreign currency grants comes from U.S. holdings of foreign currencies abroad in existing accounts that were established in connection with the "Food for Peace" (PL 480) program. These accounts were generated largely through sales of surplus U.S. agricultural commodities abroad in exchange for local currencies. In cases where these are greatly in excess of the projected normal U.S. needs, the Treasury Department designates them "excess foreign currencies." They then become available through the Special Foreign Currency Program appropriation process for U.S. uses like scientific research.

Erosion of these accounts by inflation is in many cases dramatically reducing their value to the United States. Indian and Pakistani rupees have, for example, lost almost half their value since 1970. As a consequence, when a worthy use of these excess currencies can be identified through programs like the Smithsonian Foreign Currency Program, the U.S. can effectively employ at least some of these currencies before inflation effectively eliminates their usefulness. To fail to do so is to waste public funds by default.

SCIENTIFIC REVIEW UNDER THE SMITHSONIAN PROGRAM

The Smithsonian's Special Foreign Currency Program provides a mechanism for American private sector institutions, such as universities, to make use of excess foreign currencies for the support of their own research programs.

The Smithsonian program considers proposals from any qualified American institution for research in fields of traditional Smithsonian competence. The program seeks the advice of experts in the specific area of science to be studied, and convenes annual advisory councils of senior scholars in the relevant program areas. The councils discuss and evaluate the proposals, taking into consideration the experts' opinions, and provide specific advice to the Smithsonian regarding the selection of projects for support, and the priority among proposals recommended for support.

When foreign currency awards are made to support approved proposals, normal Federal contracts are executed with the American grantee institutions providing for full fiscal accountability. The Smithsonian audits each grantee's periodic financial reports and, where grantees maintain records abroad, conducts site audits to ensure that appropriate accounting procedures are followed.

Projects lasting more than one year are subject to annual review of scientific progress by the advisory councils before another year of funding is approved. In addition, Smithsonian staff scientists and program advisory council members visit projects in the field when firsthand scientific reports are considered necessary. Smithsonian policy requires that grantees publish scientific results and that scientific collections be readily accessible to the scholarly community.

THIRD U.S. CONTRIBUTION TO THE SALVAGE OF THE TEMPLES OF PHILAE

The Smithsonian is seeking funding for the third of four annual contributions, each of $1,000,000 equivalent in Egyptian pounds, initially requested in FY 1974 to help preserve the temples on the Island of Philae which have been inundated by Nile River waters regulated by the Aswan Dam. The $4,000,000 total contribution to the Philae project would represent the final United States' contribution to the International Campaign to save the Nubian monuments which was initiated in 1960 by UNESCO.

The Smithsonian proposes to make this third payment available to the Government of Egypt. Previous United States payments were funnelled through the UNESCO trust fund for the International Campaign.

The program to safeguard the Egyptian monuments has always been under the direction of the Government of Egypt. Only the International Campaign to raise funds for this purpose has been a matter for UNESCO. Funds deposited in UNESCO's trust fund are transmitted to the Government of Egypt in response to that government's requests based on work schedules, cash flow requirements, and financial reports which are the responsibility of the Egyptian Antiquities Organization. A Smithsonian contribution made to the Government of Egypt would, therefore, comply with the terms of P.L. 93-559 prohibiting payments to UNESCO.

The International Campaign to save the monuments of Nubia was initiated by UNESCO at the request of the Governments of Egypt and the Sudan. In 1960, the Congress in Public Law 86-472 asked the President to recommend a United States contribution. President Kennedy responded on April 6, 1961, that he considered it "to be in the interest of the United States to assist in rescuing these historic remains of a former civilization from destruction..."

The total cost of the program to salvage the monuments on the Island of Philae will probably exceed $16,000,000 in convertible and local currencies. As of December 31, 1974, some $9,522,060 have been received or pledged, of which $5,514,304 have actually been

received. Since that date, an additional amount of $2,114,540 has been received. Egypt has undertaken to meet one-third of the project's total cost.

The salvage plan, adopted with the advice and concurrence of an American engineer, provides for a coffer dam to be erected around the Island of Philae to permit the lowering of the water for the removal of the temples. They are to be re-erected on the nearby Island of Agilkia, in a setting like the original one, where they will be higher and safe from further erosion by the river and accessible to all.

The Government of Egypt has sought the advice of the United States in the course of the Nubian Campaign, inviting experts to sit on the scholarly panels concerned with the salvage of Abu Simbel and Philae, for example.

The United States representative on the Archeologists and Landscape Architects Committee for Safeguarding the Philae Temples reports that work was continuing to progress satisfactorily when he last visited the site in November, 1975. The archeological studies on the Island of Philae, begun a year ago when the island first was freed of water, were about half completed. Removal of the temples had begun. The identification, transportation, storage, and protection of the stones was proceeding in what he considers an exemplary manner.

Time lost in earlier phases of clearing the new site for the temples on the adjacent island of Agilkia is being regained. Project directors are managing both the archeological and engineering aspects of the work well so that the project is not significantly behind schedule.

Obligation of Total Program Funds by Country
(dollar equivalents)

	FY 1975 Actual	FY 1976 Estimate	T.Q.* Estimate	FY 1977 Estimate
Burma	$ 36	368	$ --	$ --
Egypt	1,369,305 /1	358,108	--	2,376,220 /1
India	445,950	498,273 /2	--	948,400
Pakistan	200,674	11,796	--	462,500
Poland	424,500	61,855	10,000	393,145
Tunisia	789,932	275,600	20,000	384,800
Total	$3,230,397 /1	$1,206,000 /2	$30,000	$4,565,065 /1

* Transition Quarter

/1 Includes payments of $1,000,000 equivalent excess Egyptian pounds for the salvage of the Temples of Philae.

/2 Includes $83,000 equivalent transferred to the NSF Science Information Program.

STATUS OF SMITHSONIAN SFCP FUNDS
(dollar equivalents)

	FY 1975 Actual	FY 1976 Estimate	T.Q. Estimate	FY 1977 Estimate
Unobligated Balance, Start of year	$1,326,000	$ 334,000	$34,000	$ 24,000
Appropriation	2,000,000	500,000	--	4,481,000
Recovery of Prior Years' Obligations	238,000	406,000	20,000	60,000
Unobligated Balances End of year	-334,000	-34,000	-24,000	--
Total Obligations	$3,230,000	$1,206,000	$30,000	$4,565,000

FACILITIES PLANNING, RENOVATION, RESTORATION, AND CONSTRUCTION

Summary

Programs	Fiscal Periods FY 1975 Appropriation	FY 1976 Appropriation	Transition Quarter	FY 1976 Estimate
Construction and Improvements, National Zoological Park	$9,420,000	$8,390,000	$1,440,000	$6,800,000
Restoration and Renovation Of Buildings	1,490,000	1,192,000	400,000	3,300,000
Construction: National Air and Space Museum	7,000,000	2,500,000	-	-
Museum Support Facility Planning	-	-	-	500,000
Totals	$17,910,000	$12,082,000	$1,840,000	$10,600,000

The FY 1977 appropriation requested for Construction and Improvements, National Zoological Park will sustain progress on the implementation of the approved Master Plan for the improvement of the Zoo's animal and public facilities and essential repairs and additions to existing facilities. Work to be undertaken in the budget year includes the completion of Beaver Valley exhibits (beavers, otters, seals and sea lions, some bears, and wolves); the design and installation of graphics; and a continued phased program of repairs, renovations, and other improvements of Zoo facilities in Rock Creek Valley and at the Front Royal, Virginia, conservation center.

The FY 1977 appropriation sought for Restoration and Renovation of Buildings emphasizes renovation of the Arts and Industries Building; road and water system improvements at the Mt. Hopkins, Arizona, Observatory; fire detection and control systems; repairs to the Renwick Gallery exterior and the History and Technology Building terrace; installation of building equipment monitoring systems; improvements for handicapped persons; and general repairs and improvements for building preservation and safety purposes.

No additional funds are requested for FY 1977 for the liquidation of contract authority for the Construction of the National Air and Space Museum. The project is on schedule and within budget.

Funds requested in FY 1977 will enable architectural and engineering planning to begin for the Construction of a Museum Support Facility.

Justifications for these programs and projects appear in the following sections.

CONSTRUCTION AND IMPROVEMENTS, NATIONAL ZOOLOGICAL PARK

1975 Appropriation	$9,420,000
1976 Appropriation	$8,390,000
Transition Quarter Appropriation	$1,440,000
1977 Estimate	$6,800,000

This appropriation is used to fund repairs, alterations, and improvements to existing facilities including exhibits; to prepare plans and specifications for construction; and to perform renovation, restorations, and new construction implementing the Master Plan approved by the Commission of Fine Arts and the National Capital Planning Commission in FY 1973.

The requested FY 1977 appropriation will be applied as follows:

Beaver Valley Development	$5,840,000
Graphics	100,000
Renovations, Repairs, and Improvements:	
Rock Creek	440,000
Front Royal	420,000
Total	$6,800,000

Details on these projects are provided in the following pages.

The National Zoological Park was established in 1890 under the Board of Regents of the Smithsonian Institution, who are authorized to "administer and improve" the Zoo for "the advancement of science and the instruction and recreation of the people" (20 U.S.C. 81). The Zoo has two locations. Exhibit and education functions have been centered since 1890 on some 150 acres in Washington, D.C.'s Rock Creek Valley. At present there are on display about 2,800 animals, reptiles, and birds of 600 different species. Complementary animal conservation and breeding functions (to be done in collaboration with other zoos) are being developed on about 3,000 acres of Smithsonian land near Front Royal, Virginia.

The Master Plan had been defined in previous budgets in terms of 41 major projects clustered into 14 groups for planning, budgeting, and management purposes. The FY 1976 budget justification stated that with cost estimates escalated to July 1976, the Master Plan improvement program would cost some $113,000,000 through FY 1984. Another $15,000,000 would be required for renovations and repairs during this period, for a total of $128,000,000. The justification further stated that the possibility of acquiring and developing an animal conservation and research center at Front Royal, Virginia, would provide an opportunity for substantial reductions in Master Plan projects. The reason for this statement was that during preparation of the Master Plan deliberate efforts were made to provide greater open space for hoof stock and to incorporate breeding capabilities in all exhibits, needs which can now best be met at the recently acquired Front Royal site. Consequently, a comprehensive reevaluation of the Master Plan has been completed, resulting in the elimination of the following projects at a savings of over $36,000,000: crocodile, and Komodo Dragon facility, new monkey house, North American animals, Klingle Street bridge, and plains animals. The revised construction program as shown on page D-5 (including repairs and renovations and limited development of Front Royal) is now estimated at about $92,000,000 (at estimated July 1977 prices) through FY 1984. A map of the Rock Creek facility showing the revised Master Plan development is on page D-6.

Significant progress has been made in implementing the Master Plan. The Monkey House has been remodelled with larger cages and was reopened to the public in May 1975. The new lion and tiger facility, Elephant House Yards, and Bird House Plaza are under construction and will be completed and opened this fiscal year. The Education and General Service Buildings and the new Bear Exhibits will be started this year and completed, respectively, in mid-FY 1977, mid-FY 1978, and mid-FY 1977.

Beaver Valley Area ($5,840,000). Plans and specifications are being completed with funds previously appropriated ($80,000 in FY 1975 and $490,000 in FY 1976) for exhibits in the Beaver Valley area of the Zoological Park. This development includes a beaver exhibit to be constructed with land and water areas; an exhibit of the North American otter with underwater viewing; a major exhibit for seals and sea lions including a spectator seating area and an underwater exhibit room; some renovation of old bear facilities; and an exhibit of timber wolves. All aquatic exhibits will have water filtration and circulation facilities to economize on the use of water as well as to protect the health of valuable animals. Seal and sea lion pools will be major exhibits at the Zoo and will provide facilities for research, breeding, and study as well as visitor enjoyment. The requested FY 1977 appropriation of $5,840,000 will allow completion of construction by early 1978.

Design and Installation of Graphics ($100,000). With completion and approval by the Commission of Fine Arts of a graphics Master Plan for the Zoo, the FY 1976 appropriation of $100,000 can be applied toward signage, street furniture, and exhibit graphics in a meaningful and organized manner. It is now possible to go back and catch up in other areas of the Zoo to implement fully the new plan. An appropriation of $100,000 is requested in FY 1977 for this purpose to be followed by an additional such request in FY 1978.

Rock Creek Renovation and Repairs ($440,000). An amount of $440,000 is required to continue the program of renovation, repairs, and preventive maintenance of existing facilities. This funding is required to keep the heavily used Zoo in safe condition for the visiting public, for the upkeep and improvement of animal enclosures and staff facilities, and to maintain new buildings in good condition so that in the future the Zoo will not be faced with a large backlog of repairs. Renovation work currently in progress at the Zoo, funded from FY 1975 funds, includes minimum renovation to the commissary to overcome years of neglect and decay; construction of wheelchair ramps at two building entrances; construction, repair, and expansion of primary electrical feeders; and paving improvements for streets and sidewalks. With FY 1976 renovation funds, the restaurant mechanical systems will be improved and structural repairs will be made; Bird House mechanical systems, lighting, and painting will be done; mechanical systems serving the Panda food kiosk will be improved; and improvements will be made to the 75 year-old arch bridge across Rock Creek. Among the FY 1977 projects to be undertaken are heating plant and mechanical system renovations, replacement of cages, resurfacing of walks, and replacement of road guardrails.

Front Royal Conservation and Research Center Renovation and Improvements ($420,000). An appropriation of $420,000 is sought to make repairs, modifications, and improvements to the Front Royal animal conservation center. The site is used by the Zoo for breeding endangered wildlife species and for associated conservation and research efforts. Breeding groups will be assembled in cooperation with other zoos. Other important uses include holding animals displaced temporarily by Master Plan construction at the Zoo (as well as animals obtained in anticipation of construction completions) and farming land to produce an ample supply of silenium-rich hay needed for animal health previously purchased from the Midwest.

During the past year, fencing has been installed and existing barns renovated to provide five animal enclosures of 30 to 50 acres each. Animals contained therein are Pere David's deer, Scimitar-Horned oryx, Bactrian camel, Red kangaroo, Bongo, Grants zebra, and Elds deer. Also, research pens and runs have been completed for Maned wolves, foxes, and Bush dogs. Minimum maintenance has been performed on buildings and utilities. With funds appropriated in FY 1976, work will be started on modifications to an existing building to provide inside and outside enclosures for Tree kangaroos, Binturongs, Golden marmosets, and Rothschild's mynah birds. Additional fencing will be purchased and installed for hoof stock paddocks; existing buildings will be renovated to house a commissary, birds, and small cats; minimum improvements will be made to existing general purpose buildings to repair roofs, flooring, utilities, and painting; and topographical maps will be prepared. In FY 1977 a new residence will be constructed within prescribed limitations; improvements to the electrical, water, and sewer systems will be made; and new bird facilities will be constructed.

Construction and improvement work is accomplished primarily by contract. There are occasional projects, however, not lending themselves to contract. For example, suitable contractors cannot be located or their estimates are exorbitant in relationship to the proposed job. In such cases, accomplishment of the work by other means, such as the purchase with this appropriation of supplies, materials and equipment, and the use of inhouse or temporary labor, is the most cost effective solution. Furthermore, it is occasionally necessary to fund from this account other expenses directly associated with the displacement of animals and materials as a result of the construction program.

January 1976

NATIONAL ZOOLOGICAL PARK

Construction Program
1974-1984

($1,000s)

	Activity	Estimate[1]	Budget Year Plans & Specs	Budget Year Construction	Estimated Completion
I.	Master Plan:				
	Lion-Tiger Facility	$3,000[2]	1973	1974	3/76
	Elephant Yards and Bird House Plaza	3,130	1974	1975	3/76
	Education-Administration Building	2,500	1975	1975	1/77
	General Service and Parking Facility	19,350	1974,75	1976,78	1/78, 1/81
	Lower Rock Creek Valley	3,000	1974,75	1976	1/77
	Beaver Valley	6,410	1975,76	1977	1/78
	Central Area	9,000	1975, T.Q.	1978	11/79
	Waterfowl Pond Area	3,620	1975,78	1979	1/80
	Aquatic Habitats	13,000	1978,79	1980	7/82
	Research Facilities, Holt and Elephant Houses Renovation	6,600	1980	1981	1/82
	Restaurants	6,500	1981	1982	1/83
	Graphics	300		1976,77,78	1/78
	Total	$76,410			
II.	Rock Creek Renovations	$5,280			
III.	Front Royal Renovations	$10,025			
	Grand Total	$91,715			

[1] Estimates from FY 1977 forward escalated to July 1977.

[2] Excludes $275,000 for planning appropriated in FY 1973.

[3] Includes $2,000,000 for a visitor and education center in FY 1980 and 1981. Estimates do not include a visitor transportation system.

NATIONAL ZOOLOGICAL PARK

D-6

LEGEND

1. Panda, hoof stock, and bird area largely completed. Bird House Plaza to be completed in FY 1976.

2. Elephant House exterior yards to be completed in FY 1976.

3. Hospital-Research Building completed.

4. Monkey House completed. Lion-Tiger Facility to be completed in FY 1976.

5. Education-Administration Building to be under construction in FY 1976 and completed in FY 1977.

6. Service Facility to be under construction in FY 1976 and completed in FY 1978. Parking structure under construction in FY 1978 and completed in FY 1981.

7. Lower Rock Creek Valley area (bears, sheep, and other animals) to be under construction in FY 1976.

8. Beaver Valley area (beavers, seals, sea lions, and others) planning in FY 1976 and construction in FY 1977.

9. Central area (small mammals, reptiles, great apes, crocodiles, and others) planning in Transition Quarter and construction in FY 1978.

10. Waterfowl Pond area (and small cats) planning in FY 1978 and construction in FY 1979.

11. Aquatic Habitats area (penguins, manatee, and others) planning in FY 1978 and 1979 and construction in FY 1980.

12. Research/Nursery area planning in FY 1980 and construction in FY 1981.

13. Restaurant planning in FY 1981 and construction in FY 1982.

RESTORATION AND RENOVATION OF BUILDINGS

1975 Appropriation	$1,490,000
1976 Appropriation	$1,192,000
Transition Quarter Appropriation	$ 400,000
1977 Estimate	$3,300,000

This account is used to fund major repairs, alterations, and improvements of a long-term nature and benefit. From time to time, it is used also for construction of major additions to existing facilities or for minor new temporary or permanent buildings or other facilities. Facilities planning and studies and other related expenses may be funded from this account. Projects undertaken are in support of research, care, and protection of collections; public accommodation and safety; and maintenance and development of a valuable physical plant and natural areas. Work is accomplished primarily by contract. There are occasional projects not lending themselves to contract. For example, suitable contractors cannot be located or their estimates are exorbitant in relationship to the proposed job. In such cases, accomplishment of the work by other means, such as the purchase with this appropriation of supplies, materials, and equipment and the use of inhouse or temporary labor, is the most cost-effective solution.

With funds now available, the Institution is carrying out several significant projects, most notably the airconditioning and phased interior and exterior renovation and restoration of the Arts and Industries Building for special Bicentennial exhibition purposes. Continuation funding for certain of these projects and funding for other repair and major maintenance work are sought in the FY 1977 appropriation.

An amount of $3,300,000 is required in FY 1977 for the following projects:

1.	General building and facility repairs and improvements	$1,075,000
2.	Mt. Hopkins, Arizona, Observatory road and water system improvements	250,000
3.	Fire detection and control systems	250,000
4.	Arts and Industries Building renovation (roof replacement)	950,000
5.	History and Technology Building terrace repairs	150,000
6.	Renwick Gallery Building exterior repairs	250,000
7.	Building improvements for the handicapped	175,000
8.	Building equipment monitoring systems installation	200,000
		$3,300,000

Details on these projects appear in the following justifications.

1. General Repairs and Improvements ($1,075,000)

The Smithsonian (exclusive of the National Zoological Park separately presented) has 10 major museum buildings (ranging in age from new to well over 100 years old) containing some 2.5 million net square feet and having a replacement value of several hundred million dollars. It also includes in its space inventory (not including rental properties) many lesser structures containing about 0.5 million square feet used for research, collections management, and administrative purposes. Several thousand acres of land are dedicated to research, conservation, and education. Heavy public use of these facilities, general deterioration because of age and weathering, visitor and staff safety requirements, and the need to make improvements to keep pace with program changes create a demand for regular, annual attention beyond the capability of inhouse maintenance staffs.

Specific, generally major, projects are budgeted in this appropriation under individual building or other headings. There is an urgent need, however, for substantial annual funding for planning, engineering, repair, and improvement response to other projects including those that arise unexpectedly. An appropriation of $1,075,000 (about $0.30 a square foot not including grounds areas) is requested for FY 1977.

These funds will be used for such needs as: repairs to roofs and exteriors of buildings (pointing, caulking, waterproofing, and painting) to provide weather-tight interiors and to conserve heating and airconditioning; modifications and repairs to mechanical and electrical systems, including the replacement of worn components, for safety and efficient performance; repairs to doors, sidewalks, driveways, ramps, docks, sewer lines, and storm drainage systems; additions, repairs, and improvements to plumbing, including public restrooms; installation of emergency power generators; alterations and improvements to structures for program needs; repairs and improvements to elevators, escalators, and the like.

2. Mt. Hopkins Observatory ($250,000).

For several years, the Smithsonian Astrophysical Observatory has been following a phased plan of physical site improvements to its Mt. Hopkins, Arizona, Observatory. This includes work to provide adequate and safe facilities for staff and visitors. An access road improvement program has been under implementation. By the end of FY 1976, the road to Observatory sites will have been partially improved to correct major unsafe conditions (many sections of the old road slope outward to precipitous drops). Work will have been started on regrading the road between the Santa Cruz Valley and Montosa Canyon.

There is also a need to develop an adequate supply of water for drinking, sanitary, and fire protection needs. Water must now be brought in by trucks. The necessary work involves the selection of supply points, a catchment and cistern system, filtration, chlorination, and pumping and piping.

An amount of $250,000 is requested for road and water system improvements.

3. Fire Detection and Control Systems ($250,000).

During the past year fire engineering surveys have been conducted in all major facilities identifying specific needs for fire detection and control systems. Such systems are presently lacking in many public areas and should be installed for the protection of visitors and exhibits. Similar safeguards are needed in areas where museum collections are housed and where research by staff and visiting students and scholars takes place. Other fire protection needs include the addition of booster pumps to give adequate water pressure and the installation of fire doors. Funding of $250,000 is sought to continue a phased program.

4. Arts and Industries Building ($950,000).

Over $4,000,000 have been appropriated for the major portion of the renovation and restoration of the historic 1879 Arts and Industries Building. Major improvements include installing heating, ventilating, and airconditioning systems; replacing obsolete, inadequate, and potentially hazardous electrical and utilities systems; installing additional restrooms; recreating the original appearance of the rotunda and four major exhibition halls; providing new entrances to the building for public safety and accessibility; and other renovations. This work was started in February 1974, and is expected to be completed in February 1976. Prior to this completion, exhibits installation has begun for a major presentation, "Centennial--1876," funded as part of the Institution's Bicentennial Program.

About $1,500,000 of additional work remains to be done to complete the renovation and to protect work already accomplished. Primarily this work involves the exterior of the building and is necessary to ensure water-tightness and insulation to save on utility consumption. The FY 1977 budget includes $950,000 to repair and replace the roof which has deteriorated badly. Temporary repairs have been made to get through the Bicentennial period, but a complete, permanent job is needed to give long-term protection to the

building and its contents. A future year major job will be repair, replacement, double-glazing, and painting of windows.

5. History and Technology Building Repairs ($150,000).

An amount of $150,000 is required to begin a phased program of repairing the terrace of the History and Technology Building, which serves both as a pedestrian walkway around the building and the roof to interior basement work, machinery, and storage space. Apparent original construction deficiencies have led to general deterioration of the waterproofing under the paving material and consequent extensive leakage into work and collection areas. Total cost of repairs is estimated at $600,000.

6. Renwick Gallery Exterior Repairs ($250,000).

A recent engineering survey has concluded that the restored Renwick Gallery facade has been severly damaged by water entry through unprotected surfaces, mortar joints, deteriorated building sealants, and cracks caused by temperature changes. Extensive repairs are required for appearance purposes, to guard against the hazards of falling stonework, and to protect the interior of the building. The total repair job is estimated at $500,000 to $600,000 of which $250,000 are sought in the FY 1977 budget to accomplish the most urgent work.

7. Building Improvements for the Handicapped ($175,000).

Many Smithsonian buildings, planned or constructed prior to enactment of Public Law 90-480 (the Architectural Barriers Act of 1968), lack adequate access for physically handicapped visitors and employees. A recently concluded engineering survey of buildings revealed that numerous major and minor alterations should be accomplished to correct these conditions and provide safe accessibility. The total estimated cost of all work is approximately $250,000.

Two of the most serious problems concern the Hirshhorn Sculpture Garden and the Constitution Avenue entrance to the Museum of Natural History. Persons in wheelchairs now can gain access to the Sculpture Garden only by being carried down a long flight of steps. Once in the garden, the handicapped person finds it difficult to move about on the gravel surface. In fact, a year's experience has shown that an improved surface is needed for greater durability. At the Natural History Building, necessary work includes improved ramps and automatic or power-assisted doors, and general upgrading of the vestibule area. Funding of $175,000 is requested for these projects which will result in improvements for all users.

8. Building Equipment Monitoring Systems ($200,000).

Smithsonian buildings contain a vast array of pumps, chillers, condensers, fans, airconditioning, dehumidifying, and other complex and costly mechanical equipment. Monitoring of this equipment's safe, efficient, and economical (increasingly important as utility bills steadily rise) operation is done currently on a tour basis involving personal inspection by journeyman-level mechanics. About 47 man-years of effort (at about $12,000 a man-year) are expended with results that vary depending on the care taken in observation and recording of results. Available manpower is almost totally consumed with inspections and emergency repairs. Although preventive maintenance schedules have been prepared in detail on much of this equipment, very little such work can now be performed. Equipment failures with potentially serious consequences for building and collection safety are becoming more frequent.

Industry systems now exist that can be installed in the Institution to monitor operating equipment by sensors and report results electronically to central control panels. The installation of such systems would reduce by 60 percent the number of watch engineers. This savings of 29 man-years could be reapplied to preventive maintenance work. Such a system is estimated to cost $1,000,000 for buildings on the Mall. Funding of $200,000 is sought in the FY 1977 budget for the installation of equipment in one building. Manpower savings payoffs will begin to be realized following the second such installation.

CONSTRUCTION

1975 Appropriation	$7,000,000/1
1976 Appropriation	$2,500,000/1
Transition Quarter Appropriation	$ 0
1977 Estimate	$ 500,000

National Air and Space Museum

Construction of the new National Air and Space Museum building is now complete except for the correction of defects and omissions inevitable in a building of its size. In addition, within available funds, various improvements of both public and work areas are being undertaken which will contribute substantially to the building's utility and smooth functioning. Examples of this work are the addition of two elevators to provide access for handicapped persons to second levels in two exhibit galleries, the upgrading of the fire alarm and sprinkler system, the addition of seven offices, the extension of locker rooms for guards and custodial personnel, and improvements to a central control system to monitor all electronic and mechanical devices in the museum. Funds are also available to cover all foreseeable claims from construction contractors.

Since the building has been occupied for so short a period of time and since it has not yet been exposed to visitor traffic, it is not possible to predict what additional work may be necessary to convert an empty building into a fully operational museum. Therefore, rather than request the liquidation of the final $500,000 of contract authority in FY 1977, the request will be withheld until FY 1978 when there will be a better opportunity to judge whether the additional funds will be necessary.

Museum Support Facility Planning

Public Law 94-98, approved by the President on September 19, 1975, authorizes the Smithsonian to plan museum support facilities and provides for the appropriation of such sums as may be necessary to carry out that authority. The Smithsonian requests an appropriation of $500,000 to begin the design and specification stage for the first phase of construction.

Long-range development of the museum support facilities would be undertaken in increments which, in total, would provide some 1.9 million gross square feet (1.3 million net assignable square feet) to meet remedial and projected space and program needs for the next 25 years. These facilities would house and make more accessible for research purposes expanding national collections of specimens and artifacts documenting the fields of natural science, American history and technology, and art. The facilities would also provide additional space for support and maintenance services, the training of conservators, and would permit the return to exhibition and other public uses space in museum and gallery buildings now diverted to collections storage.

The proposed site for these facilities incorporates Federal land located in Silver Hill, Maryland, adjacent to land now owned by the Institution and used primarily by the National Air and Space Museum for storage and restoration. Smithsonian use of this site is included in the General Services Administration's master plan for the Suitland Federal Center, and a component parcel of 35 acres under the General Services Administration's jurisdiction is now available for transfer.

The Smithsonian is now actively planning for the first increment of construction which is scheduled for completion about 1980-1982. Phase I, a building complex of about 500,000 net assignable square feet, will be designed to meet the Smithsonian's most urgent collections and program space needs as projected through 1986. The National Museum of Natural History, including the Oceanographic Sorting Center (now in rental space), will be the major occupant of Phase I. The National Museum of History and Technology and the critical support functions of conservation, libraries, and archives also will be represented.

/1 Appropriation to liquidate National Air and Space Museum contract authority.

The Smithsonian recently completed a management study of specific Phase I requirements. A consortium of consultants was engaged to assist the Institution in this effort. Chief among the objectives of this study was a complete reanalysis of all space and physical facility requirements of the National Museum of Natural History and all other potential users. Also studied were alternate systems for management of collections and warehousing. A design concept was to be developed around specific massing schemes, general construction parameters, and site development best suited to overall objectives.

The study report is a preliminary planning study and does not present final plans and specifications of Phase I development. Highlights of the report's findings and recommendations were: (1) A space requirement estimate projected through 1986 for the National Museum of Natural History and all other users of Phase I facilities totaled 545,000 net assignable square feet; (2) The National Museum of Natural History will transfer 40 percent of its present collections to the support facilities to regain museum space for exhibits and professional staff; (3) Existing geological data suggests that the most economical design for the proposed site is on-grade, low-rise construction; and (4) A conventional single-level (specimen cases stacked two high) collections storage system was selected for low-rise structures with 19-foot ceiling height and 350 pounds per square foot floor load capacity. This configuration would permit future expansion by "double decking" at an economical cost.

Companion studies on collections (see S&E budget statement for the Office of Museum Programs) will assure effective management of collections resources and will provide further information on growth projections and resulting space requirements for future increments to the museum support facilities.

The $500,000 requested for museum support facilities will be used to begin the design and specifications for Phase I. This initial design effort will include the development of a construction cost estimate. The Phase I building complex will be situated on the best building site available to the Institution at the time of design.

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SMITHSONIAN INSTITUTION
"Salaries and Expenses"

Report of Appropriation by Objects
(In thousands of dollars)

	1975 Actual	1976 Estimate	1977 Estimate	Increase '77 over '76
11 Personnel Compensation.....	42,199	49,305	52,999	3,694
12 Personnel Benefits.....	3,817	4,702	5,061	359
21 Travel & Transportation of Persons.....	622	831	661 /1	-170
22 Transportation of Things.....	350	429	386	-43
23 Rent, Communications, and Utilities.....	6,340	8,052	9,389	1,337
24 Printing and Reproduction....	1,272	1,423	1,066	-357
25 Other Services.....	8,393	9,428	7,475	-1,953
26 Supplies and Materials.....	3,241	3,214	3,362	148
31 Equipment.....	2,732	2,353	2,681	328
Acquisitions for Collections	477	468	672	204
32 Lands and Structures.....	157	--	--	--
41 Grants.....	1,103	1,159	1,346	187
42 Insurance, Claims, and Indemnities.....	3	9	2	-7
Total Appropriation.....	70,706	81,373 /2	85,100	3,727

/1 $803 was included in the President's Budget.
As a result of OMB Bulletin #76-9 "Control of official travel," travel was reconsidered in FY 1977.

/2 This amount includes $3,541 for pay, utility, and postage costs supplemental.

SMITHSONIAN VISITORS
(By fiscal Year)

Fiscal Year	Smithsonian Institution Building	Arts and Industries Building	Museum of Natural History	National Air & Space Building	Freer Gallery of Art	Museum of History & Technology /1	Fine Arts & Portrait Galleries /2	Renwick Gallery /3	Hirshhorn Museum & Sculpture Garden /4	Total /5
1961	1,024,526	2,912,371	2,047,973	987,858	130,746					7,103,474
1962	1,222,112	3,471,050	2,113,053	1,986,319	130,597					8,923,131
1963	1,630,280	3,534,182	2,288,397	2,673,618	183,359					10,309,836
1964	1,311,061	2,457,243	2,512,306	1,854,186	168,625	2,509,774				10,813,195
1965	1,065,635	2,028,175	3,051,472	1,705,683	210,972	5,091,776				13,153,713 /6
1966	870,010	1,746,715	2,988,006	1,494,922	222,089	4,829,112				12,150,854
1967	1,020,312	1,638,873	3,409,957	1,484,422	212,920	5,546,102				13,312,586 /8
1968	847,176	1,344,622	3,257,957	1,123,698	169,533	4,750,023	30,888			11,523,897 /9
1969	275,259 /7	1,493,141	2,916,749	1,225,959	179,374	4,174,071	166,177			10,430,730
1970	/7	2,557,155	3,269,791	1,839,373	217,305	5,483,555	216,523			13,583,702
1971	681,255	1,985,732	3,456,755	1,337,445	190,425	5,955,128	194,468			13,801,208
1972	819,617	2,306,071	3,414,640	1,104,151	230,475	6,808,526	246,657	105,186		15,035,323
1973	807,294	2,285,603	3,306,105	1,223,917	204,858	6,905,339	254,005	165,846		15,152,967
1974	739,651	2,040,731	3,067,694	1,285,598	219,346	5,850,227	329,487	175,672		13,708,406
1975	967,164	1,973,356	3,668,587	1,416,432	215,061	7,111,054	368,948	165,453	1,620,540	17,506,575

/1 Museum of History and Technology opened January 1964.
/2 National Collection of Fine Arts opened May 1968 and National Portrait Gallery in October 1968.
/3 Renwick Gallery opened January 1972.
/4 Hirshhorn Museum and Sculpture Garden opened October 1974.
/5 An additional 2-3,000,000 visitors to the National Zoological Park annually and 50,000 to the Anacostia Museum are excluded from these totals.
/6 July-August 1964, certain Smithsonian Institution buildings were open 4:30 to 10 p.m. for the first time.
/7 Building closed for renovation October 1968.
/8 Reflects the significant decrease in visitors in the Nation's Capital in the first six months of CY 1968 due to unsettled local conditions.
/9 Fiscal year 1969 visitor totals represent the effect of local conditions in late 1968 on visitor attendance.

FINANCIAL REPORT

T. AMES WHEELER, TREASURER

FY 1975

SMITHSONIAN'S FISCAL YEAR 1975 may be summarized as one of continued sound financial progress, even though financial needs continued to increase. In part, this need was to meet further large inflation-bred increases in salaries and wages, utilities, and other operating costs. In addition, new activities, including the opening on October 1, 1974, of the Hirshhorn Museum and Sculpture Garden and the continued step-up in preparations for the 1976 Bicentennial and next year's scheduled opening of the new National Air and Space Museum, required further substantial support. Fortunately, the Smithsonian received federally appropriated funds to cover a large part of these added needs. Federal appropriations also provided a major increase in funding for construction at the National Zoological Park at a rate designed to achieve completion of its master plan renovation over a ten-year period. Despite the generous increase in appropriations, however, tight budgeting of these funds and curtailment or postponement of a number of worthwhile projects was necessary. Formal management reviews of the Institution's priorities have been beneficial in directing our efforts toward the best uses of these available resources.

At the same time, our private trust funds were strengthened further during the year, despite the need to meet from our own resources the same types of inflationary cost increases as affected federally funded expenses. Private fund income derived from investments, gifts, the Smithsonian Associates programs, museum shops, concession fees, and other revenue-producing activities increased substantially in fiscal year 1975. Gifts, largely for specific

projects, such as Air and Space exhibits and the Bicentennial Festival of American Folklife, more than doubled those of the previous year.

These private trust funds have normally been used principally to take care of administrative expenses, to fund programs specified by donors, and to assist in a modest way a variety of our Bureaux' endeavors, such as small research efforts, publications, or the acquisition of collection items for which federal funds have not been available. In fiscal year 1975, larger private revenues made it possible to initiate a long-sought program of adding to the Institution's present meager unrestricted-purpose endowment funds. Increased private fund resources also made it possible to finance improvements to our Museum Shops and, assisted by foundation grants and other donations, construct a new training building for the Chesapeake Bay Center for Environmental Studies and start the renovation of the Cooper-Hewitt Museum's new quarters (toward which we are still seeking another $1,000,000 of outside support). Continued success of the Institution's self-help efforts, which also play a major role in bringing the Institution's educational values to a wider audience throughout the Nation, will enable us to continue the strengthening of our endowment funds, the allocation of additional support to our bureaux in areas not covered by federal funding, and the construction of improved facilities for our visiting public and Smithsonian Associates already underway in the West Court of the National Museum of Natural History.

Overall Sources and Application of Funds

In Table 1 there is shown a comparative listing of all of the Institution's sources of financial support for the past four years. Federal appropriations totaling $74,511,000 provided 76.3 percent of the $97,623,000 of overall operating funds in fiscal year 1975. Grants and contracts at $12,292,000 equaled 12.6 percent, and nonfederal (private trust funds) sources accounted for 11.1 percent of the total; the proportions provided by both of these sources rose in the past year, gains which are in line with the Institution's

TABLE 1. *Overall Sources of Financial Support*
[$1,000's]

Sources	*FY 1972*	*FY 1973*	*FY 1974*	*FY 1975*
OPERATING FUNDS				
Federal appropriation:				
Salaries and expenses	$44,701	$51,633	$58,868	$70,706
Smithsonian Science Information Exchange	1,600	1,600	1,695	1,805
Special Foreign Currency Program	3,500	3,500	4,500	2,000
Subtotal	$49,801	$56,733	$65,063	$74,511
Research grants and contracts	8,088	8,996	9,996	12,292
Nonfederal funds:				
Gifts (excluding gifts to endowments)				
Restricted purpose	1,598	2,901	1,970	4,177
Unrestricted purpose	26*	33*	275*	253*
Income from endowment and current funds investment				
Restricted purpose	1,573	1,736**	1,750	1,724
Unrestricted purpose	334	436	747	953
Revenue-producing activities (net)	(141)	170	1,770	2,308
Miscellaneous	482	1,069	1,110	1,405
Total nonfederal funds	3,872	6,345**	7,622	10,820
Total Operating Support	$61,761	$72,074	$82,681	$97,623
CONSTRUCTION FUNDS				
Federal Construction Funds:				
National Zoological Park	$ 200	$ 675	$ 3,790	$ 9,420
National Air & Space Museum	1,900	13,000	17,000	7,000
Hirshhorn Museum	3,697	-0-	-0-	-0-
Restoration & Renovation of Buildings	550	5,014	1,070	1,490
Total Federal Construction Funds	$ 6,347	$18,689	$21,860	$17,910
Private Plant & Land Acquisition Funds:				
Cooper-Hewitt Museum	$ 700	$ 106	$ 262	$ 162
Hirshhorn Museum	–	–	1,000	–
Chesapeake Bay Center	386	149	70	15
Anacostia Neighborhood Museum	–	–	–	10
Total Private Plant and Acquisition Funds	$ 1,086	$ 255	$ 1,332	$ 187

* Excluding gifts to Associates (included under Revenue-Producing Activities).
** Includes $225,000 of fiscal year 1973 income transferred from Endowment Fund No. 3 for this purpose in fiscal year 1972.

TABLE 2. *Source and Application of Operating Funds for Year Ended June 30, 1975*

(Excludes Special Foreign Currency Funds, Plant Funds, and Endowments)
[In $1,000's]

Funds	Federal funds	Nonfederal funds					
			Unrestricted			Restricted	
		Total nonfederal funds	General	Revenue producing	Special purpose	General	Grants and contracts
FUND BALANCES—							
1 July 1974	$ -0-	$ 6,792	$3,477	$ -0-	$ 460	$2,802	$ 53
FUNDS PROVIDED							
Federal Appropriations	$72,511						
Investment Income		$ 2,677	$ 950	$ –	$ 3	$1,724	$ –
Grants and Contracts		12,344	–	–	–	–	12,344
Gifts		4,577	46	147	207	4,177	–
Sales and Revenue		18,866	–	18,655	211	–	–
Other		1,194	228	–	330	636	–
Total Provided	$72,511	$39,658	$1,224	$18,802	$ 751	$6,537	$12,344
Total Available	$72,511	$46,450	$4,701	$18,802	$1,211	$9,339	$12,397
FUNDS APPLIED							
Science:							
Environmental Science	$ 1,277	$ 371	$ 30	$ –	$ 5	$ 46	$ 290
Natl. Museum of Nat. History	9,260	1,338	84	–	44	216	994
Natl. Zoological Park	5,429	87	39	–	1	40	7
Fort Pierce Bureau	–	648	–	–	1	647	–
Science Info. Exchange*	1,805	1	1	–	–	–	–
Smithsonian Astrophysical Observatory	3,501	7,918	65	–	28	119	7,706
Radiation Biology Lab.	1,727	87	–	–	3	7	77
Smithsonian Tropical Research Institute	1,205	110	1	–	87	22	–
Interdisciplinary Communications Program	–	1,244	23	–	–	15	1,206
Natl. Air and Space Museum	3,947	366	4	–	88	142	132
Other Science	1,272	1,079	8	–	15	110	946
Total	29,423	13,249	255	–	272	1,364	11,358
History and Art:							
Natl. Portrait Gallery	1,499	244	10	–	16	180	38
Natl. Collection of Fine Arts	2,046	66	10	–	43	11	2
Freer Gallery	380	1,088	–	–	–	1,088	–
Natl. Museum of History and Technology	4,992	660	50	–	82	467	61
Cooper-Hewitt Museum	209	482	2	–	–	298	182

TABLE 2. *Source and Application of Operating Funds for Year Ended June 30, 1975—continued*
[In $1,000's]

Funds	Federal funds	Nonfederal funds					
			Unrestricted			Restricted	
		Total nonfederal funds	General	Revenue producing	Special purpose	General	Grants and contracts
Archives of American Art	279	214	–	–	–	212	2
Bicentennial of the American Revolution	3,855	10	10	–	–	–	–
Hillwood	–	512	–	–	–	512	–
Hirshhorn Museum	1,541	110	96	–	8	–	6
Other History and Art	363	473	32	–	50	251	140
Total	15,164	3,859	210	–	199	3,019	431
Public Service:							
Revenue-Producing Activities							
Smithsonian Press	586	361	–	361	–	–	–
Performing Arts	482	1,205	27	558	–	303	317
Other	–	15,600	22	15,575	2	–	1
Anacostia Museum	403	42	20	–	–	12	10
Other Public Service	862	299	95	–	1	203	–
Total	2,333	17,507	164	16,494	3	518	328
Museum Programs:							
Libraries	1,564	–	–	–	–	–	–
Exhibits	936	10	–	–	8	–	2
Natl. Museum Act Pgms.	802	–	–	–	–	–	–
Other Museum Programs	1,867	323	32	–	4	126	161
Total	5,169	333	32	–	12	126	163
Buildings Management and Protection Services	15,840	38	19	–	19	–	–
Administration	4,582	4,100	889	621	18	407	2,165
Overhead Recovered	–	(3,644)	(433)	(621)	(18)	(407)	(2,165)
Transfers for Designated Purposes—Out or (In)	–	1,691	(202)	2,308	(365)	(62)	12
Total Funds Applied	$72,511	$37,133	$ 934	$18,802	$ 140	$4,965	$12,292
FUND BALANCES—							
30 June 1975	$ –0–	$ 9,317	$3,767	$ –0–	$1,071	$4,374	$ 105

* Figures do not include revenues to SSIE from other sources of approximately $800,000.

TABLE 3. *Application of Federal Appropriations Fiscal Year 1972 through Fiscal Year 1975*
(Excluding Special Foreign Currency Program)
[In $1,000's]

Area	*FY 1972*	*FY 1973*	*FY 1974*	*FY 1975*
Science	$18,365	$20,329	$24,884	$29,423
History and Art	6,285	8,022	12,130	15,164
Public Service	2,093	2,253	2,696	2,333
Museum Programs	5,881	6,660	4,321	5,169
Administration	3,235	3,987	4,693	4,582
Building Maintenance and Protection	10,442	11,982	11,839	15,840
Total	$46,301	$53,233	$60,563	$72,511

goal of restoring a better balance between federal and nonfederal support. Construction funds totaling just over $18,000,000 in fiscal year 1975 continue to be provided almost exclusively by federal appropriations.

The application in fiscal year 1975 of all of these funds (excluding Special Foreign Currency funds, Plant funds and Endowment funds) to Smithsonian's diverse activities is set forth in Table 2. Detailed discussion of the various types of income and their uses follow.

FEDERAL OPERATING FUNDS

For fiscal year 1975, Congress provided $70,706,000 of appropriated funds for the Smithsonian's normal operating purposes ("salaries and expenses"), a generous increase of $11,838,000 over the preceding year.

Of this increase, $6,500,000 was devoted primarily to furthering the three high-priority program objectives followed in fiscal year 1974, namely: (1) continued preparation for opening of the new National Air and Space Museum in July 1976; (2) development of Bicentennial activities; and (3) further strengthening of the many services needed for the protection, care, and cataloguing of collections and support for related research. The remaining 45 percent,

TABLE 4. *Special Foreign Currency Program*
Fiscal Year 1975 Obligations
[In $1,000's]

Country	*Archeology*	*Systematic & Environmental Biology*	*Astrophysics & Earth Sciences*	*Museum Programs*	*Grant Administration*	*Total*
India	$ 196,206	$ 69,740	$ 34,900	$ 48,472	$ 96,631	$ 445,949
Egypt	1,322,685	16,796	10,125	17,900	1,800	1,369,306
Pakistan	101,901	94,390	–	3,948	435	200,674
Poland	4,826	68,497	165,449	185,728	–	424,500
Tunisia	326,175	459,231	2,431	622	1,473	789,932
Burma	–	–	–	36	–	36
Total	$1,951,793	$708,654	$212,905	$256,706	$100,339	$3,230,397

or about $5,300,000, plus an estimated $2,000,000 more used for other purposes last year, was required to meet the costs of legislated and other uncontrollable increases in federal salaries, severe increases in utility and rental rates, and the inflationary rise in prices of other materials and services. An additional $1,805,000 was provided for the work of the Smithsonian Science Information Exchange, a separately incorporated organization, engaged in recording, classifying and furnishing information on a wide variety of on-going research projects in such fields as water resources and medical and environmental studies. Its scope and usefulness has been expanding rapidly in recent years. The allocation of these federal operating funds among major categories of Institutional endeavor may be found in Table 3.

Additional appropriated funds for Smithsonian's Foreign Currency Program were greatly reduced in fiscal year 1975 to $2,000,000, of which $1,000,000 was reserved for the second of four equal payments to cover the United States' participation in UNESCO's international campaign to preserve archeological monuments on the Island of Philae in Egypt. Remaining amounts of these blocked foreign currencies allocated to the Smithsonian are awarded to universities and similar United States organizations to conduct research studies in a number of foreign countries (see Table 4).

FEDERAL CONSTRUCTION FUNDS

Federal appropriations for construction purposes in fiscal year 1975 amounted to $10,910,000 plus $7,000,000 more toward continued payments for the new National Air and Space Museum under contract authority provided in fiscal year 1973. The advisability of completing, over about a ten-year period, the phased renovation of the National Zoo in accordance with its approved master plan was given strong recognition in the boost to $9.4 million in funds for this purpose. This fiscal year 1975 allotment will go toward construction of the new elephant and bird house environs and an education and administration building. The $1.5 million granted toward restoration and renovation of buildings will, among other things, provide for installation of fire control systems, repairs to the old Arts and Industries Building, and improvements to the unsightly grounds south of the "Old Castle" Building.

GRANTS AND CONTRACTS

In recent years a major portion of the research projects of the Institution have been funded by grants and contracts from federal agencies, and in fiscal year 1975 this contribution increased significantly to more than $12 million. As detailed in Table 2, the science programs of the Institution benefited in largest measure; the Smithsonian Astrophysical Observatory accounted for more than one-half of these funds, receiving support from the National Aeronautics and Space Administration for such projects as a Doppler tracking experiment for the Apollo-Soyuz project, meteor studies, and the satellite tracking program. Other awards to the Smithsonian covered such diverse programs as investigations on endangered plant species and a study of international oil spills to research on the ethnic origins of man in America and abroad, and a compilation of the papers of the artist Charles Willson Peale. A breakdown of the major granting agencies to the Smithsonian, together with the funds expended over the past four years, is shown in Table 5.

PRIVATE TRUST FUNDS

From 1846, the year in which Congress passed legislation establishing the Smithsonian Institution, until 1858, when the first federal

TABLE 5. *Grants and Contracts*
[In $1,000's]

Federal Agencies	*FY 1972*	*FY 1973*	*FY 1974*	*FY 1975*
Atomic Energy Commission	$ 73	$ 76	$ 72	$ 84
Department of Commerce	392	203	184	242
Department of Defense	916	969	872	799
Department of Health, Education and Welfare	411	306	261	219
Department of Interior	247	230	283	246
Department of Labor	11	51	163	87
Department of State	195	593	1,066	1,549
National Aeronautics and Space Administration	4,605	4,923	5,308	7,670
National Endowments for the Arts and Humanities	35	58	102	420
National Science Foundation	560	957	690	502
Other	643	630	995	474
Total	$8,088	$8,996	$9,996	$12,292

operating funds were appropriated for the use of the Institution ($4,000), the current needs of the Smithsonian were met from the investment income of James Smithson's bequest to the American people. As Congress entrusted additional responsibilities to the Smithsonian, however, together with the annual appropriations to fulfill them, the federal portion of the Institution's budget grew, exceeding $1,000,000 in 1927 and $10,000,000 in 1963. While the private resources have also grown substantially since these early days, the maintenance of the uniquely federal-private nature of the Smithsonian requires constant efforts to increase our private sources of income.

In fiscal year 1975, these efforts again met with success, and the total private funds income to the Institution from gifts, investment income, revenue-producing activities, fees, and other revenues totaled $11,007,000 compared to the prior year's level of $8,954,000. The private trust funds provided 11 percent of the total operating support of the Institution, up from 9 percent last year. In addition, gifts and fund-raising efforts provided $187,000 for plant improvements, principally for the Cooper-Hewitt Museum (see Table 6).

TABLE 6. *Total Private Funds Income Fiscal Year 1975*
[In $1,000's]

Revenue Sources	*Unrestricted Purposes*		*Restricted purposes*	*Total*
	General & Revenue-producing	*Special purposes**		
FOR OPERATING PURPOSES:				
Investments	$ 950	$ 3	$1,724	$ 2,677
Gifts	46**	207	4,177	4,430
Revenue-Producing Activities	2,308	–	–	2,308
Concessions and Miscellaneous	228	541	636	1,405
Total Operating Funds	$3,532	$751	$6,537	$10,820
FOR PLANT:				
Gifts—				
Anacostia Neighborhood Museum	$ –	$ –	$ 10	$ 10
Chesapeake Bay Center	–	–	15	15
Cooper-Hewitt Museum	–	–	51	51
Total Gifts	$ –	$ –	$ 76	$ 76
Miscellaneous—				
Cooper-Hewitt Museum	$ –	$ –	$ 111	$ 111
Total Plant	$ –	$ –	$ 187	$ 187
Grand Total	$3,532	$751	$6,724	$11,007

* Represents unrestricted income designated by management to be used only for specific purposes.
** Excluding $145,000 gifts to Associates and $2,000 gifts to Press (included under Revenue-Producing Activities).

Unrestricted Private Funds

In fiscal year 1975 the Institution was able to continue last year's pattern of generating unrestricted income excess to its immediate operating needs. While administrative expenses grew, along with the number of research and museum projects dependent on these unrestricted funds, it was nevertheless possible to take a major step toward our goal of building the Institution's endowments by a transfer of $1,442,000 from current into unrestricted endowment funds. It is our intention to make similar transfers annually to the

extent compatible with current needs, in order to strengthen the Institution's private resources for the future.

As shown in Table 7, total unrestricted income rose 20 percent this past year to a record level of $3,532,000. Despite a proportionately large rise in administrative expense due to salary in-

TABLE 7. *Unrestricted Private Funds*
General and Revenue-Producing Activities
(Excluding Special Purpose Funds and Gifts to Endowment)
[In $1,000's]

Item	*FY 1972*	*FY 1973*	*FY 1974*	*FY 1975*
INCOME				
General Income:				
Investments	$ 334	$ 436	$ 744	$ 950
Gifts	26	33	151	46
Concessions and Miscellaneous	197	374	284	228
Total General Income	557	843	1,179	1,224
Revenue-Producing Activities:				
Associates	76	287	1,590	1,968
Shops	19	47	226	417
Press	(111)	(109)	(89)	(96)
Performing Arts	(50)	(65)	104	(79)
Product Development	–	69	37	218
Other Activities	(75)	(59)	(98)	(120)
Total Activities	(141)	170	1,770	2,308
Total Income	416	1,013	2,949	3,532
EXPENDITURES				
Administrative Expense	2,956	3,097	3,957	4,780
Less Administrative Recovery	2,639	2,772	3,345	3,644
Net Administrative Expense	317	325	612	1,136
Net Gain (Loss) Before Transfers	99	688	2,337	2,396
Less Transfers:				
To Plant	–	–	1,134	97
To Endowment	21	21	121	1,463
Other (Net)	17	124	307	546
Net Gain (Loss) After Transfers	61	543	775	290
Ending Balance	$1,781	$2,292*	$3,477*	$3,767

* Adjusted to reflect reclassification to Plant Funds of $32,000 net investment in capitalized equipment in fiscal year 1974 and $410,000 reclassification from Plant Funds to Current Funds in fiscal year 1975.

creases, other inflationary pressures, and a greater number of allotments to Smithsonian bureaux for special needs, the net gain before transfers for special purposes was nevertheless higher than last year. These transfers, described below, also exceeded those of the prior year, but left some $290,000 to be added to the unrestricted fund balance at year's end, raising it to $3,767,000, a level more compatible with the Institution's working capital needs.

Investment income, partly from unrestricted endowment and partly from short-term investment of current funds, increased to $950,000 this past year; of this income, however, approximately $190,000 was transferred to Smithsonian bureaux as interest on their restricted-purpose fund balances. Unrestricted gift income decreased, indicating once again the difficulty of obtaining support for general purposes. As has been the case in the prior two years, the major contributors to the Institution's unrestricted budget were the educational and revenue-producing activities, which have proven able, not only to cover their costs in extending Smithsonian programs beyond the geographical limits of Washington, but also to generate funds to supplement other research and museum programs of the Institution.

The Associates program, now ten years old, offers its various categories of members such benefits as tours, lectures, exhibit openings, special restaurant facilities, courses of study, discounts on Museum Shop merchandise, and, of course, the *Smithsonian* magazine. This program, with a membership in excess of 900,000 at year's end, is enabling the Smithsonian to subsidize important research projects for which funds would not otherwise be available, as well as to improve our educational services to the public. Due in large measure to the success of this program, the Institution will be able to construct special facilities in Washington during the Bicentennial year to welcome the ever-increasing number of visitors to our museums.

Substantial investments of time and money in the Museum Shops, to improve the quality and relevance of the merchandise as well as the physical design of the shops themselves, has resulted in a further gain in net income, to a level of $417,000. One-third of these gains ($139,000) was transferred directly back to the individual museums in which the shops are located for public education programs and purchases for the collections. The Product

Development Program received net royalties of $218,000 from the sale by outside manufacturers of licensed products developed in concert with Smithsonian staff and related to the national collections. As with Museum Shops' gains, distributions were made to participating bureaux totaling $83,000. Detail on these and other activities is shown in Table 8.

From the net gain of $2,396,000, transfers were made as noted above to Endowment ($1,442,000 to Unrestricted, and $21,000 to Restricted Endowment), and to the Bureaux from Revenue-Producing Activities ($222,000). In addition, transfers were made for land acquisition at the Chesapeake Bay Center ($97,000), operation of the Cooper-Hewitt Museum ($34,000), special research grants to Smithsonian scientists ($102,000), payment of interest to bureaux on their restricted and special purpose funds ($194,000), and miscellaneous incoming transfers of $6,000.

TABLE 8. *Revenue-Producing Activities for Fiscal Year 1975*
[In $1,000's]

Item	*Total*	*Museum Shops*	*Smithsonian Press**	*Smithsonian Associates*	*Performing Arts*	*Product Development*	*Other***
Sales and Revenues	$18,459	$3,211	$189	$13,524	$436	$302	$797
Less Cost of Sales	8,310	1,802	169	5,977	68	–	294
Gross Income	10,149	1,409	20	7,547	368	302	503
Gifts	147	–	2	145	–	–	–
Other Income	196	10	74	41	43	–	28
Total Income	10,492	1,419	96	7,733	411	302	531
Expenses	7,563	902	180	5,352	442	79	608
Administrative Costs	621	100	12	413	48	5	43
Income (Loss) Before Transfers	2,308	417	(96)	1,968	(79)	218	(120)
Less Transfers	219	139***	–	–	–	83***	(3)
Net Income (Loss)	$ 2,089	$ 278	$(96)	$ 1,968	$(79)	$135	$(117)

* The privately funded activities of the Press as opposed to the federally supported publication of research papers.
** Includes Traveling Exhibitions, Belmont Conference Center, Photo Sales, "Commons" Restaurant, Center for Short-Lived Phenomena, Special Publications and Television Programs.
*** Allocations to the Smithsonian bureaux participating in this program.

Special Purpose funds are set out separately in Table 6 as well as in Table 2. These moneys include unrestricted gifts to particular bureaux ($207,000) and receipts from various bureau enterprises ($541,000), such as parking at the National Zoological Park or sale of commemorative envelopes at the National Air and Space Museum, which are then reserved for improvement of facilities or exhibits. The balance of these funds at June 30, 1975, was $1,071,000, compared with $460,000 in 1974. This substantial increase, despite the use of more than $500,000 of such funds for numerous bureaux as shown in Table 2, reflects both the income noted above as well as the transfers from Revenue-Producing Activities and the payment of interest on fund balances.

Restricted Private Funds

The Institution also received $6,537,000 in fiscal year 1975 for a wide variety of specified, or "restricted," operating purposes, as compared to $4,266,000 in fiscal year 1974. This total includes gifts and grants of $4,177,000, endowment income of $1,724,000, and miscellaneous revenues of $636,000; a partial breakdown showing the principal recipients appears in Table 9.

Endowment income provided the major operating support for the Freer Gallery of Art and the Fort Pierce Bureau, with the remainder of the endowment funds (outlined below) benefiting projects throughout the Institution. The gifts and grants to the Institution are far too numerous to describe fully, although a partial listing of donors follows this report. Their support to the restricted funds, however, provided the greater portion of the operating budgets of the Cooper-Hewitt Museum of Decorative Arts and Design and Hillwood, the former estate of Mrs. Marjorie Merriweather Post. Major support was provided to the National Air and Space Museum by gifts from the Summa Corporation for general exhibits purposes and from the German Federal Republic for construction and equipping of its new Spacearium; these gifts are of immense value to the Institution in its commitment to open this museum on July 4, 1976. Another Bicentennial project which received important funding was the Division of Performing Arts

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TABLE 9. *Restricted Operating Private Funds,* Fiscal Year 1975*
[In $1,000's]

Fund	Income				Deductions	Transfers in (out)	Net increase (decrease)	Fund balance end of year
	Investment	Gifts	Miscellaneous	Total income				
Archives of American Art	$ 4	$ 22	$263	$ 289	$ 212	$39	$ 116	$ 321
National Museum of History and Technology:								
American Banking Exhibit	–	115	–	115	111	–	4	272
American Maritime Hall	–	182	–	182	179	16	19	185
Cooper-Hewitt Museum:								
Operations	6	74	27	107	228	121	–	–
Funds for Collections and other								
Special Purpose Funds	–	283	5	288	70	6	224	806
Division of Performing Arts	–	707	–	707	303	3	407	342
Fort Pierce Bureau	525	–	1	526	645	(68)	(187)	5
Freer Gallery	839	12	169	1,020	1,088	2	(66)	125
Hillwood	–	517	15	532	512	(1)	19	98
National Air & Space Museum	–	814	30	844	142	15	717	780
Woodrow Wilson Center**	–	448	2	450	198	(5)	247	241
Other	350	1,003	124	1,477	1,339	(66)	72	1,199
Total Restricted Funds	$1,724	$4,177	$636	$6,537	$5,027	$62	$1,572	$4,374

* Excluding Grants and Contracts shown in Table 8 and also Restricted Plant Funds included in Table 6.
** Included herein even though federal funds of the Center are not a part of this report, since the Smithsonian is by legislative act the official recipient and custodian.

which plans an extended Festival of American Folklife in the summer of 1976; grants from General Foods Corporation and American Airlines are reflected in Table 9, with further payments from these corporations expected in fiscal year 1976. Generous support received from inland waterways transportation firms is making possible further progress toward the building of an exciting new American Maritime Hall in the National Museum of History and Technology.

The Woodrow Wilson International Center for Scholars received substantial grants both for on-going projects as well as for the establishment of the new Institute for Advanced Russian Studies, announced during this past year.

Miscellaneous receipts from the Freer Gallery sales desk and

special fund-raising activities of the Archives of American Art gave significant assistance to those programs.

As mentioned on page 39, another $187,000 of restricted funds was also received for plant construction purposes, principally for renovation of the Carnegie Mansion, new home of the Cooper-Hewitt Museum. An additional $1,000,000 for this purpose is still being sought.

Endowment Funds

The Smithsonian endowment funds had a market value on June 30, 1975, of $41,939,000. They consist of the Freer Fund, whose income is used solely by the Freer Gallery of Art; Endowment Fund No. 3, which supports oceanographic research at the Fort Pierce Bureau in Florida; other restricted funds, maintaining a large number of research projects; and unrestricted funds. As of July 1, 1974, all Smithsonian endowment funds, exclusive of $1,000,000 held in perpetuity in the U. S. Treasury, and some $72,700 of miscellaneous securities, were pooled into the Consolidated Endowment Fund in order to facilitate investment management; separate accounting and administration continues, however, to be maintained on each fund in this pool. Table 10 shows the market values of these funds since 1971, reflecting additions from donations and reinvestment of income, limited withdrawals, and changes in securities valuations.

The investment of the endowment funds of the Institution is managed by three professional advisory firms, under the close

TABLE 10. *Market Value of Endowment Funds*
[In $1,000's]

Fund	*6/30/71*	*6/30/72*	*6/30/73*	*6/30/74*	*6/30/75*
Freer	$18,805	$21,973	$18,279	$14,250	$15,744
Endowment No. 3	12,331	14,641	13,196	11,128	12,321
Unrestricted funds	4,404	5,102	4,759	3,906	5,654
Restricted funds	7,066	8,185	7,634	6,266	7,148
Total	$42,606	$49,901	$43,868	$35,550	$40,867

surveillance of the Investment Policy Committee and the Treasurer, and subject to policy guidelines set by the Smithsonian's Board of Regents. In 1972 the Board of Regents adopted the total return policy, under which the income paid to each endowment fund in the subsequent fiscal year is determined each March 31 by computing 4½ percent of the running five-year average of market values, adjusted for additions or withdrawals of capital. By selecting a fixed rate of return, regardless of what the actual yield may be, the investment advisors may select securities for growth as well as present yield, without being limited by the need to achieve a specified dividend and interest income level.

One of the goals of the Smithsonian administration has been to increase our endowment funds, particularly those for unrestricted uses, which are still minimal in relation to the size of the Institution, providing only a small fraction of one percent of the total operating income. Due to the unrestricted current funds surplus achieved for fiscal year 1975, it was possible, as described above, to transfer $1,422,000 into the unrestricted endowment funds, and further such transfers will be a major priority in future years. Table 11 reflects the changes in the endowment funds this past year due to this transfer, reinvestment of income in certain restricted funds, donations, and stock market action. The substantial increase in market values over the year of $3,930,000 is attribu-

TABLE 11. *Changes in Endowment Funds for Fiscal Year 1975*

[In $1,000's]

Fund	*Market value 6/30/74*	*Gifts and transfers*	*Interest and dividends**	*Income paid out*	*Subtotal*	*Increase in market value*	*Market value 6/30/75*
Freer Fund	$14,250	$ –	$ 663	$ 839	$14,074	$1,670	$15,744
Endowment No. 3	11,128	68	539	525	11,210	1,111	12,321
Unrestricted funds	3,906	1,442	186	203	5,331	323	5,654
Restricted funds	6,266	84	316	344	6,322	826	7,148
Total	$35,550**	$1,594	$1,704	$1,911	$36,937	$3,930	$40,867**

* Income earned less managers' fees.

** Not including Endowment Funds of $1,000,000 held in U.S. Treasury, carrying 6 percent interest, nor minor amount of miscellaneous securities treated separately.

TABLE 12. *Consolidated Endowment Funds*
June 30, 1975

Funds participating in pool	Principal		Income	
	Book value	Market value	1975 Net income	Unexpended balance
FREER	$15,324,967	$15,743,612	$ 839,354	$123,631
ENDOWMENT NO. 3	12,249,146	12,320,695	525,114	–
UNRESTRICTED FUNDS	5,848,197	5,654,142	203,373	–
RESTRICTED FUNDS:				
Abbott, William L.	201,567	207,532	10,020	2,277
Archives of American Art*	–	–	1,024	–
Armstrong, Edwin James	4,129	3,678	173	–
Arthur, James	58,605	77,876	3,760	1,563
Bacon, Virginia Purdy	176,767	161,967	7,820	16,532
Baird, Spencer Fullerton	53,885	69,613	3,361	45
Barney, Alice Pike	42,032	55,806	2,695	7,725
Barstow, Frederic D.	1,932	1,987	96	1,902
Batchelor, Emma E.	64,533	57,725	2,787	8,854
Beauregard, Catherine Memorial Fund	73,964	77,552	3,745	4,133
Becker, George F.	303,620	280,334	13,536	307
Brown, Roland W.	48,642	53,224	2,570	8,865
Canfield, Frederick A.	55,035	85,801	4,143	1,893
Casey, Thomas Lincoln	24,241	25,001	1,207	3,063
Chamberlain, Frances Lea	41,269	54,794	2,646	5,959
Cooper, G. Arthur, Curator's Fund	3,144	3,003	130	–
Cooper-Hewitt Museum	152,251	134,564	6,497	–
Desautels, Paul E.	11,645	12,627	198	–
Div. of Mammals Curator Fund	3,205	3,182	154	1,382
Div. of Reptiles Curator Fund	959	941	45	141
Drake, Carl J.	277,202	262,355	12,508	30,209
Dykes, Charles	83,258	85,827	4,144	16,622
Eickemeyer, Florence Brevoort	15,930	21,142	1,021	3,315
Guggenheim, David and Florence	228,910	199,823	9,648	–
Hanson, Martin Gustav and Caroline Runice	17,192	17,722	856	1,727
Henderson, Edward P., Meteorite Fund	590	692	33	33
Hillyer, Virgil	12,711	13,111	633	3,402
Hitchcock, Albert S.	2,308	3,119	151	236
Hrdlicka, Ales and Marie	90,934	96,952	4,681	5,606
Hughes, Bruce	28,046	37,288	1,800	24,096
Johnson, E. R. Fenimore	15,706	13,121	634	5,366
Kellogg, Remington, Memorial	46,668	38,189	1,835	3,278
Lindsey, Jessie H.	560	548	26	1,030
Loeb, Morris	168,848	175,769	8,487	437
Long, Annette E. and Edith C.	794	1,085	52	284
Lyons, Marcus Ward	8,424	7,084	342	–
Maxwell, Mary E.	28,741	38,205	1,845	7,806
Myer, Catherine Walden	39,074	40,283	1,945	3,625

TABLE 12. *Consolidated Endowment Funds*
June 30, 1975—continued

Funds participating in pool	*Principal*		*Income*	
	Book value	*Market value*	*1975 Net income*	*Unexpended balance*
Nelson, Edward William	35,153	43,264	2,089	2,089
Noyes, Frank B.	1,874	2,030	98	1,335
Pell, Cornelia Livingston	14,349	14,871	718	3,067
Petrocelli, Joseph, Memorial	10,858	14,491	700	7,883
Ramsey, Admiral and Mrs. DeWitt Clinton	507,359	430,685	20,759	26,237
Rathbun, Richard, Memorial	20,584	21,308	1,029	11,785
Reid, Addison T.	34,396	35,456	1,712	2,323
Roebling Collection	176,974	233,713	11,284	–
Roebling Solar Research	47,877	45,813	2,212	–
Rollins, Miriam and William	290,173	337,235	16,078	956
Ruef, Bertha M.	61,253	51,136	2,469	3,599
Smithsonian Agency Account	200,933	173,087	7,891	–
Sprague, Joseph White	2,128,377	2,028,893	96,734	25,405
Springer, Frank	26,282	34,875	1,684	21,810
Stevenson, John A.	9,052	9,475	458	458
Strong, Julia D.	19,348	20,023	967	4,726
T.F.H. Publications, Inc.	16,793	16,213	715	7,894
Walcott, Charles D.	185,976	210,940	10,057	5,149
Walcott, Charles D. and Mary Vaux	674,384	894,812	43,205	11,417
Walcott Botanical Publications	85,193	108,546	5,241	2,643
Zerbee, Francis Brinckle	1,392	1,833	89	1,807
Total Restricted Funds	$ 6,935,901	$ 7,148,221	$ 343,437	$312,296
Total Consolidated Endowment Funds	$40,358,211	$40,866,670	$1,911,278	$435,927

* Transferred to Current Funds 6/30/75; Book Value $20,925, Market Value $21,106.

table primarily to the sharp upswing in the stock market, and the Smithsonian funds performed somewhat better during this period than the generally accepted market indexes.

Income of $1,911,000, net of managers and custodial fees, was paid out during the year under the total return policy, which was $207,000 in excess of actual dividend and interest yield. A breakdown of the income to the various funds participating in the Consolidated Endowment Funds is shown in Table 12, together with

the book and market values of those funds. Table 13 provides detail on the types of securities held by the Institution. A listing of the individual investments held in the Consolidated Endowment Funds at June 30, 1975, may be obtained upon request to the Treasurer of the Institution.

TABLE 13. *Endowment and Similar Funds Summary of Investments*

Accounts	*Book value 6/30/75*	*Market value 6/30/75*
INVESTMENT ACCOUNTS		
Consolidated Endowment Funds:		
Cash and Equivalents	$ 1,108,888	$ 1,108,888
Bonds	8,072,361	7,717,817
Convertible Bonds	2,579,706	2,446,265
Stocks	28,597,256	29,593,700
Total	$40,358,211	$40,866,670
Miscellaneous:		
Cash	$ 731	$ 731
Bonds	9,769	9,600
Common Stocks	3,572	13,987
Total	$ 14,072	$ 24,318
Total Investments Accounts	$40,372,283	$40,890,988
Other Accounts:		
Notes Receivable	$ 48,354	$ 48,354
Loan to U. S. Treasury in Perpetuity	1,000,000	1,000,000
Total Other Accounts	$ 1,048,354	$ 1,048,354
Total Endowment and Similar Fund Balances	$41,420,637	$41,939,342

Accounting and Auditing

The Private Trust Funds of the Institution, as well as the accounts of Smithsonian Science Information Exchange, Inc., the Smithsonian Research Foundation, and Reading Is Fundamental, Inc., are audited annually by independent public accountants. Their report for fiscal year 1975 on the Smithsonian is contained in the following pages, including a comparative balance sheet and a statement of changes in the various fund balances.

The Defense Contract Audit Agency annually performs an audit on grant and contract moneys received from federal agencies. In addition, the federally appropriated funds of the Institution are subject to audit by the General Accounting Office. The internal audit staff continues to conduct audits throughout the wide range of Smithsonian activities and contributes greatly to smooth administrative and financial management.

Gifts and Bequests to the Smithsonian

The Smithsonian Institution gratefully acknowledges gifts and bequests received during fiscal year 1975 from the following:

$100,000 or more:

American Bankers Association
American Airlines, Incorporated
Anonymous
Federal Republic of Germany
General Foods Corporation
Hillwood Trust
S. C. Johnson & Son, Inc.
Mobil Foundation, Inc.
The Marjorie Merriweather Post Foundation of D. C.
Summa Corporation

$10,000 or more:

American Commercial Barge Line Company
American Telephone and Telegraph Company
The Arcadia Foundation
Atlantic Richfield Foundation
The Brown Foundation
The Morris & Gwendolyn Cafritz Foundation
CBS Foundation, Inc.
Charron Foundation
Continental Grain Company
Mrs. David Craven
Crowley Maritime Corporation
Doubleday & Company, Inc.
The Henry L. and Grace Doherty Charitable Foundation, Inc.
The Charles Engelhard Foundation
The Eppley Foundation for Research
The T. M. Evans Foundation
Exxon Corporation
Firestone Foundation
The Ford Foundation
The General Electric Foundation
Mary L. Griggs and Mary G. Burke Foundation
The Hillman Foundation, Inc.
Interdisciplinary Communication Associates, Inc.
The J. M. Kaplan Fund, Inc.
Lake Carriers' Associations
The Robert Lehman Foundation
Howard and Jean Lipman Foundation, Inc.
Mr. Vasco McCoy, Jr.
State of Mississippi
Mobil Oil Corporation
National Geographic Society
New York State Council on the Arts
Edward John Noble Foundation

$10,000 or more—continued

Mr. and Mrs. David Packard
Pepsi Cola Company Foundation, Inc.
Phelps-Dodge Corporation
Marjorie Merriweather Post Foundation u/a dated July 20, 1956
The Relm Foundation
Rockefeller Brothers Fund
Estate of Gertrude Sampson
Sears, Roebuck and Company
St. Lawrence Seaway Commission
Surdna Foundation, Inc.
The Allie L. Sylvester Fund, Inc.
The Tobacco Institute, Inc.
United Seamen's Service
Dr. and Mrs. Jeremy P. Waletsky
Matilda R. Wilson Fund
The Women's Committee of the Smithsonian Associates
World Wildlife Fund
Xerox Corporation

$1,000 or more:

The Ahmanson Foundation
Alcoa Foundation
American Can Company Foundation
Allied Chemical Foundation
American Express Foundation
American College of Dentistry
American Institute of Marine Underwriters
American Institute of Merchant Shipping
American Law Institute
American Metal Climax Foundation, Inc.
American National Standard Institute
American Studies Association
Amoco Foundation, Inc.
The Annenberg School of Communications
Anonymous
Miss Amelia E. Anthony
Arthur-Smith Corporation
Ashland Oil, Inc.
AVCO Corporation
The Barra Foundation, Inc.
Mrs. Frederic C. Bartlett
The Bass Foundation
Bath Iron Works Corporation
Battelle Laboratories
The Bedminster Fund, Inc.
Beneficial Foundation
Bethlehem Steel Corporation
Miss Helen Bissell
Dr. and Mrs. Arthur Bloom
Mrs. Beulah Boyd
Mr. Daniel J. Boorstin
The Boswell Oil Company
The Bundy Foundation
Dr. and Mrs. I. F. Burton
Canal Barge Company, Inc.
Cargo Carriers, Inc.
Carter Hawley Hale Stores, Inc.
Caterpillar Tractor Company
Mrs. David Challinor
Chase Manhattan Bank
Mr. Peter B. Clark
The Coca Cola Company
Community Funds, Inc.
Continental Oil Company
Mrs. Adolph Coors III
Copernicus Society
Corning Glass Works
Dr. William H. Crocker
Dr. and Mrs. Burrill Crohn
Dana Corporation Foundation
Mr. Paul L. Davies
Deere & Company
Mr. and Mrs. Henry H. Dewar
Dow Chemical U.S.A.
Elsie DeWolfe Foundation
Dixie Carriers, Inc.
Mr. Joseph W. Donner
Ms. Ann Dreyfuss
Mr. John A. Dreyfuss
Earhart Foundation
The Ferdinand Eberstadt Foundation
Mr. and Mrs. Joel S. Ehrenkranz
Miss Edith Ehrman
El Paso Natural Gas Company
Mr. Alfred U. Elser, Jr.
Milton S. Erlanger, Trust
Esso Middle East
Farrell Lines, Inc.

$1,000 or more—continued

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First National Bank in Palm Beach
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S. C. Loveland, Co., Inc.
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Philip Morris Incorporated
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General Agents and Managers Conference of N.A.L.V.
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Maxon Marine Industries, Inc.
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$500 or more—continued

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Mr. and Mrs. Alfred E. Tarr
Mr. and Mrs. Bela C. Tifft
Mrs. Arthur M. Tode
Mr. John B. Trevor, Jr.
Dr. Herman J. Viola
Mr. and Mrs. Albert C. Wall
The Raymond John Wean Foundation

We also gratefully acknowledge other contributions in excess of $400,000 received from more than 5,000 contributors in fiscal year 1975.

PEAT, MARWICK, MITCHELL & CO.
CERTIFIED PUBLIC ACCOUNTANTS
1025 CONNECTICUT AVENUE, N. W.
WASHINGTON, D.C. 20036

The Board of Regents
Smithsonian Institution:

We have examined the balance sheet of the Private Funds of Smithsonian Institution as of June 30, 1975 and the related statement of changes in fund balances for the year then ended. Such statements do not include the accounts of the National Gallery of Art, the John F. Kennedy Center for the Performing Arts, nor other departments, bureaus and operations administered by the Institution under Federal appropriations as detailed in note 2 to the financial statements. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the aforementioned financial statements present fairly the financial position of the Private Funds of Smithsonian Institution at June 30, 1975 and the changes in its fund balances for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

PEAT, MARWICK, MITCHELL & CO.
September 5, 1975

SMITHSONIAN INSTITUTION—PRIVATE FUNDS

Balance Sheet

June 30, 1975
(with comparative figures for 1974)

Assets	1975	1974 (*note 1b*)
CURRENT FUNDS:		
Cash:		
In U. S. Treasury	$ 543,741	139,352
In banks and on hand	234,479	651,485
Total cash	778,220	790,837
Investments (note 3)	10,149,875	8,298,318
Receivables:		
Accounts, less allowance for doubtful accounts of $340,000 ($200,000 in 1974)	1,882,037	1,247,671
Advances—travel and other	454,775	203,705
Reimbursements—grants and contracts, net	2,271,060	2,261,103
Due from agency funds	246,032	136,151
Total receivables	4,853,924	3,848,630
Inventories	1,118,688	780,054
Prepaid expenses	462,278	420,272
Deferred expenses	1,749,229	1,208,561
Capitalized improvements and equipment, used in income producing activities, net of accumulated depreciation and amortization of $537,338 ($409,830 in 1974)	597,610	293,974
Total current funds	$19,709,824	15,640,646
ENDOWMENT AND SIMILAR FUNDS:		
Cash, net of receivables and payables on securities transactions	41,063	506,033
Notes receivable	68,304	49,960
Due from current funds	316,043	239,967
Investments (note 3)	40,013,177	40,043,593
Loan to U. S. Treasury in perpetuity at 6%	1,000,000	1,000,000
Total endowment and similar funds	$41,420,637	41,839,561
PLANT FUNDS:		
Due from current funds	461,266	1,626,468
Real estate (note 5)	6,230,034	4,790,921
Total plant funds	$ 6,691,300	6,417,389
AGENCY FUNDS:		
Investments	10,000	10,000
Due from current funds	386,507	213,100
Total agency funds	$ 396,507	223,100

See accompanying notes to financial statements.

Liabilities and Fund Balances	1975	1974 (*note 1b*)
CURRENT FUNDS:		
Note payable—secured (note 4)	$ 85,920	191,843
Accounts payable and accrued liabilities	3,261,791	2,596,531
Due to plant funds	461,266	1,626,468
Due to agency funds	386,507	213,100
Due to endowment and similar funds	316,043	239,967
Deferred income:		
Magazine subscriptions	5,213,531	3,645,757
Other	655,955	334,955
Total liabilities	10,393,013	8,848,421
Fund balances:		
Unrestricted:		
General purpose	3,767,373	3,476,776
Special purpose	1,071,135	460,544
Total unrestricted	4,838,530	3,937,320
Restricted	4,478,281	2,854,905
Total fund balances	9,316,811	6,792,225
Total current funds	$19,709,824	15,640,646
ENDOWMENT AND SIMILAR FUNDS:		
Fund balances:		
Endowment	33,354,330	34,999,970
Quasi-endowment:		
Restricted	2,224,323	2,286,057
Unrestricted	5,841,784	4,553,534
Total quasi-endowment	8,066,107	6,839,591
Total endowment and similar funds	$41,420,637	41,839,561
PLANT FUNDS:		
Mortgage notes payable (note 5)	269,718	349,617
Accrued liabilities	10,130	36,832
Fund balances:		
Acquisition fund:		
Unrestricted	379,827	625,610
Restricted	71,319	964,026
	451,146	1,589,636
Investment in plant	5,960,316	4,441,304
Total plant funds	$ 6,691,300	6,417,389
AGENCY FUNDS:		
Due to current funds	246,032	136,151
Deposits held in custody for others	150,475	86,949
Total agency funds	$ 396,507	223,100

SMITHSONIAN INSTITUTION—PRIVATE FUNDS

Statement of Changes in Fund Balances

Year ended June 30, 1975

	Current funds							Plant funds	
		Unrestricted							
	Total current funds	Total unrestricted funds	General purpose	Activities	Special purpose	Restricted	Endowment and similar funds	Acquisition	Investment in plant
REVENUE AND OTHER ADDITIONS:									
Auxiliary enterprises revenue	$18,866,324	18,866,324	–	18,655,293	211,031	–	–	–	–
Federal grants and contracts	12,344,540	–	–	–	–	12,344,540	–	–	–
Investment income (net of $91,886 management and custodian fees)	2,396,696	951,143	948,318	–	2,825	1,445,553	–	–	–
Gains (losses) on sale of securities	(14,909)	(14,909)	(14,909)	–	–	–	(1,718,330)	–	–
Gifts, bequests, and foundation grants	4,576,323	399,725	45,625	146,929	207,171	4,176,798	302	76,443	–
Additions to equity in real estate	–	–	–	–	–	–	–	–	1,319,012
Rentals, fees, and commissions	745,708	745,708	617,851	–	127,857	–	–	–	–
Other—net	881,228	244,626	42,846	–	201,780	636,602	–	110,696	–
Total revenue and other additions	39,796,110	21,192,617	1,639,731	18,802,222	750,664	18,603,493	(1,718,028)	187,139	1,319,012
EXPENDITURES AND OTHER DEDUCTIONS:									
Research and educational expenditures	15,617,194	1,003,767	679,405	–	324,362	14,613,427	–	–	–
Administrative expenditures	4,099,594	1,528,091	888,878	620,700	18,513	2,571,503	–	–	–
Auxiliary enterprises expenditures	16,035,738	16,035,738	–	15,873,713	162,025	–	–	–	–
Expended for real estate and equipment	123,000	–	–	–	–	123,000	–	1,316,112	–
Retirement of indebtedness	–	–	–	–	–	–	–	79,899	–
Interest on indebtedness	–	–	–	–	–	–	–	26,512	–
Total expenditures and other deductions	35,875,526	18,567,596	1,568,283	16,494,413	504,900	17,307,930	–	1,422,523	–
TRANSFERS AMONG FUNDS—ADDITIONS (DEDUCTIONS):									
Mandatory—principal and interest on notes	(96,894)	(96,894)	(96,894)	–	–	–	–	96,894	–
Portion of investment gain appropriated	295,084	17,078	17,078	–	–	295,084	(295,084)	–	–
Income added to endowment principal	(141,677)	–	–	–	–	(141,677)	141,677	–	–
Appropriated as quasi-endowment	(1,473,436)	(1,463,151)	(1,463,151)	–	–	(10,285)	1,473,436	–	–
For designated purposes	–	(180,844)	(326,604)	(219,087)	364,847	180,844	–	–	–
Endowment released	20,925	–	–	–	–	20,925	(20,925)	–	–
Net increase in activities	–	–	2,088,722	(2,088,722)	–	–	–	–	–
Total transfers among funds—additions (deductions)	(1,395,998)	(1,723,811)	219,151	(2,307,809)	364,847	327,813	1,299,104	96,894	–
Net increase (decrease) for the year	2,524,586	901,210	290,599	–	610,611	1,623,376	(418,924)	(1,138,490)	1,319,012
Fund balances at June 30, 1974, as restated (note 1b)	6,792,225	3,937,320	3,476,776	–	460,544	2,854,905	41,839,561	1,589,636	4,441,304
Fund balances at June 30, 1975	$ 9,316,811	4,838,530	3,767,375	–	1,071,155	4,478,281	41,420,637	451,146	5,960,316

See accompanying notes to financial statements.

SMITHSONIAN INSTITUTION—PRIVATE FUNDS
Notes to Financial Statements
June 30, 1975

1. *Summary of Significant Accounting Policies*

a. Accrual Basis—The financial statements of Smithsonian Institution—Private Funds (note 2) have been prepared on the accrual basis, except for depreciation of plant fund assets as explained in note 1(h) below, and are in conformity with generally accepted accounting principles included in the American Institute of Certified Public Accountants Audit Guide "Audits of Colleges and Universities."

b. Current funds include capitalized improvements and equipment used in income producing activities having a net carrying value of $597,610 and $293,974 at June 30, 1975 and 1974, respectively. Such assets together with funds held for additions and liabilities on acquisitions, which were previously included in plant funds, were reclassified to current unrestricted funds at the beginning of the 1975 year to better reflect assets and liabilities used in current operations. Figures for 1974 have been reclassified in the accompanying balance sheet at June 30, 1974 to put them on a comparable basis with 1975, resulting in an increase in the current unrestricted fund balance and a decrease in the plant funds balance of $410,182 at June 30, 1974.

Current funds used to finance the acquisition of plant assets and for provisions for debt amortization and interest are accounted for as transfers to the plant fund.

c. Fund Accounting—In order to ensure observance of limitations and restrictions placed on the use of the resources available to the Institution, the accounts of the Institution are maintained in accordance with the principles of "fund accounting." This is the procedure by which resources for various purposes are classified for accounting and reporting purposes into funds that are in accordance with activities or objectives specified. Separate accounts are maintained for each fund; however, in the accompanying financial statements, funds that have similar characteristics have been combined into fund groups. Accordingly, all financial transactions have been recorded and reported by fund group.

Within each fund group, fund balances restricted by outside sources are so indicated and are distinguished from unrestricted funds allocated to specific purposes by action of the governing board. Externally restricted funds may only be utilized in accordance with the purposes established by the source of such funds and are in contrast with unrestricted funds over which the governing board retains full control to use in achieving any of its institutional purposes.

Endowment funds are subject to the restrictions of gift instruments requiring in perpetuity that the principal be invested and the income only be utilized. Also classified as endowment funds are gifts which will allow the expenditure of principal but only under certain specified conditions.

While quasi-endowment funds have been established by the governing board for the same purposes as endowment funds, any portion of such funds may be expended. Restricted quasi-endowment funds represent gifts for restricted purposes where there is no stipulation that the principal be maintained in perpetuity or for a period of time, but the governing board has elected to invest the principal and expend only the income for the purpose stipulated by the donor.

All gains and losses arising from the sale, collection, or other disposition of investments and other noncash assets are accounted for in the fund which owned such assets. Ordinary income derived from investments, receivables, and the like, is accounted for in the fund owning such assets, except for income derived from investments of endowment and similar funds, which income is accounted for in the fund to which it is restricted or, if unrestricted, as revenues in unrestricted current funds.

All other unrestricted revenue is accounted for in the unrestricted current fund. Restricted gifts, grants, endowment income, and other restricted resources are accounted for in the appropriate restricted funds.

d. Investments are recorded at cost or fair market value at date of acquisition when acquired by gift.

e. Inventories are carried at lower of average cost or net realizable value.

f. Income and expenses in respect to the Institution's magazine and associates' activities are deferred and taken into income and expense over the applicable periods and are reported in the activities section of the current unrestricted funds.

g. The Institution utilizes the "total return" approach to investment management of endowment funds and quasi-endowment funds. Under this approach, the total investment return is considered to include realized and unrealized gains and losses in addition to interest and dividends. In applying this approach, it is the Institution's policy to provide 4½% of the five year average of the market value of each fund (adjusted for gifts and transfers during this period) as being available for current expenditures; however, where the market value of the assets of any endowment fund is less than 110% of the historic dollar value (value of gifts at date of donation) the amount provided is limited to only interest and dividends received.

h. Capitalized improvements and equipment used in income-producing activities purchased with Private Funds are capitalized in the current unrestricted fund at cost (see note 1(b)), and are depreciated on a straight-line basis over their estimated useful lives of five to ten years. Depreciation expense of $130,525 for 1975 is reflected in the expenditures of the current funds.

Real estate (land and buildings) are recorded in the plant fund at cost, to the extent that restricted or unrestricted funds were expended therefor, or appraised value at date of gift, except for gifts of certain islands in

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Chesapeake Bay, Carnegie Mansion, and Hillwood Estate which have been recorded at nominal values. Depreciation on buildings is not recorded.

All the other land, buildings, fixtures and equipment (principally acquired with Federal funds), works of art, living or other specimens are not reflected in the accompanying financial statements.

i. The agency funds group consists of funds held by the Institution as custodian or fiscal agent for others.

j. Pension Costs—All pension costs are funded as accrued.

k. The Institution has a number of contracts with the U. S. Government, which primarily provide for cost reimbursement without fee to the Institution. Contract revenues are recognized as expenditures are incurred.

2. *Related Activities*

The Private Funds reflect the receipt and expenditure of funds obtained from private sources, from Federal grants and contracts and from certain business activities related to the operation of the Institution.

Federal appropriations, which are not reflected in the accompanying financial statements, provide major support for the operations and administration of the educational and research programs of the Institution's many museums, art galleries and other bureaus, as well as for the maintenance and construction of related buildings and facilities. In addition, land, buildings and other assets acquired with Federal funds are not reflected in the accompanying financial statements.

The following Federal appropriations were received by the Institution for the fiscal years ended June 30, 1975 and 1974:

	1975	*1974*
Operating funds	$72,511,000	60,562,900
Special foreign currency program	2,000,000	4,500,000
Construction funds	17,910,000	21,860,000
	$92,421,000	86,922,900

3. *Investments*

Quoted market values and carrying values of investments (all marketable securities) of the funds indicated were as follows:

	June 30, 1975		*June 30, 1974*	
	Carrying value	*Market value*	*Carrying value*	*Market value*
Current funds	$10,149,875	10,083,444	8,298,318	7,971,088
Endowment and similar funds	40,015,177	40,532,249	40,043,593	34,822,438
Total investments	$50,165,052	50,615,693	48,341,911	42,793,526

Total investment performance is summarized below:

	Net gains (losses)		
	Current funds	*Endowment and similar funds*	*Total*
Unrealized gains (losses):			
June 30, 1975	$ (66,431)	517,072	450,641
June 30, 1974	(327,230)	(5,221,155)	(5,548,385)
Unrealized net gains for year	260,799	5,738,227	5,999,026
Realized net losses for year	(14,909)	(1,718,330)	(1,733,239)
Total net gains for year	$ 245,890	4,019,897	4,265,787

Substantially all of the investments of the endowment and similar funds are pooled on a market value basis (consolidated fund) with each individual fund subscribing to or disposing of units on the basis of the value per unit at market value at the beginning of the calendar quarter within which the transaction takes place. Of the total units each having a market value of $102.61 ($84.60 in 1974), 333,155 units were owned by endowment, and 62,239 units by quasi-endowment at June 30, 1975.

The following tabulation summarizes the changes in the pooled investments during the year ended June 30, 1975:

	Carrying value	*Market*	*Market value per unit*
June 30, 1975	$40,063,092	40,569,918	102.61
June 30, 1974	11,845,384	10,195,872	84.60
Increase	$28,217,708	30,374,046	18.01

The increase in pooled investments during the year ended June 30, 1975 resulted primarily from the addition of certain endowment funds to the pooled investments.

4. *Note Payable*

The note payable in the principal amount of $95,920 ($191,843 in 1974), which is noninterest bearing, is secured by computer equipment and is payable in monthly installments of $7,993 to June 30, 1976.

5. *Mortgage Notes Payable*

The mortgage notes payable are secured by first deeds of trust on property acquired in connection with the Chesapeake Bay Center. The details of the mortgage notes payable are as follows:

	1975	*1974*
Mortgage note, payable in semiannual installments of $13,300, plus interest at the prevailing prime rate at the due date of the installment payment but not less than 8%, due July 1, 1980	$146,300	172,900
6% mortgage note payable, due in monthly installments of $451 including interest, due November 1, 1989	33,418	36,717

6% mortgage note, payable in semiannual installments of $10,000, plus interest, due November 7, 1979	90,000	110,000
7% mortgage note, payable in annual installments of $30,000, plus interest, due November 1, 1974	–	30,000
	$269,718	349,617

6. *Pension Plan*

The Institution has a contributory pension plan providing for the purchase of retirement annuity contracts for those employees meeting certain age and length of service requirements who elect to be covered under the plan. Under terms of the plan, the Institution contributes the amount necessary to bring the total contribution to 12% of the participants' compensation subject to social security taxes and to 17% of the participants' compensation in excess of that amount. The total pension expense for the year was $815,304 ($729,068 in 1974).

7. *Management Fees*

The Institution provides financial and management services to certain affiliated organizations. In 1975 the Institution charged fees for such services as follows:

Smithsonian Research Foundation	$125,000
Smithsonian Science Information Exchange	130,000
Reading Is Fundamental, Inc.	38,000
Center for Natural Areas	24,000

8. *Income Taxes*

The Institution has been recognized as exempt from income taxes as a nonprofit organization described in Section 501(c)(3) of the Internal Revenue Code. It is the opinion of the Institution that it is also exempt from taxation as an instrumentality of the United States as described in Section 501(c)(1) of the Code. Formal recognition of this dual status will be sought from the Internal Revenue Service. Should the Institution's position not prevail, income taxes might be imposed on certain income of the Institution, under provision of the Internal Revenue Code dealing with unrelated business income as defined therein.

9. *Commitments*

The Institution has entered into a contract for construction of a West Court facility within the National Museum of Natural History at a total estimated cost of $3,000,000 which is to be financed by a $1,100,000 construction loan with the remainder being financed from the unrestricted general fund balance.

NATIONAL GALLERY OF ART
"Salaries and Expenses"
ESTIMATES FOR THE FISCAL YEAR 1977

(897)

HIGHLIGHT STATEMENT

1976 and Transition Quarter Requirements and 1977 Request

The Congress appropriated for "Salaries and Expenses, National Gallery of Art," $7,531,000 for 1976 and $1,937,000 for the transition quarter ending September 30, 1976. The General Schedule pay increase effective October 12, 1975 and the wage-board pay increase effective October 26, 1975 will raise 1976 fiscal year operating costs by $241,000 and transition quarter operating costs by $89,000. A supplemental appropriation to cover these increases is anticipated. Including the 1976 portion of the anticipated supplemental appropriation, the total requirement for fiscal year 1976 is $7,772,000. This amount will support an average employment of 411 in the 444 full-time permanent positions authorized. The appropriation requested for fiscal year 1977 is $12,309,000--a net increase of $4,537,000 over the 1976 requirement.

1977 Program

The $12,309,000 appropriation requested will enable the Gallery to accomplish its two primary 1977 program objectives: (1) to continue to offer the general public opportunities for the study and enjoyment of the fine arts; and (2) to prepare, occupy, and use major areas of the new Connecting Link and East Building. The underground Connecting Link is to be ready for occupancy in July 1976, and much of the exhibition portion of the East Building will be available for preparatory work by the end of calendar year 1976.

Nondiscretionary increases in 1977 total $242,500. This is the amount required to place 18 positions (to be filled for only one-half of the current-year) on an annual basis; to place current-year pay increases on an annual basis; and to pay statutory within-grade promotions and wage-board step increases.

Increases for seventeen new positions to manage backlogs and increasing workloads total $190,800. Five positions are needed to manage a growing workload in the curatorial function; four positions are needed to provide the clerical, technical, and cataloging capability to keep pace with the growth in the library collections; three positions are needed to manage the increasing workload in designing and installing temporary exhibitions; and the remaining five positions are needed to provide administrative and technical support commensurate with the growth in the collections and substantive functions.

Increases for seventy-two new positions to operate, maintain and protect newly constructed areas total $825,700. Twenty-eight positions are required for the security of the new areas; four positions are needed to man the new information desk and checkroom in the Fourth Street entrance of the existing building; two positions are required for operating the new and larger telephone switchboard; seven positions are needed to maintain the additional grounds; six positions are needed to clean the new interior areas; ten positions are needed to man the new computer console and control panels for the operation of mechanical and electrical systems serving the building; and fifteen positions are necessary for the operation and upkeep of the new areas and associated equipment and systems.

Increases (excluding new positions) required for occupancy and use of newly constructed areas total $2,494,000. Of this total amount, some 68% ($1,710,500) is for the preparation of public areas: landscaping and sidewalks for the grounds of the new East Building, exterior signs and graphics, outdoor benches, and trash receptacles amount to $349,500; furnishings and equipment for the underground concourse lounge, Fourth Street Lobby (existing building), and main auditorium account for $353,000; and the remaining $1,008,000 is for the preparation in the new East Building of exhibition areas and exhibition installations, furnishings and equipment for other public areas, and an electronic protection system for the window walls. Almost 20% ($491,000) is for utility and telephone services required for the operation of newly constructed areas. About 3% ($68,000) is for additional grounds maintenance facilities and equipment. About 5% ($124,500) is to equip storage facilities in the underground Connecting Link for storing library and photographic archive materials, extension service materials, and general supplies. The remaining 4% ($100,000) of the total of $2,494,000 required for the occupancy and use of newly constructed areas is to furnish and equip the offices and shops in the concourse level and basement.

Increases for reconstruction of art registration and shipping facilities in existing building total $425,000. During the construction of the new East Building and Connecting Link, art registration and shipping facilities have been temporarily provided in the southeast corner of the existing building. Construction of permanent facilities, for which plans were completed last year, is estimated at $425,000.

Increases in equipment and furnishings for new art conservation facility total $100,000. With a grant of $740,000 from a private foundation new conservation and photographic facilities will be constructed in an area of the existing building to be available when the Gallery cafeteria and certain offices are moved to the new Connecting Link. Additional equipment and furnishings for the art conservation function are needed to efficiently utilize the new facility.

Increase in supplies, materials, and services for temporary exhibitions and extension service programs total $260,000. This amount includes $200,000 for increases in the costs of mounting temporary exhibitions and $60,000 for the development and production of four new extension service slide-lecture programs.

Increases in bookbinding service and supplies for Library and Photographic Archives total $25,000. This amount consists of $9,000 for increased cost of periodicals, $6,000 for additional bookbinding, and $10,000 for the purchase of negative preservers for the Photographic Archives.

Increases for the replacement of equipment total $23,000. This amount will provide for the replacement of a film inspection machine, forklift, and two main steam pressure-reducing valves.

The increases summarized above total $4,586,000 but are offset by $49,000 in decreases from the current year for a net increase of $4,537,000.

Authorizing Legislation

This request for an appropriation is based on the premises contained in section 4(a) of the Joint Resolution of Congress, March 24,

1937, (20 U.S.C. 71-75) in which:

> "The faith of the United States is pledged that...the United States will provide such funds as may be necessary for the upkeep of the National Gallery of Art and the administrative expenses and costs of operation thereof, including the protection and care of works of art acquired by the Board, so that the National Gallery of Art shall be at all times properly maintained and the works of art contained therein shall be exhibited regularly to the general public free of charge."

NATIONAL GALLERY OF ART

Salaries and Expenses

Appropriation, 1975	$ 7,015,000
Appropriation, 1976, including anticipated supplemental of $241,000	$ 7,772,000

Summary of Increases and Decreases

1.	To pay, on a full year basis, wage and salary increases, effective for only a portion of the current year	104,000
2.	To pay personnel compensation and benefits to place 18 positions (filled for only 6 months in 1976) on an annual basis	104,500
3.	To pay statutory within-grade promotions and wage-board step increases	34,000
4.	To pay for 12.75 man-years of employment in 17 new positions required to manage backlogs and increasing workloads	190,800
5.	To pay for 65.25 man-years of employment in 72 new positions required to operate, maintain, and protect newly constructed areas	825,700
6.	To pay for increases (excluding new positions) required for occupancy and use of newly constructed areas to be available in fiscal year 1977	2,494,000
7.	To pay for the reconstruction of art registration and shipping facilities in existing building	425,000
8.	To pay for equipment and furnishings for new art conservation facility	100,000
9.	To pay for an increase in the support of temporary exhibitions	200,000
10.	To pay for the development and production of four new extension service slide-lecture programs	60,000
11.	To pay for the increased cost of periodicals and bookbinding	15,000
12.	To pay for the purchase of negative preservers for the Photographic Archives	10,000
13.	To pay for the replacement of equipment	23,000
14.	Reduction due to non-recurring equipment purchases	-13,900
15.	Reduction due to decrease in accident compensation payment	-13,100
16.	Reduction due to one less compensable day	-22,000
	Net change, 1977	+4,537,000
	Budget estimate, 1977	$12,309,000

EXPLANATION OF INCREASES AND DECREASES

1. Additional cost of current-year wage and salary increases, $104,000

Salary rates for General Schedule employees were increased by 5%, effective October 12, 1975. These new rates are effective for 18.8 bi-weekly pay periods in the current year at an estimated cost of $170,000. The added cost for the additional 7.3 pay periods in 1977 is $70,500.

Wage rates under the Federal Wage System were increased by 8.1%. effective October 26, 1975. In the current year the increased rates will be in effect for 17.8 bi-weekly pay periods at an estimated cost of $71,000. For the additional 8.3 bi-weekly pay periods in 1977, the added cost will be $33,500.

2. Personnel costs to place 18 positions (filled for only 6 months in 1976) on an annual basis, $104,500

Eighteen new positions were authorized for the current year, but funds were provided to cover employment costs for only the last half of the year. The additional amount needed to support these positions for the full year in 1977 is $104,500.

3. Personnel costs for statutory within-grade promotions and wage-board step increases, $34,000

The net cost of within-grade promotions in the GS series and wage-board step increases is estimated at $34,000 for fiscal year 1977:

$26,500 for 393 General Schedule positions, and
$7,500 for 140 wage-board positions.

4. Employment of 12.75 man-years, and related costs, for 17 new positions required to manage backlogs and increasing workloads, $190,800

These 17 new positions are justified below under four functional groups:

a. Positions for curatorial staff ($61,300)

	Grade	Annual Salary
Curator of Dutch Paintings	GS-11	$16,255
Museum Curator (Aide to Assistant Director)	GS-11	16,255
Assistant Curator (Twentieth-Century Art)	GS-9	13,482
Research Assistant (American Art)	GS-7	11,046
Clerk-typist (general assignment)	GS-4	7,976
Basic salary		$65,014
Personnel benefits		6,241
Annual cost		$71,255

The $61,300 requested will pay the above costs for approximately three quarters of the year and will provide $4,500 for office furniture and equipment.

The five additional curatorial positions listed above will make a total of twenty-eight positions for this basic museum function. Acquisitions for the various collections have been, and will continue to be a major part of the Gallery's program. Extensive research is required

in the consideration of a work available for acquisition. However, the Gallery's present limited research capability and knowledge of objects available for acquisition, due to insufficient staff, are adversely affecting its success in making important new acquisitions.

Although Dutch Art is an important part of our total collection, we do not have anyone specializing in this field at the present time. A GS-11 Curator of Dutch Paintings is requested to fill this void in the professional staff.

A GS-11 Museum Curator for the Assistant Director's Office is needed to carry out general assignments and coordinate the efforts of the various staffs and outside agencies involved in special exhibitions and other projects.

A GS-9 Assistant Curator of Twentieth Century Art is requested to lend support to this collection which will be emphasized in our new building. At present, we have only one curator working in this area.

Another area to be emphasized in the new building is our American Art Collection, which currently has a staff of four positions. Extensive research support is needed in the quest for new acquisitions in American art. A GS-7 Research Assistant is requested for this purpose.

The above four positions will provide a total of twenty-one professional positions for the curatorial staff. At present there are six positions which give secretarial-typing support to curators. To support the additional professional positions, a GS-4 Clerk-typist is requested for general assignment among the curatorial staff.

b. Positions for the Library ($41,200)

	Grade	Annual Salary
Library Technician (2 @ $11,046)	GS-7	$22,092
Clerk-typist (2 @ $7,976)	GS-4	15,952
Basic salary		$38,044
Personnel benefits		3,652
Annual cost		$41,696

The $41,200 requested will pay the above costs for approximately three quarters of the year and will provide $8,000 for office equipment and furniture.

Two new positions were authorized for the Library during the current year, making a total of fifteen positions. During the past fiscal year the Library acquired 3,579 books, 881 pamphlets, and 744 bound volumes of periodicals. We are requesting four additional positions to provide support to the tremendous task of handling these acquisitions. Currently, there are still some 23,000 uncatologed items, and additional acquisitions from donated funds are at a rate exceeding the processing output of the present staff. Two GS-7 Library Technicians and two GS-4 Clerk-typists will provide the assistance needed to better control the cataloging backlog.

c. Positions for Exhibitions, Loans, and Registration ($35,600)

	Grade	Annual Salary
Designer (2 @ $13,482)	GS-9	$26,964
Museum Technician	GS-7	11,046
Basic salary		$38,010
Personnel benefits		3,649
Annual cost		$41,659

The $35,600 requested will pay the above costs for approximately three quarters of the year and will provide $2,400 for office equipment and furniture.

With one additional position authorized for the current year, the total staffing for exhibitions, loans, and registration is fifteen positions. The National Gallery of Art has taken major steps in establishing itself among other museums in the holding of national and international temporary exhibitions. The design and installation of these exhibitions has become more complex and demanding on the part of other Gallery staff as increasing public attention is being given to their layout and educational significance. More and equally complex international exhibitions are expected in the future. Two GS-9 Designers and a GS-7 Museum Technician are urgently needed to help meet these demands and to assist in the design and installation planning of the exhibitions to be installed in the new building.

d. Positions for supporting services ($52,700)

	Grade	Annual Salary
Personnel Specialist	GS-9	$13,482
Assistant Conservator (Paper)	GS-9	13,482
Secretary to Assistant to the Director for National Programs	GS-6	9,946
Clerk-typist (Information Office)	GS-4	7,976
Assistant Duplicating Equipment Operator	WG-4	9,506
Basic salary		$54,392
Personnel benefits		5,222
Annual cost		$59,614

The $52,700 requested will pay the above costs for approximately three quarters of the year and will provide $5,300 for office equipment and furniture.

With the increases in staff and activities of the various functions within the Gallery, the demands on the supporting staffs have increased accordingly. To meet these demands, we are requesting additional staffing in the areas of personnel, conservation, information, duplication, and national programs.

The Gallery's Personnel Office currently has a staff of six employees. This office has not added a new position in over 15 years.

During this time total Gallery staffing has increased nearly forty percent. To keep pace with this growth in staff, we are requesting a GS-9 Personnel Specialist.

A total of three positions were authorized for the Conservation Laboratory during the current year making nine positions overall. We are requesting one additional position for 1977 to assist in the area of paper conservation. At present one conservator is responsible for the care and treatment of some 45,000 works of art on paper. A GS-9 Assistant Paper Conservator is needed to adequately care for this collection. Moreover, many paper operations in the treatment of art on paper require two people to insure safe handling.

Typing assistance is greatly needed for the Assistant to the Director for National Programs. Currently, this help is provided by the Secretary to the Administrator. The secretarial workload for both of these offices is now greater than a single position can carry. Thus, it is necessary to request a GS-6 Secretary to the Assistant to the Director for National Programs.

The increase in activity in the Information Office creates the need for a GS-4 Clerk-typist. The office workload has increased tremendously over the last several years due to more contacts in both print media and television and radio, seeking information about Gallery activities.

A WG-4 Assistant Duplicating Equipment Operator is needed because of the steadily growing workload in the duplicating section. The increase in the Gallery professional staff has caused an increase in the duplicating workload of approximately seventy percent. This new position will make a total of only two operators for this service.

5. Employment in 72 new positions required to operate, maintain, and protect the newly constructed areas, $825,700

Seventy-two new positions are needed to operate, maintain, and protect the newly constructed areas, to be occupied in 1977. The justifications for these new positions follow below under six functional headings:

a. Positions for protection of newly constructed areas ($318,700)

	Grade	Annual Salary
Security Officer	GS-13	$ 22,906
Guard, Corporal (3 @ annual salary of $8,925)	GS-5	26,775
Guard, PFC (18 @ annual salary of $8,925)	GS-5	160,650
Clerk-typist	GS-4	7,976
Guard, Private (5 @ annual salary of $7,102)	GS-3	35,510
Basic salary		$253,817
Personnel benefits		24,366
Annual cost		$278,183
Premium pay costs (night differential, holiday pay, Sunday premium, and overtime		

pay) related to new posts	24,517
Total compensation and benefits	$302,700

The $318,700 requested will pay the above costs and provide $16,000 for equipment and supplies--uniforms, portable radios, firearms, and lockers.

To maintain the standard of protection for the existing building, a total of 154 full-time guard positions are required. In keeping with this standard, we are requesting twenty-eight additional positions for security of the newly constructed areas to be available for use in 1977. Twenty-six of the twenty-eight positions requested will provide coverage for sixteen new guard posts. Those posts required only when the Gallery is open to the public must be manned 363 days of the year, and all other posts must be manned all 365 days. The derivation of positions required for coverage of established posts follows:

Required days of duty per year per man		261
Less: Number of days off--Annual leave	22	
Sick leave	11	
Average number of excused holidays	3	36
Average number of days of duty per man (actually worked)		225

$$\frac{\text{Days Gallery open to public during year}}{\text{Average number of days of duty per man}} = \frac{363}{225} = 1.61$$ manyear required per guard post

Total new posts x guard requirement per post = 16 x 1.61 =	26
Plus: Security Officer	1
Clerk-typist	1
Total additional full-time guard requirement	28

A GS-13 Security Officer is needed to take command of a complete and continuous protection system utilizing highly technical equipment, some of which has been specifically developed for the special security associated with the unique design of the new East Building. This individual will be responsible for the planning, organizing, coordinating, controlling, and checking of the permanent and incidental measures for the total security program of the Gallery.

A GS-4 Clerk-typist is requested to handle all the typing, filing, receptionist and clerical duties for the new Security Officer position.

Two of the sixteen additional posts are for the Fourth Street entrance to the existing building which must now be opened to the public to provide easy access to the new Connecting Link. Three posts are required for protection during public hours in the Connecting Link, new cafeteria area, truck dock, plaza, and Registrar's art loading dock. Eight patrol guard posts are needed for carrying on four East Building patrols on the two night shifts. The other three posts are required for manning the new security console around the clock.

b. Positions for Art Information and Checkroom Service ($37,100)

	Grade	Annual Salary
Art Information Assistant (2 @ $8,925)	GS-5	$17,850
Checkroom-typist (2 @ $7,102)	GS-3	14,204
Basic salary		$32,054
Personnel benefits		3,046
Annual cost		$35,100

The $37,100 requested will pay the above costs and provide $2,000 for equipment.

Two additional GS-3 Checkroom-typists are required for manning the new checkroom post to be opened in the Fourth Street Lobby of the existing building.

There will also be an Art Information desk located in the Fourth Street Lobby, necessitating the need for two additional GS-5 Art Information Assistants.

c. Positions for maintaining newly available grounds and interior growing areas ($48,600)

	Grade	Annual Salary
Assistant Horticulturist	GS-9	$13,482
Gardener (6 @ $8,840)	WG-3	53,040
Basic salary		$66,522
Personnel benefits		6,386
Annual cost		$72,908

The $48,600 requested will pay for four man-years of employment in the above seven positions and will provide $1,700 for equipment. Part-year employment is planned for these positions because the new areas will not be completed until early in the calendar year 1977.

For the existing building, we have a staff of eight gardners to maintain all exterior grounds and the interior garden courts, special seasonal displays, and plantings in exhibition areas. The existing building has 111,300 sq. ft. of gardening areas (103,400 exterior, including 3,800 sq. ft. of greenhouse growing area, and 7,900 interior). The ratio of area maintained to gardening staff is 13,912 sq. ft. per man. It is estimated that an additional 40,800 sq. ft. of exterior growing area (plaza area), 2,400 sq. ft. of greenhouse area, and 80 planters in 160 feet of plant bed in the cafeteria will become available in fiscal year 1977. We are requesting six additional gardeners to maintain these newly available areas. These areas will involve more maintenance due to the more formal and complex designs of the exterior plantings and the fact that the interior plants are not concentrated in any one or two locations as the Garden Courts of the existing building. We will also be maintaining and producing plants in the quality traditional to the Gallery, in the new 2,400 sq. ft. of greenhouse growing area.

With the addition of 40,800 sq. ft. of exterior growing area, six new gardeners, and 2,400 sq. ft. of greenhouse area it will be physically impossible for one person to supervise the entire operation successfully. Thus, we are requesting an Assistant Horticulturist position to assist the Horticulturist in all aspects pertaining to the horticulture of the National Gallery of Art. He will be especially responsible for the monitoring of work performed by the gardeners and will assume the duties of the Horticulturist during his absence.

d. Positions to maintain newly available interior areas ($60,100)

	Grade	Annual Salary
Day Laborer	WG-3	$ 8,840
Night Laborer (3 @ $9,503)	WG-3	28,509
Restroom Attendant (2 @ $8,195)	WG-2	16,390
Basic salary		$53,739
Personnel benefits		5,161
Annual cost		$58,900

The $60,100 requested will pay the above costs and provide $1,200 for equipment.

The Gallery will be taking over approximately 51,000 additional square feet in the Connecting Link. This represents a 10.6% increase over our existing interior space. We have 35 Night Laborer positions (including three foremen) to clean and maintain the existing building and are requesting three additional Night Laborer positions (less than a 10% increase in staff) to clean the new areas.

The Day Labor staff will be responsible for maintaining the newly available areas dring the normal working hours. Some of their duties in the existing building include: moving furniture; removing trash; erecting scaffolding; washing exterior steps; and moving supplies and materials. We are requesting one additional Day Laborer position to assist in these new areas of responsibility. Two additional restroom attendants are also needed for cleaning and maintaining the public and staff restrooms in the Connecting Link. There will be 10 restrooms in this new area with a total of 57 fixtures.

e. Positions to operate new telephone switchboard ($16,400)

	Grade	Annual Salary
Telephone Operator	GS-5	$ 8,925
Telephone Operator	GS-5	8,925
Basic salary		$17,850
Personnel benefits		1,714
Annual cost		$19,564

The $16,400 requested will pay the above costs for approximately three quarters of the year and will allow $200 for equipment.

Two GS-5 Telephone Operator positions are needed to operate the new telephone switchboard. The new switchboard and telephone system being installed includes a 2-position board to replace the existing 1-position board.

f. Positions for the operation of the building ($344,800)

	Grade	Annual Salary
Operating Engineer (5 @ $14,839)	WG-11	$ 74,194
Operating Engineer (8 @ $14,102)	WG-10	112,819
Operating Engineer Helper (2 @ $10,660)	WG-5	21,320
Plumber	WG-10	13,396
Electronic Mechanic	WG-11	14,061
Electrician	WG-11	14,061
Electrician's Helper	WG-5	10,150
Carpenter (Locksmith)	WG-11	14,061
Carpenter (3 @ $12,730)	WG-9	38,190
Painter (2 @ $13,395)	WG-10	26,790
Basic salary		$339,042
Personnel benefits		32,548
Annual cost		$371,590
Premium pay costs (Sunday premium and holiday pay) to cover operating engineer posts 365 (24-hour) days		12,404
Total compensation and benefits		$383,994

The $344,800 requested will pay for 21.5 man-years of employment in the above 25 positions required for operation of the newly available areas and will provide $6,100 for equipment.

Ten of these positions are required for the manning computer and control panel for the mechanical and electrical systems in the building. This requirement is calculated on the basis that two posts are required for each of the three shifts (a total of six posts), with a 1.61 man-year requirement per post to allow for leave and to cover the post 365 days a year. The opening of the Connecting Link will require 5 Operating Engineers to operate and maintain the seven new air-conditioning systems serving the area. This work includes: lubrication of pumps, motors and fans; washing of spray chambers; changing of filters; and miscellaneous adjustments and repairs. There are 19 systems in the existing building with an operating staff of seventeen including the Chief Engineer. Total additional requirement for Operating Engineers is 15, including 10 for the computer and control panel and five for the new systems.

We presently have two plumbers to care for sixteen toilet facilities in the existing building involving a total of 147 fixtures (toilets, urinals, wash basins, and showers). The newly available areas number 10 involving a total of 57 fixtures, hence, a 39% increase in the number of fixtures. Thus, we find it necessary to add one additional plumber to our present staff.

The new engineering computer will have 1,114 sensors and data acquisition points gathering and sending information to the machine. These sensors, etc. will require periodic maintenance and calibration

and occasional repair. We are requesting a WG-11 Electronic Mechanic to do this work.

One additional WG-11 Electrician is needed to maintain the new electrical systems installed in the Connecting Link. This will include electrical maintenance and repairs on the fan and pump motors, panel boards, and control centers associated with the seven new air conditioning systems in this area.

A WG-5 Electrician's Helper is needed to service the electrical lighting fixtures in the newly available areas. Fixtures in these areas include 1,734 incandescent lamps and 1,556 fluorescent lamps.

With the additional workload generated by repairs to the existing building and the expanded temporary exhibitions schedule, three additional carpenters are requested above the four positions on the present staff. These additional positions are needed for constructing custom-made furniture (storage cabinets, work-area benches, tables, etc.) required by the specialized needs of the Gallery and for erecting walls and partitions required in the preparation of exhibition areas. A fourth Carpenter (Locksmith) is required for servicing the locks, bolts, and checks in the existing building and Connecting Link to make the keying system functional. In the present building there are 392 locks, 130 bolts, and 264 checks with an additional 148 locks, 152 bolts, and 140 checks in the Connecting Link.

Two WG-9 Painters are requested for the "finish" painting (not to be done by the construction contractors) of the newly available constructed areas, and to maintain the painted surfaces in the new areas. With the expanded temporary exhibitions schedule planned for the new East Building, the painting requirements will be increased tremendously.

6. Increases (excluding new positions) required for occupancy and use of newly constructed areas to be available in fiscal year 1977, $2,494,000

A total of $2,494,000 is requested for preparation, occupancy, and use of newly constructed areas that will be available in fiscal year 1977. These new areas are part of a construction project financed from private funds, at a cost which is now expected to reach $90,000,000 upon completion. The above requested funds will provide $1,710,500 for equipping, landscaping, and furnishing the newly available interior and exterior areas for public use; $124,500 for equipping both specialized and general storage facilities; $40,000 and $60,000 for furnishing and equipping the offices and shops, respectively, located in the Connecting Link; $68,000 for grounds maintenance facilities and equipment; and $491,000 for utilities and telephone service for the operation of the new areas. These increases are justified below under six functional requirements.

a. Areas for public use ($1,710,500)

A total of $349,500 is needed for equipping and landscaping the grounds. Eight trash and ash receptacles costing $150 each for a total of $1,200 are needed for the Fourth Street Plaza entrance. Marble benches flanking the Fourth Street entrance are estimated at $3,300. The cost of sidewalks on the grounds east of Fourth Street is estimated at $140,000. (This will provide the sidewalk and also a cobblestone area and granite curb between the sidewalk and street along Pennsylvania Avenue). The cost of landscaping the grounds east of Fourth Street is estimated at $150,000, including $31,000 for a

65-300 O - 76 - 58

lawn sprinkling system. The overall cost of signs and graphics for the outside areas is estimated at $55,000. This includes: 5 kiosks ($6,000 each) for $30,000; 4 site identification signs ($5,000 each) for $20,000; and 15 traffic signs for $5,000.

The cost of furnishing the concourse level of the Connecting Link and Fourth Street Lobby of the existing building is estimated at $353,000. Furnishings for the concourse lounge area, including carpeting, sofas, chairs, and lamps, will cost a total of $47,900. Plants and planters for the entire concourse level are estimated at $50,000. Furnishings and equipment for the main auditorium are expected to cost $231,600:

Equipment for Main Auditorium

Carpeting (428.6 sq. yd. @ $35)	$ 15,000
Carpeting (900 sq. yd. @ $25)	22,500
Wall treatment (500 sq. yd. @ $15)	7,500
Seating (442 theater chairs including aisle lights and tablet arms)	42,500
Two 35/16 mm. motion picture projectors	57,500
Six 35 mm. (2x2) high intensity slide projectors	7,100
Three lap dissolvers	2,500
Remote controls for projection room and lecterns	6,900
Film handling and storage equipment	1,200
Glass beaded projection screen	2,500
Automatic change-over mechanism for 35 mm. projectors	1,300
Two lantern (3¼ x 3¼) projectors	3,800
TV color camera for split-image recording from 35 mm. projectors	8,000
Four-channel sound synchronizer	1,200
Loudspeakers: central cluster, left and right columns and three ceiling	3,800
Tape decks, electronics, control consoles, engineering labor and installation	25,000
Ten microphones	1,200
Two wireless transmitters	1,200
100 four-channel receivers	8,400
Two 23" color monitors/receivers	2,500
Color camera	10,000
Total	$231,600

Finally, furnishings are requested for the new Fourth Street Lobby and Checkroom in the existing building. These furnishings, totalling $23,500, are comprised of the following equipment:

Equipment

Information desk	$ 7,500
Guard's desk	2,500
Coat racks	2,500
Umbrella stands	350
Ash receptacles	350
Storage shelving	2,000
Tables (2)	500
Counter	2,500
Chairs (4)	900
Desk	500
Benches (6)	2,400

Seating	1,400
Clock	100
Total	$23,500

A total of $1,008,000 is requested for furnishing the new East Building areas, installing the exhibit areas, interior signs, and window-wall security system.

Furnishings for these new areas are estimated at $129,000 as follows:

Furnishings (Public Areas)

Chairs (16 @ $500)		$ 8,000
Tables (4 @ $250)		1,000
Benches and sofas:		65,000
15 three-seat leather-covered sofas @ $2,200	$33,000	
10 two-seat leather-covered sofas @ $1,700	17,000	
15 three-seat leather-covered benches @ $1,000	15,000	
Service information desk (2)--total of 184 linear feet @ $300		55,000
Total		$129,000

Interior signs for the East Building and Connecting Link are expected to cost $104,000. They are as follows:

Interior Signs

3 Information desk displays @ $2,500	$ 7,500
21 Elevator directories @ $250	5,250
14 Kiosks @ $2,000	28,000
75 Standing signs @ $250	18,750
25 Large acrylic panels @ $300	7,500
8 Orientation map units @ $2,000	16,000
30 Stainless steel letter signs @ $300 and 5 @ $150	9,750
250 Office identification signs @ $15	3,750
1 Directory @ $3,000	3,000
30 Signs and other graphic forms @ $150 (by silk-screen process) directly on building members	4,500
Total	$104,000

Estimates for installation of the window-wall security system in the new East Building areas are projected at $200,000. This is based on 755 beams at a cost of $265 per beam. These beams will secure all windows in the gallery portion of the East Building and windows at the ground level in the Study Center portion. Pricing is per beam and includes power supplies, modulators, all digital circuits, all indicators, monitor box and the necessary circuits to interface with the security computer for visual displays.

Exhibition areas in the new building total 48,000 sq. ft. of prime installation space and 15,000 sq. ft. of secondary installation space. The total estimated cost of installing exhibits in these spaces is $495,000 --consisting of $140,000 for carpeting; $20,000 for hung ceil-

ings; $225,000 for drywall and partitions; $5,000 for brackets and holders; $50,000 for bases and cases; $10,000 for paint; and $45,000 for graphics in the exhibit areas. In addition, $80,000 is needed for 2,000 track-lighting fixtures based on a unit cost of $40 each.

A summary of the increases for the newly available interior and grounds areas for public use follows:

Public Areas:

Grounds		$ 349,500
Trash and ash facilities	$ 1,200	
Marble benches	3,300	
Sidewalk (east side of Fourth Street)	140,000	
Landscaping (east side of Fourth Street)	150,000	
Exterior signs and graphics	55,000	
Connecting Link		353,000
Furnishings for concourse lounge	47,900	
Plants and planters	50,000	
Furnishings for main auditorium	231,600	
Furnishings for Fourth Street Lobby and Checkroom Entry	23,500	
East Building		1,008,000
Furnishings	129,000	
Interior signs	104,000	
Window-wall security system	200,000	
Installation of exhibits	495,000	
Light fixtures and bulbs for exhibit areas	80,000	
Total		$1,710,500

b. Storage facilities in Connecting Link ($124,500)

Storage facilities in the Connecting Link are estimated to cost $124,500. This overall cost is computed as follows:

Functions

Photographic Archives storage		$ 13,500
Negative storage shelving: three rollaway thin line modules @ $4,333	$13,000	
Photograph storage shelving: five four-foot units @ $100	500	
Library storage		50,000
Library stacks: 175 units @ $200	35,000	
Bindery shelving: 75 units @ $200	15,000	
Supply storage		50,000
Storage shelving:		
5 cabinets @ $200	1,000	
30 cabinets @ $100	3,000	
462 units @ $100	46,000	
Extension Service storage: 56 shelving units for slide-lecture and film storage @ $196.43		11,000
Total storage costs		$124,500

c. Office furnishings in Connecting Link ($40,000)

Furnishings for the various offices to become available for use in the Connecting Link are estimated to cost $40,000. These offices are assigned to the following functions: extension service; art study; building and grounds; and security. The furnishings for these offices are as follows:

Furnishings

Carpeting: 800 sq. yds. @ $15 per sq. yd. (includes installation)	$12,000
Desks: 23 (various types)	5,500
Chairs: 54 (various types)	5,700
Tables: 18 (various types)	4,700
Bookcases: 11 (various types)	2,200
Typewriters (2)	1,200
Stools (2)	100
Typing stands (2)	100
Coat racks (6)	150
Film trucks (3)	1,000
Filing cabinets: 21 (various sizes)	3,000
Storage cabinets: 10 (various sizes)	2,650
Gro-light system for horticulture area (includes refrigerator and lab table)	1,700
Total	$40,000

d. Shop and locker room equipment in Connecting Link ($60,000)

Equipment for operating the shops located in the Connecting Link is estimated to cost $60,000. This amount will provide facilities for the following crafts and trades: sheetmetal; plumbing; electrical; carpentry; operating-engineering; horticultural; painting; picture-framing; and silk-screening. Equipment for these areas is as follows:

Equipment

Desks (5)	$ 750
Cabinet, tool (5)	2,000
Cabinet, file (3)	600
Chairs (22)	1,800
Stools (4)	200
Workbench (5)	2,000
Tables (4)	800
Lockers (100)	5,000
Benches (16)	2,400
Paint spray compressors (2)	1,500
Paint spray guns (2)	200
Paint spray booth & accessories	2,350
Paint (500 gallons)	5,000
Paint brushes and ladders	300
Climbing scaffold	4,000
Floor scrubber	2,000
Large vacuum cleaners (2)	1,000
Dust collector	2,000
Copy camera (silk-screen lab)	2,000
Silk-screen printing equipment	4,000
Silk-screen washing equipment	4,000
Enlarger & accessories	2,000
Bench grinder (floor mounted)	1,000

Drill press (floor mounted)	1,250
Vise (4)	350
Pipe threading machine & accessories	6,250
Test (electrical) meters	1,000
Power sewer-snakes (2)	1,100
Hydraulic tube bender	700
Light fixtures	700
Exhaust hood	1,000
Work counter & sink (frame area)	750
Total	$60,000

e. Grounds maintenance facilities and equipment ($68,000)

A total of $68,000 is requested for equipment and facilities required to maintain the additional grounds and decorative interior plants. This amount is comprised of: $50,000 for a greenhouse; $5,100 for a potting shed; $7,200 for an outside tool shed; and $5,700 for lawn equipment. A new greenhouse is a top priority item. The proposed greenhouse will add 2,400 sq. ft. of growing area to our facilities. It will accommodate the large foliage plants, leaving more growing area for small plants in the existing facilities. It is 120' x 20', constructed of aluminum and glass, and will be located behind the moat wall of the existing building. The potting shed is needed to accommodate the potting work associated with the proposed greenhouse.

A new outside metal tool shed (20' x 30') also to be located behind the moat wall will be needed to accommodate the additional lawn and garden equipment required to maintain the additional 40,800 sq. ft. of exterior growing area and 2,400 sq. ft. of new greenhouse growing space.

A new tractor will be needed for snow removal from the new plaza and walkways and drives, and for hauling material between work sites. Total cost of the tractor and accessories is $3,700. The remaining $2,000 for the grounds maintenance tools is for one riding reel-type mower and two smaller rotary mowers. A summary of the grounds maintenance facilities and equipment follows:

Equipment

Greenhouse	$50,000
Potting shed	5,100
Outside tool shed	7,200
Lawn equipment	5,700
Total	$68,000

f. Operating utilities and telephone service ($491,000)

Operating requirements for utility and telephone services in the newly available areas are estimated to cost $491,000, on the basis of occupying the Connecting Link for all of fiscal year 1977. Electricity is estimated to cost $274,500, based on 7,842,858 kilowatt hours of usage at a cost of $.035 per kilowatt hour. The basis for this energy requirement is as follows:

Equipment Operated or Application	Usage (Kilowatt hrs)	Cost
Chillers & chilled water pumps	4,762,229	$166,678
Lights	1,075,743	37,651
Fans	1,133,000	39,655
Pumps	871,886	30,516
Totals	7,842,858	$274,500

Additional steam consumption to supply the Connecting Link areas is estimated to cost $205,500. This is based on operating two heat exchangers, assuming forty-five percent utilization over the year. Total requirement is computed as follows:

Assumptions: (1) 2 heat exchangers using 9,066 lbs. of steam per hour.

(2) 45% utilization

Computation (Usage):

9,066 lbs. x 24 hours x 365 days = 79,418,160 lbs.
79,418,160 lbs. x .45 utilization = 35,738,172 lbs

Estimate of Cost:

35,738,172 lbs. of usage x $5.75/1,000 lbs. = $205,500

An entirely new switchboard and telephone system involving a two-position board to replace the existing 1-position board will be installed in the Connecting Link. The new equipment charges have been estimated by the Chesapeake and Potomac Telephone Company at $7,000 above the charge for our current equipment. In addition, the installation of telephone lines in the new areas to be occupied in 1977 is estimated at $4,000. This is based on 114 lines at an installation cost of $35 per line. A summary of the operating requirements follows:

Operating Requirement

Electricity usage	$274,500
Steam consumption	205,500
Increased cost of new telephone equipment	7,000
Installation of telephone lines	4,000
Total	$491,000

7. Reconstruction of art registration and shipping facilities in existing building, $425,000

The construction of the Connecting Link makes necessary the reorganization in the existing building of the Gallery's facilities for receiving, shipping, and examining works of art. Drawings and specifications for the work have been completed. The estimated construction cost is $425,000. The planned facilities will provide:

(1) a truck dock, used only for art, designed to give maximum flexibility and security for art handling;

(2) access to a freight elevator and shipping passage which can serve either as an art security zone or as a connection

for all services between the West Building and Connecting Link;

(3) a secure room for holding, packing, and unpacking crated art works;

(4) a room with special facilities for examining and storing uncrated works;

(5) a vault, with special storage facilities; and

(6) offices for the Registrar's records and staff.

8. Equipment and furnishings for new art conservation facility, $100,000

With the underground Connecting Link to be completed in 1976, plans call for the present offices and other facilities including the existing cafeteria, to be moved, freeing space at the center of the Gallery complex for the development of comprehensive conservation facilities, including new analytical, restoration and photographic laboratories, which have an integral relationship to the conservation area. This space will be large enough to house all in-house conservation work. The location of the laboratory in the approximate center of the expanded Gallery complex allows for maximum efficiency in the travel flow of works of art from both public galleries and storage areas to the conservation work areas. Funds have been donated by a private foundation to cover construction costs estimated at $740,000. The Gallery is requesting $100,000 for equipment and furnishings required to outfit the new conservation areas. Over half of the total ($55,000) is for an energy dispersive x-ray fluorescence (EDX) analyzer. This piece of equipment is the basic analytical tool used in advanced museum laboratories to provide the scientific information needed in the preservation and restoration of art objects. EDX units are currently being used by The Winterthur Museum, The Museum of Fine Arts (Boston), The Canadian Conservation Institute, and The Museum of History and Technology (Smithsonian).

The EDX equipment will be utilized in analyzing a variety of art objects--paintings, terra cottas, bronze sculpture, prints, tapestries, furniture and decorative art items--in order to advise on authenticity, age and the need for repair. In addition, materials to be used in the care of objects must be tested. It is particularly suited to the analyses of inorganic substances and metals. This instrument gives both qualitative analyses and quantitative analyses, without the necessity of taking a sample to obtain an analysis.

The other major equipment item is a binocular microscope on a floor stand with camera attachment. This instrument estimated at $8,000 is not only used for examination of works of art but also in the actual treatment and recording procedures.

The remaining $37,000 is needed for furnishing and equipping the painting laboratory, chemical preparation area, EDX room, and science laboratories. This amount will provide for cabinets, work counters, tables, chairs, desks, bookcases, light fixtures, trash containers, sinks, refrigerator, accelerated aging oven, etc.

9. Increased support of temporary exhibitions, $200,000

A total of 264,000 was authorized in the current-year budget to

help cover the costs of the Gallery's temporary exhibitions. This amount and $345,000 of the Gallery's donated funds provide a total of $609,000 for the support of these exhibitions. An additional $200,000 is requested for the support of temporary exhibitions.

(1) to enable the Gallery to continue the organization and scheduling of temporary exhibitions of national and international importance, including an Egyptian exhibition scheduled for fiscal year 1977; and

(2) to provide the necessary funds to pay for the higher costs of travel, transportation, installation materials, and services associated with these exhibitions. The following tabulation indicates the support provided temporary exhibitions (actual and estimated) 1973-1977:

	Actual 1973	Actual 1974	Actual 1975	Estimate 1976	Estimate 1977
From donated funds	$335,000	$114,000	$225,000	$345,000	$245,000
From Gallery's annual appropriation	137,000	288,000	273,000	264,000	464,000
Total support	$472,000	$402,000	$498,000	$609,000	$709,000

10. Development and production of new extension service slide-lecture programs, $60,000

The Gallery's Extension Service made 29,618 loans of art educational audiovisual materials to schools and organized groups throughout the country in fiscal year 1975. About one-fifth of the materials being loaned should be replaced annually because of deterioration beyond repair. A total of $74,000 is currently provided for the replacement of materials now in the system. It is necessary to develop and produce new material to keep current with the increase in new subjects coming into the Gallery's collections and the major temporary exhibitions. We are requesting an increase of $60,000 for the development and production of four new slide-lecture programs at an average cost of about $15,000. Each new program includes slides, audio cassettes, printed texts, and study prints assembled together as a package of instructional materials.

11. Increased cost of periodicals and bookbinding, $15,000

In order to have a library worthy of the projected Study Center, the Gallery is requesting an additional $9,000 for periodical subscriptions. The increased costs of subscriptions, due to the rising prices of paper, escalating postal rates and general inflationary factors have pushed the average price of an American periodical from $11.66 in 1971 to $16.20 in 1973 (See "Surging Serial Costs," Library Journal, Vol. 99, No. 17, October 1, 1974). The requested increase will enable us to keep pace with the increased prices and allow for the subscription to some 230 additional titles.

An increase of $6,000 in bookbinding services is requested to enable the Gallery to keep pace with current periodical and monograph

binding, and a large backlog of book repair work.

12. Purchase of negative preservers for Photographic Archives, $10,000

The Photographic Archives presently has some 150,000 negatives which need to be stored in acid free negative perservers. Their need for preservers grows daily with the increase in the negative collections. A total of $10,000 is requested for the purchase of some 100,000 preservers, estimated to cost about $100 per 1,000 units.

13. Replacement of equipment, $23,000

The following equipment replacements are planned (total cost of $23,000) for fiscal year 1977: forklift; two main steam pressure reducing valves; and a film inspection machine.

The lifting and mechanizing mobility of our present forklift has decreased as age has taken its toll. It is approximately 19 years old. A new heavy-duty forklift with 3,000 lbs. capacity can be purchased for $8,000. This machine will permit more efficient and safer handling of materials.

Two steam regulating valves at a cost of $3,500 each (total of $7,000) are requested for replacement of original equipment. These two regulating valves are 6" steam pressure reducing, cast steel, 400 lb. rating with stellite seals to meet GSA specifications. They will replace the steam reducing valves in the main steam room of the building.

A film inspection machine was purchased for the Extension Service in August of 1971. To date, repair service on the machine has cost a total of $2,354, excluding adjustments and repairs made by the in-house Electronic Technician. The cost of a new machine is estimated at $8,000.

14. Non-recurring equipment purchases, $13,900

Non-recurring equipment items planned for purchase in 1976 total $13,900--an offset duplicating machine and equipment for 18 new positions.

15. Decrease in accident compensation payment, $13,100

Accident compensation payments, based on the annual billing from the Bureau of Employees' Compensation, U. S. Department of Labor, amount to $6,705 for 1975. This amount is payable in fiscal year 1977 and is $13,100 less than the current-year payment.

16. One less compensable day, $22,000

Fiscal year 1977 covers 261 compensable days--one less than the 262 in the current year. Pay and benefits for this day of compensation is estimated at $22,000.

STATUS OF PROGRAM

Changes in Management Requirement:

An average employment of 408 (including the fulltime equivalent of part-time and intermittent employment) was maintained during fiscal year 1975--8 man-years under the 416 indicated in the 1976 budget. This reduced employment resulted from a deferral of the Gallery's evening hours from April 1 to June 1, 1975, resulting in a saving of $41,074. This saving was used to cover the higher costs of rents, communications, utilities, health benefits and temporary exhibitions. Total 1975 obligations were $5,566,926 for personnel compensation and benefits, and $1,448,028 for all other objects.

A total of $6,301,000 is estimated for personnel compensation and benefits in 1976 to support an average employment of 436 (including the full-time equivalent of part-time and intermittent employment). This estimate anticipates a supplemental appropriation of $241,000 to provide for the General Schedule pay increase effective October 12, 1975 and the wage-board pay increase effective October 26, 1975. The 18 new positions authorized for 1976 will be filled for only one-half of the year. The 1976 estimate for all other obligations is $1,471,000.

The $1,707,000 estimated for personnel compensation and benefits for the period July 1 to September 30, 1976, anticipates continuing employment at the June 30, 1976 level. This estimate includes a proposed supplemental appropriation of $89,000 to cover the cost of the General Schedule and wage-board pay increases during the transition quarter. The estimated obligations for all other objects during this period are $319,000.

The 1977 requested appropriation of $12,309,000 exceeds the 1976 estimated amount by $4,537,000. This increase will support an average employment of 523--an increase of 87 over the current year. Fifteen percent of this employment increase covers 12.75 man-years of employment in 17 new positions required to manage backlogs and increasing workloads; seventy-five percent provide for 65.25 man-years of employment in 72 new positions required to operate, maintain, and protect newly constructed areas to be available in fiscal year 1977; and the remaining ten percent covers full-year employment in 18 positions to be filled for only half of the current year. Net increases in 1977 for personnel compensation and benefits amount to $1,177,000. Increases for objects other than personnel compensation and benefits include: $2,494,000 for increases (excluding new positions) required for the occupancy and use of newly constructed areas to be available in fiscal year 1977; $425,000 for reconstruction of the art registration and shipping facilities in the existing building; $100,000 for equipping and furnishing the new art conservation facility; $260,000 for supplies, materials and services for temporary exhibitions and extension service programs; $25,000 for increased bookbinding service and supplies for the Library and Photographic Archives; $23,000 for replacement of equipment; and a net increase of $33,000 for equipment purchases for new positions after deducting $13,900 in non-recurring equipment purchases.

Accessions:

During the 1975 fiscal year 1,001 works of art were acquired, including 987 prints and drawings.

Special Exhibitions:

The following exhibitions were held at the National Gallery of Art during the fiscal year 1975:

American Textiles: Watercolors from the Index of American Design--continued from the previous fiscal year through July 15, 1974.

Recent Acquisitions and Promised Gifts: Sculpture, Drawings, Prints--continued from the previous fiscal year through August 4, 1974.

African Art and Motion--continued from the previous fiscal year through September 22, 1974.

M. C. Escher Prints--July 26, 1974 through December 29, 1974.

Venetian Drawings from American Collection--September 29, 1974 through November 24, 1974.

Archaeological Finds of the People's Republic of China--December 13, 1974 through March 30, 1975.

Rubens, Van Dyck and Jordaens: Prints and Drawings--January 8, 1975 through February 19, 1975.

"The Sick Girl" by Edvard Munch--January 23, 1975 through March 6, 1975.

Medieval and Renaissance Miniatures--January 26, 1975 through March 23, 1975.

26 Lithographs Printed at the Tamarind Workshop, Los Angeles--February 21, 1975 through the end of the fiscal year.

Jacques Callot: Prints and Related Drawings--June 29, 1975 through the end of the fiscal year.

Extension Service:

This service circulates Gallery films, slide-lecture sets, and film strips to schools and other organized groups. All materials are lent free of charge except for shipping expenses. A total of seventy-two copies of the film series, "Pioneers of Modern Paintings," (12 sets consisting of 6 films each) were circulated in 1,487 bookings. The "Civilisation" film series was continued with 325 copies of the films being circulated in 3,489 bookings. A total of 1,175 prints of 14 films on the National Gallery and its collections were circulated in 7,864 bookings--an increase of 1,105 bookings over 1974. Three thousand five hundred and forty-eight slide-lecture sets were circulated in 10,847 bookings during 1975. The staff developed two new slide lecture programs, "The Far North" and "Chinese Art," both based upon major exhibitions held at the Gallery. These two programs will be the first to appear in the newly developed prototype packages, which contain tape cassettes, slides, printed text, and study prints. Total bookings for all items numbered 29,618 in 1975 compared with 29,999 in 1974.

Education Tours, Lectures, and Films:

The staff of the Education Office continued to give daily tours and talks in the galleries, morning and afternoon, throughout the year. The attendance for the scheduled tours was 52,449. Lectures, films and tours given by special appointment served 27,934 visitors. A total of 38,923 visitors attended 317 special film screenings held at the Gallery, excluding those shown on Sundays. There were 52 Sunday auditorium lectures illustrated with art films or slides, attended by 10,543 persons. Volunteer docents guided tours for 33,879 school children during the year.

Library Acquisitions:

During the year the Gallery library acquired 3,579 books, 881 pamphlets and 744 bound volumes of periodicals. The library now has cataloged holdings as follows: 33,075 books, 28,183 pamphlets, and 3,618 bound volumes of periodicals. In addition, there are some 23,000 uncataloged items. A total of 83,260 photographs were acquired for the photographic collection. The collection now totals 486,815 items.

Photographic Work:

The Photographic Laboratory of the Gallery made 216,578 color slides, 1,001 black and white slides, 4,145 black and white negatives, 1,184 color transparencies, 47 infrared and ultraviolet photographs, and 49,917 black and white prints.

Conservation Work:

"The Exhibition of Archaeological Finds of The People's Republic of China," occupied a considerable amount of the conservation department's attention. The staff installed desiccants in fifty-two of the exhibition cases in order to maintain specific conditions of relative humidity, monitored the cases during the exhibition, and acted as handlers of the art objects during their installation and deinstallation. The conservation department continuously inspects paintings in the collections and records information pertinent to their condition, both for the use of the conservators in setting treatment priorities and for the curators. As part of the regular activities of the department, 75 paintings requested for loan were examined and advice given on their condition for travel, and 73 paintings on loan in the Washington area were examined. Restoration work on The Satyr and The Peasant by Jan Lys was completed. Another project completed was the treatment of a painted terra-cotta relief, The Virgin and Child with Saint John. Leonardo's Ginevra de' Benci received minor treatment during a periodic laboratory examination, and the new display case for the painting was monitored for temperature and humidity.

Concerts:

The Sunday evening concerts in the East Garden Court were continued throughout the year. These concerts are free to the public.

Attendance and Maintenance:

There were 1,825,938 visitors to the Gallery during the fiscal year 1975--an increase of 562,248 over fiscal year 1974. The average daily attendance for the year was 5,030. The Gallery as a whole was maintained at a standard in keeping with the conditions of the gift of the building and the initial collection of works of art.

SALARIES AND EXPENSES

Object Classification (in thousands of dollars)

		1975 actual	1976 estimate	19TQ estimate	1977 estimate
	Personnel compensation:				
11.1	Permanent positions	4,707	5,289	1,404	6,326
11.3	Positions other than permanent	105	156	71	161
11.5	Other personnel compensation	307	322	95	369
	Total personnel compensation	5,119	5,767	1,570	6,856
12.1	Personnel benefits: Civilian employees	448	534	137	622
21.0	Travel and transportation of persons	35	43	10	48
22.0	Transportation of things .	10	16	4	28
23.0	Rent, communications and utilities	546	527	122	1,014
24.0	Printing and reproduction	54	64	20	67
25.0	Other services	278	280	115	304
26.0	Supplies and materials ...	370	368	119	491
31.0	Equipment	208	142	58	1,417
32.0	Lands and structures	9	34	10	604
	Total costs, funded ..	7,075	7,775	2,165	11,451
94.0	Change in selected resources	-60	-3	-139	858
99.0	Total obligations	7,015	7,772	2,026	12,309

Personnel Summary

Total number of permanent positions	426	444	---	533
Full-time equivalent of other positions	17	25	---	25
Average paid employment	408	436	---	523
Average GS grade	6.53	6.53	---	6.43
Average GS salary	$12,376	$12,933	---	$12,651
Average salary of ungraded positions	$11,544	$12,682	---	$12,614

WOODROW WILSON
INTERNATIONAL CENTER FOR SCHOLARS

Budget Justifications for the Fiscal Year 1977

Submitted to the Committees on Appropriations

Congress of the United States

January 1976

(923)

WOODROW WILSON
INTERNATIONAL CENTER FOR SCHOLARS

GENERAL STATEMENT

The Woodrow Wilson International Center for Scholars is the nation's "living memorial" to its 28th President. In its five years of operations, the Center has sought to commemorate both the scholarly depth and the public concerns of Woodrow Wilson through a program of advanced research and of communication between the world of ideas and world of affairs. Through its fellowship and public service programs, the Center seeks to encourage the creative use of the unique human, archival, and institutional resources of the national capital for fundamental studies which will illuminate man's understanding of his past and present. The Center encourages historical and philosophical depth in its scholarly work; breadth of representation in its international company of fellows; and an active life of dialogue -- within the Center and within the Washington governmental and scholarly communities more broadly.

Finding and supporting the gifted individual to conduct advanced research on subjects of fundamental importance is the primary concern of the Center. As of January 1, 1976, the Board of Trustees had approved 176 fellowship appointments for scholars coming from a broad variety of disciplines and professions--social sciences, humanities and natural sciences, law, diplomacy, journalism and government. Approximately 60 percent of the scholars selected to date come from the United States; the remaining 40 percent have come from 32 other countries representing all major geographic regions. In addition, the Center has made 50 guest scholar appointments, and its facilities have been used by dozens of visiting scholars on an occasional basis.

The Center brings scholars to Washington for sustained periods of time, frees them from teaching and operational responsibilities and puts them with other scholars who are often approaching similar problems from different national, professional and disciplinary perspectives. Its fellowship program is organized in terms of four broadly defined academic divisions: Social and Political Studies, Historical and Cultural Studies, Resources, Environment and Interdependence, and the Kennan Institute for Advanced Russian Studies.

The Center reserves a significant portion of its fellowship appointments within each of these divisions for scholars pursuing individual studies of their choice. In order to insure a degree of program focus and shared scholarly interest, some appointments within each division are devoted to more specifically defined programs of study (problems of state and local governments, uses of the sea, etc.) Outside advisory panels of distinguished scholars in all four areas of study are convened twice each year to review applications and to recommend eligible candidates to the Director and Board of Trustees.

The Center's stipend policy, as explained in previous years, is comparable to the practice of other advanced studies centers. Each appointed fellow needing financial support is asked in the first instance to devote his sabbatical, leave or other income to be received during the fellowship period toward his support while at the Center, and to seek outside assistance for his study proposal whenever possible. Thereafter the Center's policy is to attempt to provide the fellow with a stipend rate based upon the principle of no-gain, no-loss in relation to his or her earned income rate in the preceding year - in no case to exceed the individual limit of $30,000 of federal funds set by the Board of Trustees. For foreign fellows the Center also provides cost-of-living increases to bring them to a stipend rate approximately equivalent to that for U.S. scholars of comparable experience and position. In the budget submitted here, the number of full-year fellowships sustained by federal funds remains at 20; the unit cost of such fellowships is increased for the first time in five years from $23,100 to $25,000.

For fiscal year 1977 the Center seeks from Congress funds which will continue to make possible the achievement of both sustained scholarship and informed discussion through programs of the highest quality. The Woodrow Wilson Center is now becoming known nationally and internationally as a Center for advanced research and serious reflection. To achieve its program for 1976 - including the start-up costs of the Quarterly journal and in the Institute of Advanced Russian Studies, the Center anticipates a total budget of $1,901,000 (see Attachment 1). $962,000 of the budget comes from our Congressional appropriation and $939,000 ($829,000 new monies plus $110,000 carry-over from private funds raised in the previous year) - has been or is being raised by the Director and his staff from independent, largely private sources. Enormous effort this year is required to raise $829,000 (45 percent) in new private sector funds out of the total budget of $1,901,000. Such reliance on annual gifts makes the Center's basic program extremely vulnerable to the vicissitudes of short-term funding. Money-raising also consumes vast and disproportionate time and effort from the Director and his small staff. The Woodrow Wilson Center, almost uniquely among institutes for advanced research anywhere in the world, places the burden of intellectual as well as administrative leadership on its senior staff. Fund-raising effort must therefore be systematized and stabilized on a professional basis before it results in a diminution in the quality of attention and leadership that can be given to the primary purposes of the Center: stimulating first-rate scholarship and creating a forum where ideas and policies meet.

It seems desirable that the Center continue to reach out for financial support to individual, corporate and foundation donors as one dimension of its goal to create a wider awareness of its activities. However, after careful study of long term plans during the past year, the Board and staff believe that an appropriate long term level for private support on a continuing basis would be nearer 25 percent of the Center's budget - say $500,000, out of $2,000,000.

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Since such a balance between federal and private funds is not likely to be reached in the next few years, heavy emphasis must continue to be placed upon private fund-raising. With a total projected budget for FY 1977 of approximately $1,920,000, at least $800,000 or 41 percent must continue to be raised from the private sector. In recognition of this necessity, the Office of Management and Budget has authorized the Center to add the position of a full-time development officer (and a secretary) who would have primary responsibility for private-sector finance as well as for the dialogue and conference programs of the Center. The remainder of the increase for 1977 over 1976 is for modest increments in the category of general administration to cover necessary increases in such items as telephone charges and duplicating costs. We believe that the requested 1977 budget based upon $1,120,000 of federal funds takes us closer to the proper balance of federal and private funding for a Congressionally-mandated presidential memorial.

WOODROW WILSON

INTERNATIONAL CENTER FOR SCHOLARS

FUNDING ESTIMATES AND APPROPRIATION REQUEST

	1975 Appropriation Pos.	1975 Appropriation Amount	1976 Appropriation Pos.	1976 Appropriation Amount	TQ Estimate Pos.	TQ Estimate Amount	1977 Estimate Pos.	1977 Estimate Amount
I. Fellowship Payment	-	462,000	-	462,000	-	115,000	-	500,000
II. Scholar Support	7	134,000	7	134,000	7	33,000	8	177,000
III. Public Service	5	92,000	5	88,000	5	21,000	5	136,000
IV. General Admin.	8	266,000	8	278,000	8	69,000	9	285,000
TOTAL	20	954,000	20	962,000	20	238,000	22	1,098,000
Pay Raise Supplemental				14,000		5,000		22,000
				976,000		243,000		1,120,000

TOTAL REQUESTED FEDERAL APPROPRIATION INCREASE $144,000

The Board of Trustees of the Wilson Center requests a federal appropriation for FY 1977 of $1,120,000, an increase of $144,000 over the Center's appropriation for FY 1976. Most of this increase is for two purposes: (1) the unit cost of fellowships has been raised from $23,100 to $25,000 and (2) two additional employees, a full-time development officer and secretary to be in charge of all private-sector finance for the Center. The remainder of the increase is for modest increases in the General Administration area and for on-going salary step increases.

I. Fellowship Payment

FY 1975	FY 1976	FY 1977	Difference
$462,000	$462,000	$500,000	+ 38,000

Analysis of Increase

Despite greatly increased numbers of applicants and a slight increase in capacity, the Woodrow Wilson Center will maintain the number of full-year fellowships sustained by Congressional appropriation at 20. The unit cost of such fellowships will change from $23,100 to $25,000.

The figure of $23,100 now used by the Center has not been altered in more than five years of operation. During this period academic salaries have substantially increased as has the quality of the Center fellows. The Center's principle for determining the level of support is "no loss, no gain," keeping a scholar at his or her current salary level, within limits established by the Board. The AAUP (American Association of University Professors) gives as its most recent average figure for the salaries of full-professors in Class I universities in the Mid-Atlantic region $25,570 (exclusive of any fringe benefits or summer salary). The fellows at the Center are well above the average in competence, and the older fellows are often considerably above the average in salary. The proposed stipend of $25,000 is, we believe, equitable; it includes travel and disbursement charges as well as stipend.

II. Scholar Support

	FY 1975	FY 1976	FY 1977	Difference
Library	26,000	26,000	26,000	-
Research Assistance & Consultations	9,000	9,000	9,000	-
Seminars	2,000	2,000	2,000	-
Personnel Costs	97,000	97,000	140,000	+43,000
	134,000	134,000	177,000	+43,000

Analysis of Increase

This category of Center activity, which provides various scholarly services to the fellows such as manuscript typing, research help and library facilities, remains essentially unchanged from the current year.

The apparent increase in personnel costs comes from a shift of Center employees from the category of General Administration (where Personnel Costs go down in FY 1977) into the category of Scholar Support, which more accurately describes the functions fulfilled by their services.

III. Public Service

	FY 1975	FY 1976	FY 1977	Difference
Personnel Cost	55,000	60,000	108,000	+48,000
Printing	13,000	13,000	13,000	-
Travel	9,000	5,000	5,000	-
Consultations	15,000	10,000	10,000	-
	92,000	88,000	136,000	+48,000

Analysis of Increase

The level of activity and of funding in this area remains constant with the exception of an increase of $48,000 in the personnel costs. This increase will cover the salaries of a director of development and a secretary who will be responsible for all private-sector finance for the Center.

The Director of Development will coordinate private fund-raising and in addition many of the activities related to the Center's second major goal: linking the world of learning and the world of affairs. The variety of activities directed to this objective has grown markedly. The Center's program of evening dialogues, its ongoing relationships with corporations and foundations, and its growing publishing activity require more staff time and energy. Most of this activity is funded privately at present and will continue to be so (including all costs for the Center's new Quarterly journal.) But federal funding for the coordinator of these activities seems desirable to maintain an element of public-private balance.

IV. General Administration

	FY 1975	FY 1976	FY 1977	Difference
Personnel Costs	194,000	206,000	187,000	-19,000
Reimbursement to SI	30,000	30,000	30,000	-
Travel	9,000	9,000	9,000	-
Computer Time	-	-	2,000	+ 2,000
Equipment	4,000	5,000	10,000	+ 5,000
Supplies	3,000	2,000	10,000	+ 8,000
Communications	11,000	12,000	15,000	+ 3,000
Duplicating	12,000	12,000	15,000	+ 3,000
Building Planning	-	-	3,000	+ 3,000
Miscellaneous	3,000	2,000	4,000	+ 2,000
	266,000	278,000	285,000	+ 7,000

Analysis of Increase

The decrease in Personnel Costs has been effected by an internal shifting of personnel from the General Administration category to Scholar Support. The overall increase of $7,000 requested for this category will permit the Center to keep pace with rising costs dictated by the doubling of applications and noted increases in inquiries both nationally and internationally about all aspects of the Center's program.

Two new items in this category permit minimal purchase of computer time for Center fellows and for initial planning for the Center's eventual permanent home.

A-11-32A

STANDARD FORM 300-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.

Woodrow Wilson International Center for Scholars

Program and Financing (in thousands of dollars)

Identification code 32-50-0400-0-1-503	19 75 actual	19 76	19 TQ estimate	19 77 estimate
Program by activity:				
1. Research and scholarship ..	1,107	980	243	1,120
Total program costs, funded	1,107	980	243	1,120
Changes in selected resources (undelivered orders)	-156	-	-	-
10. Total obligations	951	980	243	1,120
Financing:				
21. Unobligated balance available start of year (-)	-4	-4	-	-
24. Unobligated balance available end of year ...	4	-	-	-
25. Unobligated balance lapsing	3	-	-	-
Budget Authority	954	976	243	1,120
Budget Authority:				
40. Appropriation	954	962	238	1,120
44.20 Supplemental now requested for civilian pay raises	-	14	5	-
Relation of Obligation to Outlays:				
71. Obligations incurred, net	951	980	243	1,120
72. Obligated balance, start of year	282	226	150	150
74. Obligated balance, end of year	-226	-150	-150	-150
90. Outlays, excluding pay raise supplemental	1,006	1,042	238	1,120
91.20 Outlays from civilian pay raise supplemental ..	-	14	5	-
(Mono cast: 22.13)	(Mono cast: 3.9)	(Mono cast: 3.9)	(Mono cast: 5.9)	(Mono cast: 3)

A-11-34A

Type size:
17½ M6/22

STANDARD FORM 304-T Woodrow Wilson International Center for Scholars
June 1975, Office of Management and Budget
Circular No. A-11, Revised,
304-101T

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 32-50-0400-0-1-503		19 75 actual	19 76	19 TQ estimate	1977 estimate
	Personnel compensation:				
11.1	Permanent positions	280	332	83	405
11.3	Positions other than permanent	12	15	2	15
11.5	Other personnel compensation	-	-	-	-
11.8	Special personal services payments				
	Total personnel compensation	292	347	85	420
	Personnel benefits:				
12.1	Civilian	24	30	7	37
13.0	[illegible]				
21.0	Travel and transportation of persons	30	32	8	32
22.0	[illegible]				
23.0	Rent, communications, and utilities	32	54	14	60
24.0	Printing and reproduction	-	13	3	13
25.0	Other services	208	25	6	31
26.0	Supplies and materials	28	17	4	20
31.0	Equipment	5	18	5	25
32.0	[illegible]				
33.0	[illegible]				
41.0	Grants, subsidies, and contributions	488	444	111	482
42.0	[illegible]				
43.0	[illegible]				
44.0	[illegible]				
	Total Costs, funded	1,107	980	243	1,120
	Changed in selected resources	-156	-	-	-
99.0	Total obligations	951	980	243	1,120
	(Mono cost: 22.18)	(Mono cost: 5.6)	(Mono cost: 5.5)	(Mono cost: 5.5)	(Mono cost: 5)

A-11-34A

STANDARD FORM 300-T Woodrow Wilson International Center for Scholars
June 1975, Office of Management and Budget
Circular No. A-11, Revised.

Personnel Summary

Identification code 32-50-0400-0-1-503	19 75 actual	19 76	19 estimate	19 77 estimate
Total number of permanent positions	20	20		22
Full-time equivalent of other employees	1	1		1
Average number of all employees	21	21		23
Average G.S. Grade	8.18	8.42		8.71
Average G.S. Salary	14,068	14,900		16,678
(Memo cost: 22,13)	(Memo cost: 5.9)	(Memo cost: 5.9)	(Memo cost: 5.9)	(Memo cost: 5)

Type size: 8 point 14½ pleas Fol. lit. solid

STANDARD FORM 306
July 1968, Bureau of the Budget Circular No. A-11, Revised.
306-103

A-11-35

Woodrow Wilson International Center for Scholars

DETAIL OF PERMANENT POSITIONS

32-50-0400-0-1-503	1975 actual	1976 estimate	1977 estimate
GS-14	1	1	1
GS-13	2	2	3
GS-12	1	1	-
GS-11	-	-	1
GS-10	1	1	-
GS-9	1	1	1
GS-8	-	-	-
GS-7	5	5	5
GS-6	3	3	3
GS-5	4	4	5
GS-4	-	-	-
Ungraded	2	2	3
Total permanent positions	20	20	22
Unfilled positions	3	0	0
Total permanent positions, end of year	17	20	22
Higher Level Positions			
GS-18 Equivalent Director	1	1	1
GS-16 Equivalent Deputy Director	1	1	1
GS-16 Equivalent Director of External Affairs	0	0	1
	(Mono cast: 16.5)	(Mono cast: 4.9)	(Mono cast: 4.9)	(Mono cast: 4)

CURRENT YEAR BUDGET FY 1976
Consolidated Statement

ATTACHMENT 1

INCOME			EXPENDITURES			
1. Federal Appropriation		962,000	1. Fellowships	(Federal) 462,000		757,000
				(Private) 295,000		
2. Private Funds carried forward from FY 1975:			2. Staff Salaries & Benefits	(Federal) 376,000		569,000
				(Private) 193,000		
A. Restricted			3. Travel	(Federal) 32,000		47,000
(1) State & Local Government	74,000			(Private) 15,000		
(2) Evening Dialogues	23,800		4. Library	(Federal) 26,000		31,000
(3) Administrative Salaries	70,000			(Private) 5,000		
(4) Russian Institute	75,300		5. Reimburse SI	(Federal) 30,000		30,000
(5) Stipends	53,700		6. Special Projects (Scholarly Guides, TV Project, etc.)	(Private) 50,000		50,000
(6) Other Restricted	19,200		7. Quarterly Journal	(Private) 200,000		200,000
B. Unrestricted	71,700	388,500	8. Colloquia, Evening Dialogues	(Private) 48,000		48,000
3. Private Funds paid or promised for FY 1976:			9. General Administration	(Federal) 49,000		94,000
				(Private) 45,000		
A. Restricted			10. Overhead	(Private) 75,000		75,000
(1) Russian Institute	180,000		Expenditures TOTAL			1,901,000
(2) Administrative Salaries	50,000		To be carried over to FY 1977			278,500
(3) Quarterly Journal	33,000					2,179,500
(4) Stipends	268,000					
(5) Other Restricted	4,000					
(6) Scholarly Guides	45,000					
B. Unrestricted	12,000	592,000				
4. Balance of Private Funds to be raised for FY 1976:						
A. Restricted						
(1) Quarterly Journal	167,000					
(2) Stipends	70,000	237,000				
		2,179,500				

ATTACHMENT 2

FELLOWS AND GUEST SCHOLARS, 1975

William B. Bader, Program Officer, Ford Foundation, former staff member, Senate Foreign Relations Committee. Congressional/Executive relations in foreign policy 1933-73. (October 1974-August 1975)

Reinhard Bendix, Professor of Political Science, University of California, Berkeley. Authority and inequality in comparative historical perspective. (September 1975-June 1976)

Francois Bondy, Switzerland. Editor, author, journalist. Relations between cultural-educational structures and political institutions in the U.S.A. and in the European community. (September 1974-February 1975)

Heraclio Bonilla, Peru. Associate Professor of Economics and History, Pontifical Catholic University of Peru. Economic relations between the United States and Peru 1890-1930. (August 1974-January 1975)

Peter Braestrup, Journalist, national staff writer, Washington Post. Treatment of government policy issues by major American press and television organizations. (October 1973-February 1975)

Alastair Buchan, United Kingdom. Professor of International Relations, University of Oxford. Development of American foreign policy since World War II. (January 1975-April 1975)

Rondo Cameron, Professor of Economics and History, Emory University, Atlanta, Georgia. Ethical, social and politico-legal implications of technological change. (September 1974-June 1975)

Douglas Chalmers, Associate Professor of Political Science, Columbia University. Comparative analysis of Argentina, Brazil and Italy in periods of multi-party competition and authoritarian regimes. (September 1974-June 1975)

Stanley Coben, Professor of History, UCLA. American social and cultural history in the 1920's. (January 1975-January 1976)

Walker Connor, Professor of Political Science, SUNY, Brockport, N.Y. Ethnicity and American nationalism in comparative perspective. (September 1975-August 1976)

Chester Cooper, Research administrator, former government official. Social and institutional factors as they bear on changing patterns of growth. (April 1972-January 1975)

Thomas Cripps, Professor of History, Morgan State College, Baltimore. Historical analysis of the social, aesthetic and economic forces that have shaped the black presence on the cinema screen since World War II. (September 1975-August 1976)

Richard Darman, formerly special assistant to Secretary, Department of Health Education and Welfare; assistant to Secretary of Defense, and special assistant to Attorney General. Analysis of recent and emergent American domestic governmental philosophies. (May 1974-April 1975)

Martin Diamond, Professor of Political Science, Northern Illinois University. The Federalist's view of the separation of powers. (September 1974-August 1975)

Marc Ferro, France. Directeur d'Etudes, Ecole Practique des Hautes Etudes, Paris. Comparative study of Soviet and American Society during the last world war, based on film resources as well as the printed materials. (March 1975-July 1975)

Zewde Gabre-Sellassie, Ethiopia. Former Foreign Minister and Deputy Prime Minister. Evolution of Red Sea and East Africa Region as influenced by the Ethiopian component. (March 1975-February 1976)

John J. Gilligan, former Governor of Ohio. Intelligent citizen participation in the face of growing complexity and certain adverse effects of the media and the present political process. (January 1975-January 1976)

Andrew J. Goodpaster, Former U.S. Commander in Chief Europe, and Supreme Allied Commander, Europe. The changing role of military power in international affairs. (March 1975-March 1976)

Lincoln Gordon, Political economist; formerly U.S. Ambassador to Brazil, Assistant Secretary of State for Inter-American Affairs, and President, Johns Hopkins University. International implications of changing patterns of economic growth. (June 1972-June 1975)

Jack P. Greene, Professor of History, Johns Hopkins University. Origins of the American Revolution. (August 1974-April 1975)

Toru Haga, Japan. Associate Professor of Comparative Literature and Culture, University of Tokyo Graduate School. Comparative study of 18th Century cultures, Japanese, Chinese and European. (September 1975-September 1976)

Robert Hawkins, Urban affairs consultant: former chairman, California Local Government Reform Task Force. A critical study of regionalism as used in the U.S. (November 1975-November 1976)

Hazel Hertzberg, Associate Professor of History and Education, Teachers College, Columbia University. History and analysis of Indian rights movements in the United States since 1928. (March 1975-August 1975)

Gerald Hickey, Visiting Professor, Indochinese Studies, Cornell University. Historical study of the development of leadership among the highland ethnic minorities of South Vietnam. (July 1975-June 1976)

Ann Hollick, Executive Director, Ocean Policy Project, School of Advanced International Studies, Johns Hopkins University, Washington, D.C. Development of U.S. ocean policy in the context of international policy from World War II through the Third U.N. conference on Law of the Sea. (August 1975-February 1976)

Raymond Hopkins, Associate Professor of Political Science, Swarthmore College. Study of the extent to which selected domestic agencies of the United States government have organizational functions in international politics. (September 1974-July 1975)

A.E. Dick Howard, Professor of Law, University of Virginia. Former Law Clerk to Mr. Justice Black, Supreme Court, the United States. Emergence of Burger court. (September 1974-August 1975)

Charles S. Hyneman, Distinguished Service Professor of Government, Indiana University. Origins and development of the U.S. federal system. (September 1973-August 1975)

Grace Stuart Ibingira, Uganda. Former Ambassador to the United Nations, former Minister of Justice. The relationship between ethnic identity and the stability of sub-sahara Africa since independence. (March 1975-February 1976)

George Kennan, Former Ambassador to U.S.S.R. and Yugoslavia. Former Professor of History, Institute for Advanced Study, Princeton, New Jersey. Origins of World War I, with special reference to the Franco-Russian alliance of 1894. (October 1974-March 1975; September 1975-December 1975)

Harald B. Malmgren, Former Deputy Special Representative for Trade Negotiations, in the Executive Office of the President. Managing Global Interdependence. (February 1975-February 1976)

Leslie Manigat, Haiti. Director, Institute of International Relations, University of West Indies. The American Revolution and the Crisis of St. Domingue (Haiti) as the centre of gravity of the first French colonial system in the Caribbean (1775-1825) (July 1975-October 1975)

John Mudd, Former Director of the Office of Neighborhood Government, New York, Mayor's Office. "Neighborhoods" and the dynamics of decentralization in large-scale urban areas. (September 1974-March 1976)

Mancur Olson, Professor of Economics, University of Maryland, Qualitative measures of economic development. (June 1974-January 1975)

Arvid Pardo, Ambassador for Ocean Affairs, Government of Malta. Permanent Representative of Malta to the United Nations; former Ambassador to the United States and to the Soviet Union. Concentrating on various aspects of international ocean regimes, seabed questions. (September 1972-September 1975)

Thomas E. Petri, State Senator, Wisconsin. The role of state government in the area of regional planning and land-use legislation. (July 1975-March 1976)

Michla Pomerance, Israel. Assistant Professor, International Relations, Hebrew University of Jerusalem. The U.S. and the principle of self-determination, 1776-1976. (September 1974-August 1975)

Harry H. Ransom, Professor of Political Science, Vanderbilt University. Study of secret intelligence services in American democratic government. (April 1975-July 1975)

Brian Rapp, former City Manager, Flint, Michigan. Improving the performance of city government. (September 1974-August 1975)

Elliot Richardson, formerly Secretary of Health, Education and Welfare; Secretary of Defense; and Attorney General of the United States. Study of the responsibility and responsiveness of sub-national government in the context of the federal system. (January 1974-February 1975)

Robert Rothstein, Associate Professor of Political Science, Johns Hopkins University. Analysis, for Third World States, of the interactions among the quest for economic development and political autonomy and the changing structure of the international systems since 1945. (July 1974-June 1975)

Leslie Rout, Associate Professor, Department of History, Michigan State University, East Lansing. Analysis of U.S. diplomatic, counter-espionage and military defense policies in the Caribbean region during World War II. (December 1975-June 1976)

Peter Scheibert, West Germany. Professor, Marburg University. A social history of the Russian Revolution 1918-1922. (November 1975-April 1976)

Hans-Peter Schwarz, West Germany. Professor of Political Science, University of Cologne. Basic concepts of contemporary German foreign policy. (November 1975-April 1976)

Henry Nash Smith, Professor of English Literature, University of California at Berkeley. Nineteenth Century American Literature. (January 1975-June 1975)

Egon Sohmen, Austria. Professor of Economics, University of Heidelberg. Monograph on welfare economics (allocation theory) with particular emphasis on policy applications. (January 1975-June 1975)

John Thompson, United Kingdom. Lecturer in History, University of Cambridge. Reexamination of the thought of various American publicists and public figures who have been prominent in the debate over U.S. foreign policy in the twentieth century. (September 1975-April 1976)

Radomiro R. Tomic, Chile. Professor at the Institute for International Studies, University of Chile, Santiago, former presidential candidate of Christian Democratic Party. The deterioration of democratic institutions in Chile. (September 1974-June 1975)

Herman van der Wee, Belgium. Professor of Economic History, University of Leuven, Brussels. World economic history of the twentieth century. (October 1975-September 1976)

Kei Wakaizumi, Japan. Professor of International Relations and Director, Institute of World Affairs, Kyoto Sangyo University, Tokyo. Post-war Japanese-American relations and their future prospects. (April 1974-September 1975)

Brian Weinstein, Professor of Political Science, Howard University. The politics of language - a study of the political implications of decisions made about language form and use by writers, teachers, linguists, and other language artisans and artists. (July 1975-May 1976)

Karol Wolfke, Poland. Professor of International Law, University of Wroclaw. International law and the human environment. (October 1974-July 1975)

GUEST SCHOLARS

Harry Blaney, Member, Policy Planning Staff, Department of State, Future global challenges and their implication for world institutions and politics. (August 1975-October 1975)

Henry Steele Commager, Simpson Lecturer, Amherst College, Amherst, Mass. American historian, author of approximately thirty books. Articles on American eighteenth-century topics. (December 1975-January 1976)

Kenneth Kerst, Director, Office of Research & Analysis for the Soviet Union and Eastern Europe, Department of State. Leningrad party politics from Kirov to the death of Stalin. (October 1975-October 1976)

Hans Rogger, Professor of History, University of California, Los Angeles. Study of Russian perceptions of American society, politics and culture in the late 19th century through documents and published sources in the Library of Congress. (September 1975-October 1975)

Vicente Sanchez-Gavito, Ambassador of Mexico. A study of the repercussions of the 1909 meeting of the Presidents of the United States and Mexico on the relations between the two governments during the 1910-1920 decade. (December 1975-January 1976)

ATTACHMENT 3

EVENING DIALOGUES
1975

Evening dialogues bring together fellows from the Center, outside experts, business leaders and public servants for sustained and structured discussions of important questions. Present for each event are persons representing a variety of disciplinary, cultural and occupational perspectives. A variety of viewpoints is represented on the panel as well as among the participants.

Dialogues usually begin with tea at 5:30 p.m., providing an opportunity for participants to become acquainted. The presentations by panelists begin at 6:00 p.m., followed by discussion among the panelists until 7:15 p.m. Drinks and dinner are served until 8:30 p.m. at which time the program is resumed with open dialogue in which all guests are invited to participate.

The Evening Dialogue series, established early in 1974 through a grant from the Xerox Corporation, has grown steadily in terms of both the number of dialogues and the quality of participation. The number increased from 10 dialogues in 1974 to 16 in 1975. The average attendance grew from 33 to 43. Cabinet or sub-Cabinet level officials increased in number from 14 to 21; Congressmen from 6 to 56; ranking foreign diplomats from 6 to 23.

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January 15

The Question:	"Why Is There Something Rather Than Nothing?"
Panelists:	George B. Field, Director, Center for Astrophysics of the Harvard-Smithsonian Astrophysical Observatory Sir Fred Hoyle, California Institute of Technology Paul Weiss, Professor of Philosophy, Catholic University.
Chairman:	James H. Billington, Director, Woodrow Wilson Center

January 16

The Question:	"A World Food Policy -- What We Can Do: The Immediate, The Short-term, and The Long-term."
Panelists:	Jean Mayer, Department of Nutrition, Harvard School of Public Health. Don Paarlberg, Director, Agricultural Economics, Office of the Secretary, Department of Agriculture. Pierre DuPont, U.S. Representative from Delaware.
Chairman:	Chester L. Cooper, Fellow, Woodrow Wilson Center

February 6

The Question:	"Monetary Aspects of The Oil Problem."
Panelists:	David Rockefeller, Chairman of the Board and Chief Executive Officer, Chase Manhattan Bank. Richard N. Cooper, Professor of Economics, Provost, Yale University. Robert Ellsworth, Assistant Secretary for International Security Affairs, Department of Defense.
Chairman:	James H. Billington, Director, Woodrow Wilson Center

February 20

The Question:	"The Influence of Sea Power on Contemporary History."
Panelists:	E. B. Potter, former Chairman of Naval History, United States Naval Academy Walt W. Rostow, Professor of Economics, University of Texas at Austin. H. Gary Knight, Professor of Marine Resources Law, Louisiana State University Law Center. Vice Admiral Stansfield Turner, Commander U.S. Second Fleet, Commander NATO Striking Fleet Atlantic.
Chairman:	James H. Billington, Director, Woodrow Wilson Center

April 9

The Question:	"What is a Legitimate Concept of United States National Interest in a World of Increasing Interdependence?"
Panelists:	Karl W. Deutsch, Professor of International Peace, Harvard University. General Andrew Goodpaster, Fellow, Woodrow Wilson Center. Former Commander of NATO.
Chairman:	James H. Billington, Director, Woodrow Wilson Center

April 17

The Question:	"Is There a Significant Role for The United Nations as a Peace-Keeping Agency?"
Panelists:	Brian Urquhart, Under-Secretary General of the United Nations. Gale McGee, United States Senator from Wyoming. Alastair Buchan, Fellow, Woodrow Wilson Center, Professor of International Relations, Oxford University
Chairman:	Robert L. McCan, Special Assistant to the Director, Woodrow Wilson Center.

April 30

The Question:	"How Can Concepts of Long-Range Planning Be Made More Effective in The Governments of The United States and The Union of Soviet Socialist Republics?"
Speaker:	Nikolai P. Lebedinsky, Deputy Chairman, State Planning Committee (GOSPLAN), USSR.
Respondent:	Jerome Jasinowski, Senior Economist, Joint Economic Committee.
Chairman:	James H. Billington, Director, Woodrow Wilson Center

May 8

The Question:	"How Can We Tell Whether Public Programs are Working?"
Panelists:	Walter Mondale, United States Senator from Minnesota. Roland McKean, Professor of Economics, University of Virginia. Mancur Olson, Professor of Economics, University of Maryland.
Chairman:	James H. Billington, Director, Woodrow Wilson Center

May 21

The Question:	"Response and Responsibility in Our Federal System: How Should The Federal Government Decentralize; and Are State and Local Governments Competent to Accept Increased Responsibility and Authority?"
Moderator:	William Coleman, Consultant, former Executive Director, Advisory Commission on Inter-governmental Relations.
Panelists:	John Brademas, U.S. Representative from Indiana. John J. Gilligan, Fellow, Woodrow Wilson Center, former Governor of Ohio. Brian Rapp, Fellow, Woodrow Wilson Center, former City Manager, Flint, Michigan. John Mudd, Fellow, Woodrow Wilson Center, former Director, Office of Neighborhood Government, New York City, Office of the Mayor.
Discussant:	Richard Darman, Fellow, Woodrow Wilson Center.

September 10

The Question:	"International Technology: Master or Servant?"
Panelists:	Arthur G. Anderson, Vice President and former Director of Research, IBM Charles Mathias, Jr., United States Senator from Maryland. Rustom Roy, Director, Materials Research Laboratory, The Penn State University.
Chairman:	Robert L. McCan, Special Assistant to the Director, Woodrow Wilson Center.

October 14

The Question:	"What is The Future of The Family?"
Panelists:	Elizabeth Janeway, author. Father Aidan Kavanaghov, Professor Yale Divinity School. William Simon, Director of the Institute for Urban Studies, University of Houston.
Chairman:	James H. Billington, Director, Woodrow Wilson Center

October 28

The Question:	"Implications of The Increasing Power of Public Employee Unions."
Panelists:	Jerry Wurf, International President, American Federation of State, County, and Municipal Employees. Peter F. Flaherty, Mayor, Pittsburgh, Pennsylvania Robert Doherty, Professor of Economics, School of Industrial and Labor Relations, Cornell University
Chairman:	John J. Gilligan, Fellow, Woodrow Wilson Center

November 7

Sponsors:	The program was jointly sponsored by the Woodrow Wilson International Center for Scholars and the Research Institute on Immigration and Ethnic Studies, Smithsonian Institution.
The Question:	"Ethnicity, The American Ethos and The New Immigration: Theories and Observations."
Panelists:	Dennis Forsythe, Department of Sociology, Howard University. Susan Jacoby, Research Associate, Center for Policy Research. David M. Reimers, Professor of History, New York University Father Silvan Tomasi, Director, Center for Migration Studies.
Chairmen:	Roy S. Bryce-Laporte, Director, Research Institute on Immigration and Ethnic Studies. Prosser Gifford, Deputy Director, Woodrow Wilson Center.

November 11

The Question:	"Why Did Rome Fall? Are We Next?"
Commemoration:	In commemoration of the 200th anniversary of the publication of Gibbon's Decline and Fall of the Roman Empire
Panelists:	Jaroslav Pelikan, Dean of the Graduate School, Yale University. William H. McNeill, Professor of History, University of Chicago.
Chairman:	James H. Billington, Director, Woodrow Wilson Center

December 2

The Question:	"What Are The Implications of The Law of The Sea Conference for Environmental Control and Scientific Research?"
Panelists:	Alexander Yankov, Bulgarian Ambassador to Great Britain. John Knauss, Dean, Graduate School of Ocean Studies, University of Rhode Island. Richard Frank, Director, of the International Project of the Center for Law and Social Policy, Washington, D. C.
Chairman:	Prosser Gifford, Deputy Director, Woodrow Wilson Center.

December 4

The Question:	"The Supreme Court: Continuity or Change in the 70's?"
Panelists:	Paul A. Freund, Professor of Law, Harvard University. Erwin N. Griswold, Attorney at Law, former Solicitor General of the USA. A. E. Dick Howard, Professor of Law, University of Virginia, former Woodrow Wilson Center Fellow.
Moderator:	Robert A. Bork, Solicitor General of the USA.
Journalist Interrogators:	Anthony Lewis, The New York Times. James J. Kilpatrick, syndicated columnist.

COLLOQUIA
1975

ATTACHMENT 4

During his stay at the Center, each Fellow is required to make an oral presentation of his work-in-progress before his colleagues and any outside specialists he chooses to invite. This colloquium is preceded by distribution of a chapter or lengthy summary of his current project. A commentator is designated to analyze and criticize the Fellow's work and start a more general discussion. At its best, the colloquium exposes a fellow's work to a variety of viewpoints, helps sharpen his analysis and improves the final product.

March 13	"Domestic Bureaucracy and Global Organization."
Speaker:	Raymond Hopkins, Fellow, Woodrow Wilson Center, (Associate Professor of Political Science, Swarthmore College.)
Commentator:	Douglas Chalmers, Fellow, Woodrow Wilson Center, Associate Professor of Political Science, Columbia University.)

March 17	"The Franco-Russian Alliance of 1894."
Speaker:	George Kennan, Fellow, Woodrow Wilson Center, (Former Ambassador to the USSR and Yugoslavia.)
Commentator:	Felix Gilbert, Fellow, Institute for Advanced Study, Princeton University.

April 3	"The European Community and The United States: Problems in Understanding."
Speaker:	Francois Bondy, Fellow, Woodrow Wilson Center.
Commentator:	Leonard Tennysen, former Director of European Community Information, Washington, D.C.

April 21	"Republican Government in America: The Idea and The Realization."
Speaker:	Charles Hyneman, Fellow, Woodrow Wilson Center, Professor of Government, Indiana University, former President of the American Political Science Association.
Commentator:	Martin Diamond, Fellow, Woodrow Wilson Center, (Professor of Political Science, Northern Illinois University).
April 23	"Kaleidescope Politics: The Significance of Periodic Regime Changes, With Notes on Italy and Brazil."
Speaker:	Douglas Chalmers, Fellow, Woodrow Wilson Center.
Commentator:	Raymond F. Hopkins, Fellow, Woodrow Wilson Center.
April 30	"The Faddish Fashioning of American Social Policy."
Speaker:	Richard Darman, Fellow, Woodrow Wilson Center, (former Deputy Assistant Secretary for Planning and Evaluation, HEW).
Commentators:	Martin Diamond, Fellow, Woodrow Wilson Center (Professor of Political Science, Northern Illinois University). John J. Gilligan, Fellow, Woodrow Wilson Center, (former Governor of Ohio).
May 1	"The Rise of Naziism."
Speaker:	Marc Ferro, Fellow, Woodrow Wilson Center, (Director d'Etudes, Ecole Pratique des Hautes Etudes, Section 6, Paris).

May 6	"Techno-Ethics: Elements of an Ethical System for a Modern Society."
Speaker:	Rondo Cameron, Fellow, Woodrow Wilson Center, (Professor of Economics and History, Emory University).
Moderator:	Radomiro Tomic, Fellow, Woodrow Wilson Center, (Professor, University of Chile, Santiago).
Commentator:	Dr. J. Deotis Toberts, Professor of Theology, Howard University, and Editor of the Journal of Religious Thought.

May 19	"Underdeveloped Countries in the International System."
Speaker:	Robert Rothstein, Fellow, Woodrow Wilson Center, (former Associate Professor of Political Science, Johns Hopkins University).
Commentators:	Grace Ibingira, Fellow, Woodrow Wilson Center, (former Ambassador to the United Nations from Uganda). Lincoln Gordon, Fellow, Woodrow Wilson Center, (former President of Johns Hopkins University).

May 27	"Variations on The Theme of Transcendence in Some Nineteenth-Century American Novels."
Speaker:	Henry Nash Smith, Fellow, Woodrow Wilson Center, (Professor of English Literature, UCLA, Berkeley).
Commentator:	Stanley Coben, Fellow, Woodrow Wilson Center, (Professor of History, UCLA).

May 29	"Power Politics and Political Space in The South American Regional System, 1902-1962."
Speaker:	Roberto Etchpareborda, Fellow, Woodrow Wilson Center, (former Director-General of the National Archives, Argentina).
Commentator:	John Finan, Professor, School of International Service, American University.
June 3	"Searching for Presidential Objectives."
Speaker:	Richard Rose, Fellow, Woodrow Wilson Center, (Professor of Political Science, University of Strathclyde, Scotland).
Commentators:	Brian Rapp, Fellow, Woodrow Wilson Center, (former City Manager, Flint, Michigan). Richard Darman, Fellow, Woodrow Wilson Center.
June 4	"Reflections on The United Nations and The Third World."
Speaker:	Lincoln Gordon, Fellow, Woodrow Wilson Center.
Commentators:	Robert Rothstein, Fellow, Woodrow Wilson Center. Harald Malmgren, Fellow, Woodrow Wilson Center, (former Deputy Special Representative for Trade Negotiations, Executive Office of the President.)
June 10	"Municipal Decentralization and Neighborhood Government."
Speaker:	John Mudd, Fellow, Woodrow Wilson Center, (former Director of the Office of Neighborhood Government, City of New York, Mayor's Office).
Commentators:	David Walker, Assistant Director, Advisory Commission on Inter-governmental Relations. Gerson Greene, Director of Research and Program Development, National Center for Urban Ethnic Affairs.

June 11	"Allocative Efficiency and Antitrust."
Speaker:	Egon Sohmen, Fellow, Woodrow Wilson Center, (Professor of Economics, University of Heidelberg).
Commentator:	George A. Hay, Director, Economic Policy Office, Antitrust Division, Department of Justice.
June 18	"Democracy, Reform and Revolution: The Case of Chile."
Speaker:	Radomiro R. Tomic, Fellow, Woodrow Wilson Center.
Commentators:	Rondo Cameron, Fellow, Woodrow Wilson Center. Riordan Roett, Director of Latin American Studies, School of Advanced International Studies, Johns Hopkins University.
July 2	"America and The 'New Science of Politics': Notes on The Founding."
Speaker:	Martin Diamond, Fellow, Woodrow Wilson Center.
Commentators:	Charles Hyneman, Fellow, Woodrow Wilson Center. Robert H. Horwitz, Professor of Kenyon College, Ohio.
July 10	"Some Reflections on International Environmental Law Making and Enforcement."
Speaker:	Karol Wolfke, Fellow, Woodrow Wilson Center, (Professor of International Law, University of Wroclaw, Poland).
Commentator:	Arvid Pardo, Fellow, Woodrow Wilson Center, (former Ambassador from Malta to the United Nations, USA, and the USSR).

July 23	"The United States and Self Determination: Perspectives on The Wilsonian Conception."
Speaker:	Michla Pomerance, Fellow, Woodrow Wilson Center, (Assistant Professor of International Relations, Hebrew University of Jerusalem).
Commentator:	Inis L. Claude, Jr., Professor of Government and Foreign Affairs, University of Virginia.
August 21	"American Indian Reform Movements Since 1928."
Speaker:	Hazel Hertzberg, Fellow, Woodrow Wilson Center, (Associate Professor of History and Education, Teachers College, Columbia University).
Commentator:	William C. Sturtevant, Curator, Research Department of Anthropology, National Museum of Natural History and editor of the Handbook of North American Indians.
September 25	"Analysis of The Geneva Single Negotiating Text."
Speaker:	Arvid Pardo, Fellow, Woodrow Wilson Center,
Commentators:	Ann Hollick, Fellow, Woodrow Wilson Center, (Executive Director of Ocean Policy Project, School of Advanced International Studies, Johns Hopkins University). Robert Friedheim, Director of the Law of The Sea Project, Center for Naval Analyses.
September 30	"Improving The Management Process Within City Government: A Third Alternative."
Speaker:	Brian Rapp, Fellow, Woodrow Wilson Center.
Commentators:	Neil Peirce, former Fellow, Woodrow Wilson Center, Contributing Editor, National Journal. George Kuper, Executive Director, National Commission on Productivity. R. Scott Foster, Director, Government Studies, Community for Educational Development.

October 9	"Japanese Foreign Policy and The US-Japan Alliance."
Speaker:	Kei Wakaizumi, Fellow, Woodrow Wilson Center, (Director of the Institute of World Affairs, Kyoto Sangyo University).
Commentators:	William J. Fulbright, former United States Senator from Arkansas. Armin Meyer, former U.S. Ambassador to Japan, Iran and Lebanon. Robert Osgood, Dean, School of Advanced International Studies, Johns Hopkins University. Gaston Sigur, Director, Institute for Sino-Soviet Studies, George Washington University. Morton Halperin, Director, National Security and Civil Liberties, The Twentieth Century Fund.
October 29	"The Emergence of a New Caribbean on The International Scene."
Speaker:	Leslie Manigat, Fellow, Woodrow Wilson Center, (Director, Institute of International Relations, University of West Indies, Trinidad).
November 13	"The Assault on American Victorian Culture in The Twentieth Century."
Speaker:	Stanley Coben, Fellow, Woodrow Wilson Center.
Commentator:	William E. Leuchtenburg, Professor of History, Columbia University.
November 20	"On Being Intelligent About Intelligence."
Speaker:	Harry Howe Ransom, Former Fellow, Woodrow Wilson Center, Professor of Political Science, Vanderbilt University.
Commentators:	Harry Rositzke, CIA, retired. Russell Jack Smith, CIA.

ATTACHMENT 5

DISCUSSIONS
1975

Each week there are pre-luncheon "sherry hour" discussions in the library with distinguished outside speakers. A 20 minute presentation by the guest is followed by informal dialogue with fellows, staff and guests. The Calendar of Events is sent to more than 600 friends of the Center who are welcome to come without formal invitation to these discussions.

The speakers and their topics during 1975 were:

January 7	"US-SOVIET Relations."
Speaker:	Anatoliy F. Dobrynin, Soviet Ambassador to the United States
January 14	"The New Iran and The World: A View From Within."
Speaker:	Ali Fekrat, Dean of Education, Ferdowsi University Meshed, Iran.
January 16	Adjunct Fellows, Woodrow Wilson Center, Daniel J. Boorstin, Senior Historian, National Museum of History and Technology; George B. Field, Director of the Harvard-Smithsonian Center for Astrophysics; Forrest C. Pogue, Director of the Dwight D. Eisenhower Institute for Historical Research; and Joshua C. Taylor, Director, National Collection of Fine Arts.
January 21	"Evolutionary Strategy."
Speaker:	Lawrence Slobodkin, Guggenheim Fellow, Senior Visiting Scientist at the Smithsonian.
January 31	"US-Soviet Publishing Relations Since Russian Adherence to The Universal Copyright Convention of 1973."
Speaker:	Townsend Hoopes, President, the Association of American Publishers.
February 7	"Current Impressions From The Middle East."
Speaker:	Armin H. Meyer, former United States Ambassador to Iran, Japan and Lebanon.
February 11	"The Brain's Three Mentalities."
Speaker:	Paul MacLean, Chief, Laboratory of Brain Evolution and Behavior, National Institute of Health.

February 25	"Cyprus and The Middle East."
Speaker:	Lord Caradon, former Minister of State for Foreign Affairs and Permanent Deputy to the United Nations, United Kingdom.
March 7	"Status of Environmental Planning in the US."
Speaker:	Fitzhugh Green, Associate Administrator, Environmental Protection Agency.
March 14	"The Federal Republic of Germany as Partner & Ally."
Speaker:	Berndt Von Staden, Ambassador of the Federal Republic of Germany to the United States.
March 18	"Current US-Latin American Relations."
Speaker:	Sol Linowitz, former Ambassador to the Organization of American States.
April 2	"New International Institutions for Interdependence."
Speaker:	Richard Gardner, Professor of Law, Columbia University
April 4	"American Post-War Foreign Policy. A Foreigner's Question Mark."
Speaker:	Alastair Buchan, Fellow, Woodrow Wilson Center, Professor of International Relations, Oxford.
April 8	"Reorganizing the Government - Again - Can We Do It Any Better This Time?"
Speaker:	Peter Szanton, Director of Research, The Commission On The Organization of the Government For The Conduct of Foreign Policy.
April 22	"Recent Travels to Romania and Poland."
Speakers:	Martin Diamond, Fellow, Woodrow Wilson Center, Anne Stuart Diamond.

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April 28	"The GATT Experience In Law Making For International Trade
Speaker:	Jan Kolasa, Associate Professor and Director of the Department of Public International Law, University of Wroclaw, Poland.
May 2	"Does The American Labor Movement Have a Future?"
Speaker:	Jerry Wurf, President, American Federation of State, County & Municipal Employees.
May 5	"New Quarterly Journal."
Speakers:	Peter Braestrup, Editor, Wilson Quarterly, and James H. Billington, Director, Woodrow Wilson Center
May 9	"Historical Reflections on 18th & 19th Century England."
Speaker:	J. H. Plumb, Professor of Modern History, Christ's College, Cambridge.
May 13	"Early US-Russian Relations."
Speaker:	N. N. Bolkhovitinov, Institute of General History, Academy of Sciences, of the USSR
May 15	"The Cultural Development of Latin America."
Speaker:	German Arceniegas, Latin America cultural Historian, Bogata, Columbia.
May 16	"New Trends In Sub-National Government."
Speaker:	John J. Gilligan, Fellow, Woodrow Wilson Center.
May 23	"The Geneva Session, Law of The Sea Conference."
Speaker:	Arvid Pardo, Fellow, Woodrow Wilson Center.

June 13	"On Interpreting The United Nations."
Speaker:	Genichi Akatani, Assistant Secretary General of the United Nations.
June 17	"A Perspective on Uganda."
Speaker:	Grace Ibingira, Fellow, Woodrow Wilson Center, former Ambassador to the United Nations from Uganda.
June 24	"The Castle Building."
Speaker:	James Goode, Curator of the Smithsonian Institution Building.
July 15	"Korean-American Relations."
Speaker:	Pyong-Choon Hahm, Ambassador of the Republic of Korea to the United States
July 25	"Keeping the President Informed."
Speaker:	Robert Goldwin, Special Consultant to the President.
August 7	"The Virtues of Smallness: Decentralization in Cities & Nations."
Speaker:	Leopold Kohr, Author of The Breakdown of Nations University of Wales.
August 22	"Indira Gandhi"
Speaker:	Sidney Hertzberg, author and editor.
August 26	"Some Reflections on Environment, Science, and A World View."
300 Speaker:	Karol Wolfke, Fellow, Woodrow Wilson Center

September 4	"The Administration of Indira Gandhi."
Speaker:	C. Subramaniyan, Finance Minister of India.
September 5	"Russian-American Relations in the Nineteenth Century."
Speaker:	Alexander Foursenko, The Institute of History, Leningrad, USSR.
August 29	"The History and Current Activities of The Japan Foundation."
Speaker:	Yasushi Sugiyama, American Representative, The Japan Foundation
September 10	"Soviet Cinema."
Speakers:	Sergei V. Komarov, Director, Soviet National Institute of Cinematography, the Soviet actress and actor Ariadna V. Shenbelaya and Innokentiy Smoktunov Skiy.
September 19	"A Review of US-Iran Relations."
Speaker:	Ardeshir Zahedi, Ambassador of Iran to the United States.
September 30	"Social Images of Black Silent Film Images."
Speaker:	Thomas Cripps, Fellow, Woodrow Wilson Center, Professor of History, Morgan State College, Baltimore.
October 7	"Special Issues Facing The OAS."
Speaker:	Alejandro Orfila, Secretary General of the Organization of American States.

October 10	"A Comparison of American Communications Systems with the BBC."
Speaker:	Asa Briggs, Historian and Vice-Chancellor, University of Sussex.
October 14	"Significant New Thrusts of Bilingual Education in America."
Speaker:	Rudolph C. Troike, Jr., Director of the Center for Applied Linguistics.
October 21	"The Struggle for Excellence: Some Reflections of British Educational Debate."
Speaker:	Max Beloff, Historian and Principal, University College, Buckingham, England.
October 28	"Reflections on The Eisenhower Years."
Speaker:	General Andrew Goodpaster, Fellow, Woodrow Wilson Center, and former NATO Supreme Allied Commander, Europe and Special Assistant to President Eisenhower.
October 31	"Ethnicity From The Perspective of The Hapsburg Empire."
Speaker:	Robert A. Kann, Professor of History, Rutgers University.
November 4	"Basic Group Identity."
Speaker:	Harold Isaacs, Professor of Political Science, Massachusetts Institute of Technology.
November 7	"The Black Political Caucus in Congress."
Speaker:	Walter Fauntroy, U.S. Representative from the District of Columbia.

November 14	"The China Hands."
Speaker:	E. J. Kahn, Jr., author and contributor to The New Yorker.
December 5	"Africa: Is The Cultural Revolution Next?"
Speaker:	Brian Weinstein, Fellow, Woodrow Wilson Center, Professor of Political Science, Howard University.
December 12	"Foreign Trade and Investment: The Canadian Perspective."
Speaker:	Jack Hamilton Warren, Ambassador of Canada to the United States.
December 15	"Soviet Architecture."
Speaker:	Oleg Shvidkovsky, Deputy Director of the Institute of Art History, Soviet Ministry of Culture.
December 19	"The Role of Advanced Study Centers."
Speaker:	James H. Billington, Director, Woodrow Wilson Center.

The Center was host for the State Department's Senior Seminar in Foreign Policy with 30 participants.

ATTACHMENT 6

SPECIAL EVENTS
1975

In addition to its regular programs, the Center, on occasion, plays host to gatherings of educators, sponsors special lectures, and organizes dinners or meetings. These special events occurred in 1975:

January 14

The 13 member Board of Directors of the Associated Colleges of the Midwest held their annual meeting, followed by a dinner. The meeting was chaired by Mr. Dan Walker, President of the organization and the dinner was hosted by Dr. James Billington, Director of the Center.

January 21

Seminar: "Improving the Quality of Life in the Cities."

Speaker: James Rouse, founder and President of the Rouse Company, developers of the new town of Columbia, Maryland.

February 14

Seminar: "US-Soviet Relations."

Speaker: Dr. Helmut Sonnenfeldt, Counselor, Department of State.

February 26

Seminar: "Geophysics: From Platonic Solids to Plate Techtonics."

Speaker: Athelstan Spilhaus, former Fellow, Woodrow Wilson Center, National Oceanographic and Atmospheric Administration.

March 26

Seminar: "The Relationship Between Social Theory and Social Practice."

Speakers: Robert Rothstein, Fellow, Woodrow Wilson Center.
Frederick Sparrow, National Science Foundation.

May 15

Evening Lecture: "The Cultural Development of Latin America."

Speaker: German Arceniegas, historian, former Ambassador and Minister of Education in Columbia.

June 4

Evening: "Congress and Foreign Policy."

Speaker: Wayne L. Hays, U.S. Representative from Ohio.

July 16

Conference: The Woodrow Wilson Center's State and Local Government Program in conjunction with the Charles F. Kettering Foundation, sponsored the meeting which considered a research design to evaluate the responses of organizations to the President's 1974 Growth Report. Thirty national organizations sent representatives, including Dr. Michael Koledo, Director, National Planning Association and Dr. David Stohl, Director, Urban Land Institute. Former Governor John J. Gilligan was host.

August 8

Conference: "Resource Dependency and International Conflict."

The Conference was led by Dennis Meadows, Professor at Dartmouth College and author of The Limits To Growth, and was attended by 30 professors and federal decision-makers.

September 3

Conference: "Growth and The Cities."

The July 16 Conference reconvened to consider developing a national growth planning process. The report was published and recommendations of participants were incorporated in a report which was submitted to the United Nations as part of the United States' Interim Report for "Habitat". (UN Conference on Human Settlements to be held in 1976).

September 5

Seminar: "The Origins of the International Oil Rivalry, 1890-1910."

Speaker: Alexander Foursenko, Institute of History, Leningrad.

October 1

Dinner: The Center and its newly formed Kennan Institute for Advanced Russian Studies brought members of the recent House of Representatives delegation to the USSR for a dinner and an evening of discussion and assessment.

Chairman: Sidney Yates, Congressman from Illinois.

Academic Panel: G. Warren Nutter, University of Virginia.
Vernon V.A. Sputurian, Pennsylvania State University.
Warren W. Easton, Ohio State University.
George Kennan, Fellow, WWICS.
Frederick Starr, Secretary, Kennan Institute.
James H. Billington, Director, WWICS.

October 20

Discussion: "Issues of International Economic Interdependence."

Leader: Harald Malmgren, Fellow, Woodrow Wilson Center, former Deputy Special Representative for Trade Negotiations in the Executive Office of the President.

October 23

Evening Lecture: "Soviet-American Relations in Historical Perspective."

Speaker: George Kennan, Fellow, Woodrow Wilson Center, former Ambassador to the USSR and Yugoslavia.

An evening co-sponsored by the Center's Kennan Institute for Advanced Russian Studies and the American Association for Advancement of Slavic Studies.

November 12

Dinner	The Woodrow Wilson Center hosted a dinner in honor of the Executive Secretaries of 24 nations on the Bi-National Commission which administers academic exchanges abroad under the Fulbright-Hays Act.
Moderator	John L. Richardson, Jr., Undersecretary of State for Educational and Cultural Affairs.
Speaker	Wayne L. Hays, U.S. Representative from Ohio.

December 17

Evening Lecture	"Soviet Prometheanism."
Speakers	Professor George L. Kline, Bryn Mawr College. Peter Scheibert, Fellow, Woodrow Wilson Center, Professor of History, Marburg University, Germany.
	The evening was co-sponsored by the Center's Kennan Institute for Advanced Russian Studies and the American Association for Advancement of Slavic Studies.

ATTACHMENT 7

BIBLIOGRAPHY OF PUBLICATIONS BY CENTER FELLOWS

A selection of works published, broadcast, or telecast during 1975 resulting from work done at the Center.

In keeping with its mandate from Congress as a national institute for advanced study, the Woodrow Wilson Center's principal focus is on individual research and writing by its Fellows. There is normally a considerable delay between completion of a major research project and final publication. These are some of the publications during 1975 that resulted from work done at the Center:

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"A time to every purpose; Western Europe and the United States in the 1970's," Lugano Review, 1975, no. 1, p. 7-9, 19.

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ATTACHMENT 8

RESEARCH ASSOCIATES

Under an agreement with universities in the Washington area, a certain number of young graduate students are selected by Zdenek David, the Center Librarian, as part-time research assistants to the Fellows. The students, in addition to helping to defray their own tuition costs, work closely with senior scholars. The Center benefits from their help and their enthusiasm.

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ATTACHMENT 12

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Resources, Environment and
Interdependence

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Professor Mancur Olson
Department of Economics
University of Maryland
College Park, Md. 20740

ATTACHMENT 13

Public Law 90-637
90th Congress, S. 3174
October 24, 1968

An Act

To establish a National Memorial to Woodrow Wilson.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Woodrow Wilson Memorial Act of 1968." Woodrow Wilson Memorial Act of 1968.

82 STAT. 1356
82 STAT. 1357

DECLARATION OF POLICY

SEC. 2. The Congress hereby finds and declares—

(1) that a living institution expressing the ideals and concerns of Woodrow Wilson would be an appropriate memorial to his accomplishments as the twenty-eighth President of the United States, a distinguished scholar, an outstanding university president, and a brilliant advocate of international understanding;

(2) that the Woodrow Wilson Memorial Commission, created by joint resolution of Congress, recommended that an International Center for Scholars be constructed in the District of Columbia in the area north of the proposed Market Square as part of the Nation's memorial to Woodrow Wilson;

(3) that such a center, symbolizing and strengthening the fruitful relation between the world of learning and the world of public affairs, would be a suitable memorial to the spirit of Woodrow Wilson; and

(4) that the establishment of such a center would be consonant with the purposes of the Smithsonian Institution, created by Congress in 1846 "for the increase and diffusion of knowledge among men."

THE CENTER AND THE BOARD OF TRUSTEES

SEC. 3. (a) There is hereby established in the Smithsonian Institution a Woodrow Wilson International Center for Scholars and a Board of Trustees of the Center (hereinafter referred to as the "Center" and the "Board"), whose duties it shall be to maintain and administer the Center and site thereof and to execute such other functions as are vested in the Board by this Act. Woodrow Wilson International Center for Scholars; Board of Trustees of the Center, Establishment.

(b) The Board of Trustees shall be composed of fifteen members as follows: Membership.

(1) the Secretary of State;

(2) the Secretary of Health, Education, and Welfare;

(3) the Chairman of the National Endowment for the Humanities;

(4) the Secretary of the Smithsonian Institution;

(5) the Librarian of Congress;

(6) the Archivist of the United States;

(7) one appointed by the President from time to time from within the Federal Government; and

(8) eight appointed by the President from private life.

(c) Each member of the Board of Trustees specified in paragraphs (1) through (7) of subsection (b) may designate another official to serve on the Board of Trustees in his stead.

(d) Each member of the Board of Trustees appointed under paragraph (8) of subsection (b) shall serve for a term of six years from the expiration of his predecessor's term; except that (1) any trustee appointed to fill a vacancy occurring prior to the expiration of the term for which his predecessor was appointed shall be appointed for the remainder of such term, and (2) the terms of office of the trustees first taking office shall begin on the date of the enactment of this Act, Term.

and shall expire as designated at the time of appointment, two at the end of two years, three at the end of four years, and three at
82 STAT. 1357 the end of six years. No trustee of the Board chosen from private life
82 STAT. 1358 shall be eligible to serve in excess of two consecutive terms, except that a trustee whose term has expired may serve until his successor has qualified.

(e) The President shall designate a Chairman and a Vice Chairman from among the members of the Board chosen from private life.

POWERS AND DUTIES OF THE BOARD

SEC. 4. (a) In administering the Center, the Board shall have all necessary and proper powers, which shall include but not be limited to the power to—

(1) appoint scholars, from the United States and abroad, and, where appropriate, provide stipends, grants, and fellowships to such scholars, and to hire or accept the voluntary services of consultants, advisory boards, and panels to aid the Board in carrying out its responsibilities;

(2) solicit, accept, and dispose of gifts, bequests, and devises of money, securities, and other property of whatsoever character for the benefit of the Center; any such money, securities, or other property shall, upon receipt, be deposited with the Smithsonian Institution, and unless otherwise restricted by the terms of the gift, expenditures shall be in the discretion of the Board for the purposes of the Center;

(3) obtain grants from, and make contracts with, State, Federal, local, and private agencies, organizations, institutions, and individuals;

(4) acquire such site as a location for the Center as may subsequently be authorized by the Congress;

(5) acquire, hold, maintain, use, operate, and dispose of any physical facilities, including equipment, necessary for the operation of the Center;

(6) appoint and fix the compensation and duties of the director and such other officers of the Center as may be necessary for the efficient administration of the Center; the director and two other officers of the Center may be appointed and compensated without regard to the provisions of title 5 of the United States Code governing appointments in the competitive service and chapter 51 and
5 USC 5101 et seq. 5331 et seq. subchapter III of chapter 53 of title 5 of the United States Code; and

(7) prepare plans and specifications for the Center, including the design and development of all buildings, facilities, open spaces, and other structures on the site in consultation with the President's Temporary Commission on Pennsylvania Avenue, or its successor, and with other appropriate Federal and local agencies, such plans to include an exterior classic frieze memorial to Woodrow Wilson.

(b) The Board shall, in connection with acquisition of any site authorized by Congress, as provided for in paragraph (4) of subsection (a) of this section, provide, to businesses and residents displaced from any such site, relocation assistance, including payments and other benefits, equivalent to that authorized to displace businesses
63 Stat. 413, 42 USC 1441 note. and residents under the Housing Act of 1949, as amended. The Board shall develop a relocation program for existing businesses and residents within the site and submit such program to the government of the District of Columbia for a determination as to its adequacy and feasibility. In providing such relocation assistance and developing

such relocation program the Board shall utilize to the maximum extent the services and facilities of the appropriate Federal and local agencies.

ADMINISTRATION

SEC. 5. The Board is authorized to adopt an official seal which shall be judicially noticed and to make such bylaws, rules, and regulations as it deems necessary for the administration of its functions under this Act, including, among other matters, bylaws, rules, and regulations relating to the administration of its trust funds and the organization and procedure of the Board. A majority of the members of the Board shall constitute a quorum for the transaction of business.

APPROPRIATION

SEC. 6. There are hereby authorized to be appropriated to the Board such funds as may be necessary to carry out the purposes of this Act: *Provided*, That no more than $200,000 shall be authorized for appropriation through fiscal year 1970 and no part of that appropriation shall be available for construction purposes.

RECORDS AND AUDIT

SEC. 7. The accounts of the Board shall be audited in accordance with the principles and procedures applicable to, and as part of, the audit of the other Federal and trust funds of the Smithsonian Institution.

Approved October 24, 1968.

LEGISLATIVE HISTORY:

HOUSE REPORT No. 1942 accompanying H. R. 19988 (Comm. on House Administration).
SENATE REPORT No. 1599 (Comm. on Rules & Administration).
CONGRESSIONAL RECORD, Vol. 114 (1968):
Oct. 3: Considered and passed Senate.
Oct. 7: Considered and passed House, amended, in lieu of H. R. 19988.
Oct. 11: Senate agreed to House amendment.

GPO 83-139

NATIONAL FOUNDATION ON THE ARTS AND THE HUMANITIES BUDGET JUSTIFICATIONS FISCAL YEAR 1977

NATIONAL ENDOWMENT FOR THE ARTS

SUMMARY STATEMENT FOR FISCAL YEAR 1977

The National Endowment for the Arts proposes a Fiscal Year 1977 program budget totaling $87,000,000 in Federal funds:

Definite Appropriation	- for national, state agency, regional programs (not less than 20 percent of definite appropriation to be used for state agency/regional)	$79,500,000
Indefinite Appropriation	- to match donations to the Endowment (Treasury Fund)	7,500,000
	TOTAL FEDERAL PROGRAM FUNDS	$87,000,000
Donations to the Arts Endowment's Treasury Fund		7,500,000
	Total Program	$94,500,000

INTRODUCTION

The National Endowment for the Arts is requesting a Federal appropriation totaling $87 million for Fiscal Year 1977. This represents a modest $5 million increase over the Fiscal Year 1976 appropriated amount of $82,000,000. With such a modest increase, the Fiscal Year 1977 budget will essentially provide for a continuation of current programs. The Congress is asked to note that since the final Congressional and Presidential actions on the Endowment's Fiscal Year 1976 Appropriation and the Presidential request on the Endowment's Fiscal Year 1977 funding level were both subsequent to the November meeting of the National Council for the Arts, this submission does not incorporate Council recommendations. While certain allocations have been made based on previous Council recommendations, some funds ($2.5 million) have been temporarily added to the Interrelated category of Goal I (Availability of the Arts) pending Council review in early February. It is expected that the Council will recommend portions of those funds for Goal II (Cultural Resources Development) and Goal III (Advancement of Our Cultural Legacy).

Although modest in size, this request for additional funds permits the Federal Government to continue its firm policy of support and encouragement of the arts as an integral segment of American life.

JUSTIFICATION FOR INCREASED SUPPORT

1. The growth of citizen participation in cultural activities.

As was reported to the Congress last year, the American people are engaging more and more in cultural activities. Attendance at events is up, participation in art classes is at an all-time high, purchase of materials used for arts expression continues strong, and

book sales are very substantial. This growth has been stimulated by the recognition of the importance of individual creativity, by the bicentennial, by the desire for self-expression, and by the growing realization that the arts are an important part of every person's life.

2. The increased public demand on cultural institutions.

There is a steadily increasing number of large and small cultural institutions -- museums, dance, theatre and opera companies, symphonies and community cultural centers -- because of public demand to have their services. This past decade has seen a phenomenal development of institutions throught the Nation. There are still some "have-not" areas but these should not obscure the tremendous progress that has been made.

3. The economic pressures on our cultural institutions.

Along with the great demand for services from the cultural institutions go the added costs, many of which cannot be met from earned income. The inflation that has affected the entire Nation has had particularly severe impact in the arts, in part, because of the high labor component of expenditures.

4. The need to continue the Federal stimulus to other sources of support.

Over its first 10 years, the Endowment has proven that a small amount of Federal money, properly used, can encourage 3, 4 and even 5 times as many dollars from private and other public sources. That momentum for plurality of funding must be maintained if we are to prevent Federal domination in cultural financing as occurs in most other countries of the world.

INCREASES BY GOAL

The Fiscal Year 1977 budget basically provides for continuation of the agency's present programs. Increases are directed to areas of highest priority to maintain progress toward the agency's 3 basic goals. It should again be pointed out that some adjustment in the budget allotments for each goal can be expected as the result of recommendations by the National Council on the Arts at its February meeting.

I. Availability of the Arts: to promote broad dissemination of cultural resources of the highest quality across the land. ($41,470,000 - a $2,172,000 increase). These funds are necessary to:

-- Continue the stimulation of state arts agencies by raising the "basic state agency grant" from $205,000 to a projected minimum of $217,000.

-- Through television, radio and film transmit the experience of live arts to millions of Americans who would otherwise not have access to live performances.

-- Permit approximately 2,700 artists to work in an estimated 7,500 schools in all 50 states and the 5 special jurisdictions through the Endowment's Artists-in-Schools programs.

-- Insure that the current citizen demand for dance performances be met by maintaining the present level of dance touring in all 50 states.

-- Continue the growth of community-based Expansion Arts projects in the inner-cities, small towns and rural areas.

II. Cultural Resources Development: to assist our cultural institutions to provide greater public service and to improve artistic and administrative standards. ($14,296,000 - a $1,378,000 increase)

This goal provides funds to our Nation's cultural institutions -- museums, orchestras, theatre, dance and opera companies, literary magazines and small presses. Recent surveys on the arts have stressed the need for additional public and private support for cultural institutions because of increased demand for service coupled with spiraling costs. The Endowment believes that for a country as large as the United States, there must be increased funding from all sources to maintain our cultural base. The National Council on the Arts will address the overall issue of funding for cultural institutions at the February Council meeting. Our experience indicates that Federal grant money when properly invested in the major cultural institutions generates significant other governmental and private funds, thereby creating an impact far greater than the direct Federal investment.

III. Advancement of Our Cultural Legacy: to support creativity among our most gifted artists, encourage the preservation of our cultural heritage, and advance the quality of life of our Nation. ($21,124,000 - a $718,000 increase) These funds are necessary to:

-- Preserve and enhance American folk arts and crafts through programs of fellowships and project support.

-- Broaden the opportunities for jazz/folk/ethnic music to be practiced by artists, preserved on film and tape, and be enjoyed by millions.

-- Further the creative development of the individual American artist by maintaining fellowships and special training programs.

-- Fund critically-needed projects to preserve our rich national heritage in film, dance and architecture.

-- Assist key national service organizations to broaden essential self-help technical assistance activities within the various art forms.

IV. Program Development and Evaluation ($2,610,000 - a $150,000 increase)

These funds are essential for important evaluation efforts and to enable the Endowment to step up its catalyst/leadership responsibilities.

In presenting its budget, the Endowment wishes to stress that the total program -- to encompass the full variety of the arts -- is reviewed with immense care and attention to detail by the program directors of the Endowment, working in their own fields and in cooperation with each other; by panels of experts working in each of the areas involved and often in combination with other arts fields; and by the members of the National Council on the Arts.

In summary this proposed Fiscal Year 1977 budget, while austere, will permit the Endowment to continue its efforts to stimulate additional public and private monies and to maintain the momentum created by 10 years of Federal assistance for the arts.

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NATIONAL ENDOWMENT FOR THE ARTS

Summary of Funds Available
(in thousands)

	1975 ACTUAL	1976 ESTIMATE	TRANSITION QUARTER	1977 PROPOSED	FY 1976-1977 INCREASE OR DECREASE
Appropriation, Definite Program	$67,250	$74,500	$33,437	$79,500	$ 5,000
Appropriation, Indefinite Matching Funds	7,500	7,500	500	7,500	-0-
Total Appropriation	74,750	82,000	33,937	87,000	5,000
Gifts and Donations	7,710	7,500	500	7,500	-0-
Transferred from Others	56[1]	4	-0-	-0-	-4
Recovery of Prior Years Obligations	346	-0-	-0-	-0-	-0-
Unobligated Balance Prior Year	4,134[2]	4,064[3]	-0-	-0-	-4,064
Total Available for Obligation	86,996	93,568	34,437	94,500	932
Obligations	81,665	93,568	34,437	94,500	932
Transfers to Others	48[4]	-0-	-0-	-0-	-0-
Total	81,713	93,568	34,437	94,500	932
Unobligated Balance	$ 5,283	$ -0-	$ -0-	$ -0-	$ -0-

1/ Includes transfers from Department of Interior ($30,000), Executive Office of the President, ($10,900), GSA ($10,000), Department of Transportation ($2,000) and Department of State ($3,000).
2/ Includes $1,217,949.25 represented by equity received in ANTA theatre and other assets.
3/ Does not include $1,217,949.25 equity in assets which is not available for obligation.
4/ Includes transfers to Department of Interior ($38,138) and NASA ($10,000).

TABLE 1

NATIONAL ENDOWMENT FOR THE ARTS

ANALYSIS BY OBJECTIVE
(in thousands)

	FY 1975 Actual	FY 1976 Estimate	Transition Quarter Estimate	FY 1977 Proposed	FY 1976 - FY 1977 Increase or Decrease
1. Availability of the Arts	$37,638	$39,298	$15,008	$41,470	$2,172
2. Cultural Resources Development	21,004	12,918	13,615	14,296	1,378
3. Advancement of our Cultural Legacy	21,218	20,406	3,814	21,124	718
4. Program Development and Evaluation	1,784	2,460	1,000	2,610	150
5. Miscellaneous	21	-0-	-0-	-0-	-0-
6. Gifts, Donations, and Matching Funds	1/	18,486 2/	1,000	15,000	-3,486
TOTALS	$81,665	$93,568	$34,437	$94,500	$932

1/ Gifts, donations, and Federal matching funds have been distributed by objective.

2/ Includes funds carried over from Fiscal Year 1975. Does not include $1,218,000 equity in assets which is not available for obligation.

FISCAL 1977 BUDGET REQU[illegible] FUNDING SUMMARY INDEX
(in thousands)

		FY 1975 Actual	FY 1976 Estimate	Transition Quarter Estimate 1/	FY 1977 Proposed 2/	FY 1976 - 1977 Increase or Decrease	Narrative Page
I.	AVAILABILITY OF THE ARTS						
A.	Through the States and Regions	$14,954	$15,301	$12,505	$16,497	$1,196	A-9
B.	On the Media	2,708	3,018	135	2,872	-146	A-10
C.	On Tour	4,214	3,279	655	3,550	271	A-12
D.	In Residence	4,510	5,121	275	5,182	61	A-13
E.	For New Audiences, New Participants	10,502	11,062	1,438	12,369	1,307	A-14
F.	Through New Alliances	750	1,517	-0-	1,000	-517	A-17
	TOTAL, GOAL I	37,638 3/	39,298 4/	15,008 4/	41,470 4/	2,172 4/	
II.	CULTURAL RESOURCES DEVELOPMENT						
A.	In Museums	4,419	4,337	1,300	4,740	403	A-19
B.	In Music	10,528	4,806	8,600	4,806	-0-	A-20
C.	In Theatre	4,865	2,487	3,715	3,205	718	A-21
D.	In Dance	626	538	-0-	645	107	A-22
E.	In Literature	566	750	-0-	900	150	A-23
	TOTAL, GOAL II	21,004 3/	12,918 4/	13,615 4/	14,296 4/	1,378 4/	
III.	ADVANCEMENT OF OUR CULTURAL LEGACY						
A.	Creative Development	7,431	7,313	890	7,083	-230	A-24
B.	Enhancement of America's Indigenous Arts	2,519	3,047	1,250	3,230	183	A-25
C.	Preservation	5,196	3,674	529	3,529	-145	A-27
D.	The Environment	961	1,345	200	905	-440	A-28
E.	General Programming, Research, Services	5,111	5,027	945	6,377	1,350	A-29
	TOTAL, GOAL III	21,218 3/	20,406 4/	3,814 4/	21,124 4/	718 4/	
	Program Development and Evaluation	1,784	2,460	1,000	2,610	150	A-31
	Miscellaneous	21	-0-	-0-	-0-	-0-	
	Gifts, Donations, and Matching Federal Funds	5/	18,486 6/	1,000	15,000	-3,486	A-32
	GRAND TOTAL	$81,665	$93,568 6/	34,437	$94,500	$ 932	

1/ $33.937 million Federal: $33.437 definite, $0.50 indefinite.
2/ $87.0 million Federal: $79.5 definite, $7.5 indefinite.
3/ Includes definite and indefinite appropriations and gifts and donations as well.
4/ Definite appropriations (program funds) only; no Treasury Fund, Federal matching or gifts and donations.
5/ Gifts, donations, and matching Federal funds have been distributed by objective.
6/ Includes funds carried over from Fiscal Year 1975.
Note: Figures have been rounded.

I. Availability of the Arts

FY 1975 (Actual)	FY 1976 (Estimate)	Transition Quarter (Estimate)	FY 1977 (Proposed)	Increase
$37,638,144	$39,298,000	$15,008,000	$41,470,000	+$2,172,000

Underlining the Endowment's commitment to the goal of providing access and opportunity to every citizen to participate in the arts, the largest dollar increase is requested for Availability of the Arts. This goal directs itself specifically to a wider variety of means for bringing the arts to people.

In looking to the future, the Endowment believes that we have to understand the implications of the demands of people for cultural experiences. As New York Times art critic Hilton Kramer stated: "We are now a society intent upon availing itself of cultural goods and services to an extent never before known to the history of civilization."

Therefore, while most of the Endowment funds directed to Goal II (Cultural Resources Development) and a good portion of those in Goal III (Cultural Legacy) are used by organizations to increase our citizens' access to the arts, we have always had a separate goal that directs itself specifically to a wide variety of means to respond to people's desires to participate in cultural activities.

A major part of the increase requested in this Goal will be for state arts agencies whose "basic grants" will be increased in accordance with the Endowment's authorizing legislation. Additional monies will be channeled to regional arts agencies. These grants foster both the Federal-state partnership and interstate cooperative efforts.

We are also urging modest growth in programs increasing our citizens' access to the arts by touring and through residencies by development of new audiences. During the past ten years, the Endowment has sought imaginative ways to respond to the desires and demands for access to the arts from all segments of our society. It is imperative that sufficient funds be provided so that previous initiatives in these areas are maintained.

Since final Congressional action on Fiscal Year 1976 and Presidential decision on Fiscal Year 1977 occurred subsequent to the November Council meeting, we are unable to provide a Congressional budget submission based on Council recommendation. While some allocations have been made based on previous Council policies, we have placed certain amounts of monies in the interrelated category, pending Council decision.

THROUGH THE STATES AND REGIONS

FY 1975 (Actual)	FY 1976 (Estimate)	Transition Quarter (Estimate)	FY 1977 (Proposed)	Increase
$14,953,833	$15,301,000	$12,505,000	$16,497,000	+$1,196,000

The Endowment cooperative programming with the state and regional arts agencies has grown substantially over the agency's ten years. Joint planning efforts are being initiated with the states so that together we more effectively serve our mutual constituents. The Endowment has contracted for a major survey of the state arts agencies; the research should be completed by mid-1976 and be of immense value in guiding the future direction of important cooperative efforts with the states. In the meantime, the National Council on the Arts has urged that we seek to improve our communications with the states and regions, to develop more national programs on cooperativc terms with them and to combine our efforts toward common goals.

Most of the funds in this area are provided through the basic state arts agency grants.*

These grants are matching, as is additional funding for state agencies' programming with community arts agencies, development grants for professional staff capability, and grants for regional agencies or groupings of state agencies, for regional programming. During Fiscal Year 1976, the basic state agency grant is $205,000. The continuity of the basic grant will be maintained through the transition quarter by providing another $205,000 to the states and jurisdictions. The projected minimum of $217,000 in Fiscal Year 1977 is based on the legislative formula and will be used by the state arts agencies for their 1978 Fiscal Year. It is hoped that the increased basic grant will provide additional impetus to state legislatures to increase their participation and provide full matching monies in all the states. State legislative appropriations generally appear to be continuing the upward pattern; an increase in Endowment funds, however modest, is an essential stimulus to the states. In Fiscal Year 1976, 30 state agencies are more than matching the basic grant with state-appropriated monies, 5 more than in Fiscal Year 1975; other agencies used a combination of state and other monies for matching.

Additionally, the Endowment is requesting an increase for the regional arts agencies, or multistate groupings, since some opportunities for broad cultural development can most effectively be met by strong cooperative efforts of groups of state arts agencies. At present there are 4 formal multistate or regional programs serving 29 states: the Western States Arts Foundation (10 states), Mid-America Arts Alliance (4 states), the Upper Midwest Regional Arts

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* Under the Endowment's authorizing legislation, at least 20 percent of its overall definite appropriation must be directed to state and regional agency efforts; further, 75 percent of this 20 percent must go in "bloc" amounts to the 55 state (and jurisdictional) arts agencies, with a minimum of $200,000 available to each state agency.

Council (5 states), and the Southern Federation of State Arts Agencies (Southern Growth Policies Board) (10 states). Grants to these major groups range from $200,000 to $500,000. Smaller grants this year are assisting less formal regional projects in New England and Alaska. A fifth organization which would service the Mid-Atlantic region is now in the planning stages for Fiscal Year 1977. These regional organizations are in a position to undertake large-scale projects affecting broad audiences. Examples of the Endowment in partnership with regional organizations or multistate groupings include: support of a regional network of video/communication centers to document regional traditional arts and folklore (3 states); support of the initiation of an arts touring program (6 states); and support of liaison activities between arts agencies and Indian tribes for the coordination of artistic exchange.

It should also be noted that in addition to the formal Federal-State Partnership Programs mentioned above, the state arts agencies are eligible along with other groups for funding from many other program areas within the Endowment; in Architecture, Expansion Arts, and Theatre, there are programs specifically directed toward cooperative efforts. Grants range from $10,000 to $35,000 to assist architecture and design efforts of state agencies. State arts agency programming for Expansion Arts activities are aided with grants ranging up to $20,000. Grants also go to help state and regional agency efforts to increase access to professional theatre, by touring and assisting sponsors to bring in companies, or through aiding state and local efforts to establish professional theatre resources where none exist. Expansion Arts is the only area for which a modest increase is requested; Architecture's and Theatre's joint efforts with state agencies will basically hold even despite growing pressure in these areas.

Additional cooperative funding programs with state arts agencies, such as Public Media's State Films and the national Dance Touring and Artists-in-Schools Programs, are described in the following sections, On the Media and On Tour.

ON THE MEDIA

FY 1975 (Actual)	FY 1976 (Estimate)	Transition Quarter (Estimate)	FY 1977 (Proposed)	Increase (Decrease)
$2,707,631	$3,018,000	$135,000	$2,872,000	-$146,000

A funding level of $2,872,000 is requested for the media, a pervasive force in American life. Although a slight decrease is shown in this area compared with Fiscal Year 1976, the National Council at its February 1976 meeting may choose to augment the requested amount with funds currently located in interrelated. Treasury Fund monies will also be used to supplement these efforts.

Programming in the Arts. The Endowment has for several years provided some funding to help bring the experience of live arts to people through television, radio and film. Although modest in funding level, these efforts have had an important effect on encouraging

the creative and technical ability required to place the arts effectively on the media. For example, the Endowment is providing $500,000 toward "Visions," a major series on American drama (in cooperation with the Corporation for Public Broadcasting and The Ford Foundation) as well as $500,000 toward another series, "Dance in America," (with Exxon and the Corporation for Public Broadcasting). As Wallace White wrote in a January 18, 1976 New York Times review of the first program in the dance series, "...television is learning how to join with choreographers and dancers in creating a new and startlingly effective art form...WNET estimates that between 4 and 5 million viewers will see the first hour of 'Dance in America'." We are also assisting a television series on American film, as well as providing partial funding for a series of films on American authors. For Fiscal Year 1977, despite the tightness of monies we believe that, where appropriate, the series that have begun should be continued; and certainly this is the intent of our co-sponsors. Clearly, no new series can be initiated for the other art forms and it will be necessary to eliminate grants for single production projects and television specials undertaken by public television stations and individuals of exceptional talent.

We are pleased with the bicentennial state film program and the Council has recommended continuing it if funds are available. To date the Endowment has assisted 34 state and jurisdictional arts agencies, with matching grants of up to $25,000 per film. These projects are employing local filmmakers and production facilities whenever possible, and are highlighting the states' and regions' unique artistic heritages, activities, and achievements. Modest funds will assist the states in locating both film talent and artistic resources through a medium which has enormous audience potential.

While there are some special projects in other fields (notably a television film on American song entitled "Amazing Grace," and a series of original radio dramas for distribution on National Public Radio's 170-member stations and some 30 to 40 additional noncommercial stations), there basically are no funds available for film, television or radio series or specials on music, visual arts, crafts, folk arts, photography, the treasures in our museums, the marvels of our architecture and the benefits its proper use can bring to our cities and towns.

Despite the limitations just noted, the Endowment has been able to reach millions of people, while, at the same time, encouraging major private funding of media productions. At the specific request of the National Council, media specialists have been placed on various Endowment panels to facilitate the concept of conveying the "live" arts through radio, television, and film.

Regional Film Centers. One of the phenomenal developments in the last several years has been the growth of regional film centers. Prior to their establishment, noncommercial facilities, exhibition materials, and equipment were available in only a few places in the country. This year, Endowment grants are going to 29 groups (usually affiliated with universities or museums) in 17 states. The grants are all matched and generally do not exceed $25,000. The $200,000 increase requested here will be an important factor in determining whether media artists will migrate to the "major centers" or remain in their own regions to develop and practice their art.

In addition, without increased monies scores of Americans will be without access to the high quality programming and services which only these centers provide.

Endowment/Corporation for Public Broadcasting. The Endowment's cooperative programs with the Corporation for Public Broadcasting (CPB) continue to benefit the goals of both agencies. Funds are provided primarily for symposiums, workshops and seminars which explore various aspects of arts programming. In addition, the agencies have joined in the placement of professional filmmakers and sound technicians in residence at 12 public television stations in an effort to upgrade the quality of local programming.

The total of roughly $200,000 for these joint efforts in Fiscal Year 1976 is not projected for an increase in Fiscal Year 1977, despite pressure particularly for expansion of the filmmakers in residence into many more areas of the country.

ON TOUR

FY 1975 (Actual)	FY 1976 (Estimate)	Transition Quarter (Estimate)	FY 1977 (Proposed)	Increase
$4,214,218	$3,279,000	$655,000	$3,550,000	+$271,000

The National Council on the Arts believes that the Endowment's programs to bring the live arts to new places and to new publics must be expanded. The Fiscal Year 1977 program is projected at a slight increase in Dance and approximately the same level as Fiscal Year 1976 in Expansion Arts. Because of funding constraints, planned programs in Theatre and Music will have to be held for another year.

Dance. Dance touring support was initiated in Fiscal Year 1968 with 4 companies touring for a total of 8 weeks in 2 states. In Fiscal Year 1976, 91 companies are touring for 430 weeks in 52 states and jurisdictions. A major factor in this development is the fact that the program is now administered and funded cooperatively by the Endowment and the state and regional arts agencies. We anticipate that 139 companies will be eligible for participation in the coming year. The program also assists the national tours of the 3 larger ballet companies. Experience has shown that approximately 4 to 5 dollars in state and local monies are generated for every Federal dollar invested.

Expansion Arts Tour Event. This program is designed to bring together a variety of community arts groups to central sites to present festival-type events. The program was initiated in Fiscal Year 1974 with 4 grants ranging from $30,000 to $40,000 to groups in 4 divergent settings -- in the Upper Midwest, Appalachia, New England and Southwest. To date, groups from 29 states have been involved, and the regions expanded to include the Southeast and the Pacific Northwest. Funds are basically to assist touring through local sponsors such as state and community arts agencies. No increase is requested for this category.

IN RESIDENCE

FY 1975 (Actual)	FY 1976 (Estimate)	Transition Quarter (Estimate)	FY 1977 (Proposed)	Increase
$4,510,188	$5,121,000	$275,000	$5,182,000	+$61,000

The concept of placing artists in residence within various settings has proven its success time and again. The Endowment's experience in making many artistic disciplines available through residencies of professional and exceptionally talented artists and through sponsor assistance is clearly demonstrated by the demand expressed in the field. The funding level increase proposed in this area is mainly for writers' readings and residencies. This program is new in Fiscal Year 1976 and is having a widespread impact. The proposed increase is somewhat offset by a decreased Federal funding of sponsor assistance in artistic fields other than Dance.

Artists-in-Schools. The Artists-in-Schools Program (AIS) is a highly successful ongoing program which places exceptionally talented professional artists in elementary and secondary schools to encourage the creative process, to enhance a child's powers of perception, and to cultivate an ability for individual expression and communication through artistic tools and skills. The present program promotes accessibility of the following artistic disciplines: architecture and environmental arts, crafts, dance, film, folk arts, music, poetry, theatre, and visual arts. The program is becoming a major source of support for this country's individual artists.

During the current school year, AIS is operating in an estimated 7,500 schools in all 50 states and the 5 special jurisdictions; approximately 2,700 artists are involved.

Artists-in-Schools is a major cooperative program with the state arts agencies. Although requests for support of viable projects already far exceed the amount of support available, no increase is requested for Fiscal Year 1977 due to budgetary constraints. The Endowment hopes that the outstanding success of the activities assisted to date will trigger increased financial participation from a variety of other sources.

Artists-in-Other Settings. The residency concept, as pioneered by the Arts Endowment in Artists-in-Schools, has been extended into other settings.

The Endowment's Alternative Education Program places the professional artist in settings outside of the formal school, such as community centers and schools without walls. Grants range up to $25,000 to diverse projects dealing with all age groups and types of locale. The Program is currently under review and evaluation and no net increase is projected in this budget.

There are also programs that primarily concern writers. Writers' readings and residencies began this year at the Council's urging and we believe will absorb an earlier pilot program, writers in developing colleges, in Fiscal Year 1977. It provides modest matching grants to encourage readings and residencies by poets, fiction writers and playwrights in a broad range of settings.

Although this program is relatively small in funds, it is important to note that the total number of states being reached will exceed 30. For example, one grant will be for readings and residencies in all of the Rocky Mountain states and the Northwest. The proposed $150,000 increase in writers' readings and residencies anticipates rapid growth of this program and more applications from state arts agencies as well as rural communities, small libraries, public television stations, and storefront centers.

The Endowment will also continue its ongoing program enabling art schools, colleges, and community centers to hire artists, photographers, critics, and craftsmen, generally for short-term stays to stimulate and instruct young artists and students. Grants are generally for $1,500, are matched, and to date have reached into 43 states. A small decrease is reflected in the Endowment's Fiscal Year 1977 request.

Residencies in Special Projects. The Endowment initiated a program, within its Special Projects area, in Fiscal Year 1975 to test out the feasibility of extending the concepts of sponsor-oriented programming in other art fields, based on its experience in Dance. It was clear to us that the Dance Program increased access to that art form. But all art forms are different and have different needs. Therefore, this program is designed to test the applicability of the Dance Touring Program concepts with other art disciplines. A primary focus of the program in the future will be toward geographic regions that have minimal cultural opportunities.

Projects "on tour" are an integral element of wider availability of the arts. However, the modest Federal funds currently available for touring do not nearly meet the demands expressed by various disciplines involved and the various regions currently served. An increase in sponsor assistance is projected for ensuing years, but for Fiscal Year 1977 funding limitations have caused a reduced financial commitment to the program. It is important to note that a portion of the cost of presentation given directly to the sponsor helps to channel private monies toward that presentation -- private money that would not be otherwise forthcoming.

FOR NEW AUDIENCES, NEW PARTICIPANTS

FY 1975 (Actual)	FY 1976 (Estimate)	Transition Quarter (Estimate)	FY 1977 (Proposed)	Increase
$10,502,344	$11,062,000	$1,438,000	$12,369,000	+$1,307,000

The Endowment is requesting an increase of $1,307,000 for a variety of activities critically needed to respond to growing demand for access and participation on the part of increasing numbers of people. It is a key concern of the Council and the Congress that we foster these efforts and encourage the Nation's burgeoning awareness of the importance and value of creative expression -- individual and community. In addition, new audiences will be built for the future support and deeper awareness of the arts in America.

Over one-third of the requested amount is for Expansion Arts programs. These programs support predominately community-based activities through instruction and training by practicing professional artists, special summer projects, and arts exposure efforts which encourage performances, exhibits and workshops in communities heretofore not considered in the mainstream by some of the more established arts organizations.

Also in this field, the National Council recognizes the need to step up funding of community cultural centers and accordingly may choose to add funds for these centers when it considers the whole issue of aid for the Nation's cultural institutions. (See Goal II). The Endowment believes that support of these professionally directed programs emanating from our geographically and ethnically diverse communities is essential to the involvement of people from all backgrounds and walks of life.

Further, in a continuing move to strengthen this whole program, the Council has requested that every effort be made in cooperation with state arts agencies to encourage states and municipalities to support these types of activities. The pressure on the program at the national level is immense, with applications far out-stripping the Endowment's capacity to respond. In addition, over the past two years, the toll of inflation, particularly in rents and utilities, has been felt heavily in low income areas across the Nation where an important portion of the Expansion Arts constituency resides.

Matching grants in Expansion Arts this year ranged from $600 to $75,000; reach 450 groups in over 160 communities; assist in bringing professional artists into close working relationships with their communities; and involve Americans from Alaska to Texas, and from Vermont to Hawaii.

Highlighting the great diversity of heritages, and of contributions to the American culture, the broadening scope and growing visibility of Expansion Arts projects also encourages state and local governments, foundations, corporations, and individual patrons to share their resources with these groups.

Direct assistance toward the building of future audience support is achieved through music audience development projects. These projects explore methods of combining thoroughly professional musical activities with the education of primarily young audiences. For example, one Fiscal Year 1976 project involves students in elementary and junior high schools from coast to coast in a program comprising 6 to 12 performances by professional artists.

The Endowment further assists the cultivation of new audiences by aiding arts centers and festivals. The Council has long recognized the crucial role played by arts centers in making available to a wide public our Nation's finest cultural resources, providing a variety of community outreach and educational programs. However, many of these facilities need assistance with essential services

such as marketing, fund raising, innovative programming development, and the showcasing of arts activities through new formats and/or locations. To help meet these needs, the Endowment initiated a pilot arts centers and festivals program in Fiscal Year 1975. A limited number of fully matching grants, ranging from $9,250 to $25,000 were provided; groups assisted were geographically spread -- in Kentucky and Wisconsin, in Oklahoma and Illinois and Arizona, in Iowa and Pennsylvania. The program increased slightly in the current year and will be further expanded in Fiscal Year 1977.

Further in response to the demand for cultural facilities, a program in support of cultural facilities research and design assistance was begun within the Architecture Program. Funds are not provided for capital acquisition, construction, or renovation. Rather, grants are made to assist communities in the planning and design of model cultural facilities, while encouraging local public and private money for project implementation. Because of enormous pressure on the program this year, the Endowment is requesting an increase in Fiscal Year 1977.

Also in the Architecture Program, assistance is given for public education through the dissemination of information on the design process and through the supply of self-help tools to individuals and groups wishing to participate directly in the design process. Those involved in the projects range from school children to municipal and state planning agencies. These efforts have received a tremendous reception and accordingly a modest increase is proposed in Fiscal Year 1977.

The works of our finest sculptors and muralists are being brought into the parks and plazas of our cities through the works of art in public places program of the Endowment (and through our advisory assistance to other Federal agencies, such as the highly succeesful General Services Administration's program). The talents of our visual artists are also being brought to our performing stages in the designs of sets and costumes, and to our streets and schools and subways in the design of posters, through visual arts in the performing arts. Fiscal constraints will require that these programs be decreased slightly in Fiscal Year 1977.

The wider availability of museums program enhances museums' efforts to reach a broader community through a wide range of non-traditional activities. Bilingual programs are developing; important methods of increasing access and participation for the handicapped are being explored; the use of media techniques is being investigated; and innovative education programs are being both encouraged and expanded. This year, matching grants ranging from $2,500 to $60,000 are assisting projects in nearly 40 communities across the Nation. State arts agencies and groups of museums working together have been aided, along with individual museums of all types and sizes. There are over 1,800 museums in the country. The Endowment is acutely aware of the potential for new publics which could be cultivated through innovative museum programming. Therefore, an increase is requested for this critical area in Fiscal Year 1977.

Access to a broader community is also encouraged through crafts and photography exhibitions. Matching grants ranging up to $15,000 help bring crafts or photography exhibitions of contemporary and/or

historical significance to the public in a variety of settings, both traditional (universities and museums) and nontraditional (theatres, community centers, libraries, state arts agencies, historical associations, and prisons). The Crafts Program is planned at the same level in Fiscal Year 1977 as Fiscal Year 1976. Other visual arts programs aiding the recording and documentation of the art form of photography are the photography publications and surveys programs. The former assists museums and educational institutions with matching grants of up to $20,000 toward the publication of books that present the art of photography, thereby bringing our photographic heritage to wider audiences. The latter encourages and assists in the creation, dissemination and preservation of state and regional photography surveys documenting aspects of American life and culture. Visual arts photography programs show modest increases in Fiscal Year 1977.

Finally, the Endowment has established a funding category in Special Projects for interrelated programs and Special services, where activities generally outside of the other guidelines but of artistic merit can be considered. Projects usually involve more than one discipline; many are of finite duration. New programs and pilot initiatives are accommodated here. Increased funding is requested so that the Endowment will continue to have the necessary flexibility to respond to the growing -- and important -- movement toward crosscutting multidisciplinary activities which are helping break down some of the false barriers which have existed in the past between the various disciplines to their detriment and that of their publics. Further, because the February 1976 meeting of the National Council will occur just prior to this agency's testimony before the House Appropriations Subcommittee, a significant portion of the requested increase for Fiscal Year 1977 as well as currently undistributed Fiscal Year 1976 funds is placed in interrelated programs pending Council recommendation on the distribution of the funds.

THROUGH NEW ALLIANCES

FY 1975 (Actual)	FY 1976 (Estimate)	Transition Quarter (Estimate)	FY 1977 (Proposed)	Increase (Decrease)
$749,930	$1,517,000	$ -0-	$1,000,000	-$517,000

The CITY SPIRIT Program in Special Projects was initiated in Fiscal Year 1975 in response to the burgeoning interest on the part of Americans in all walks of life to involve themselves and their communities in the arts and to make the arts an integral part of their everyday lives. A key element is the involvement of many community interests -- artists and cultural institutions, media, service clubs, business representatives, neighborhood organizations, unions, schools, municipal governments and other interested individuals and groups. State arts agencies will be deeply involved. Technical assistance in helping diverse groups plan together for their communities' cultural life will be the critical element in this Program. The reduced level of funding projected for Fiscal Year 1977 reflects funding restraints and the Endowment's hope and intent that the Program by its very nature will encourage greater support from all sources primarily at the local level.

II. Cultural Resources Development

FY 1975 (Actual)	FY 1976 (Estimate)	Transition Quarter (Estimate)	FY 1977 (Proposed)	Increase
$21,004,021	$12,918,000	$13,615,000	$14,296,000*	+$1,378,000

*/The Endowment expects that in Fiscal Years 1976 and 1977, a significant portion of Treasury Fund monies (gifts and matching) will continue to be used for Cultural Resources Development. The Treasury Fund -- Federal and other -- monies are reflected only in the Fiscal 1975 figure./

Recent surveys on the arts, such as The Ford Foundation's update on its earlier Report, "The Finances of the Performing Arts," and the Council on Foundations "Benedict Report," continue to paint a relatively gloomy picture of the financial needs of our cultural institutions. The Endowment at this time does not believe that the financial future of our major institutions is inevitably dismal. We do, however, know that there must be increased funding from all sources to maintain the cultural base that is necessary for a country of this size and an expanding population.

There has been a tremendous growth in audience size. Many demands are being placed on our cultural institutions. These demands have come precisely at the time of rising financial pressure and increased costs. Preliminary figures just received from The Ford Foundation indicate that although the gap between costs and earned income does not seem to be growing as rapidly as originally predicted, it is, nonetheless, still growing at an alarming rate. Specifically, estimates indicate that for the professional performing groups surveyed, the gap between their costs (projected to grow) and their earned income (also projected to grow) will have increased by 65 percent between the 1973-1974 season and the 1976-1977 season (Fiscal Year 1977).

Thus it is clear that unless ticket prices and admission fees are to become totally prohibitive -- which would close performing groups down anyway -- other sources of funding for the Nation's great cultural resources must continue to grow.

The National Council on the Arts will again address this issue at its February 1976 meeting. Certainly one question to be answered is whether funds will be available to provide modestly increased grant amounts to the cultural institutions. Our experience indicates that a relatively small amount of Federal money can generate other governmental and private funds, thereby creating an impact far greater than the direct Federal investment. It should be noted that there are basically no increases presently projected in this budget for Cultural Resources Development except in Dance and Literature where previous Council policy indicated an increase no matter what the size of the budget.

IN MUSEUMS

FY 1975 (Actual)	FY 1976 (Estimate)	Transition Quarter (Estimate)	FY 1977 (Proposed)	Increase
$4,418,671	$4,337,000	$1,300,000	$4,740,000	+$403,000

The funds requested here will go toward assisting museums for special exhibitions, utilizing permanent collections, cataloguing, engaging visiting specialists, and purchasing works by living American artists. Other Endowment assistance for museums is described in Availability (Goal I) and Cultural Legacy (Goal III) which includes preservation and training activities.

As pointed out in the Endowment publication, MUSEUMS USA, museum operating costs have increased drastically since 1966. Lacking corresponding funding increases, many museums have been faced with cutbacks while public interest and attendance continue to grow. With this in mind, Endowment assistance for museums must continue to encourage self-help programs as well as broadening bases of financial support. The increase shown for Fiscal Year 1977 mainly relates to the different ratio of Treasury to Program Funds in Fiscal Years 1976 and 1977. The assistance for museums described here is currently projected at basically the same program level in Fiscal Year 1977 as in Fiscal Year 1976.

Aid to Special Exhibitions. This represents the largest and most competitive category in the Museum Program. Matching grants are made to art, history, and science museums for the costs of organizing and presenting temporary exhibitions. In Fiscal Year 1976, the Endowment is supporting 105 grants totaling $2.1 million in Federal funds, yet requests numbered 253 for a total of $5.4 million. Special exhibitions are important to the museums and the communities which they serve. They also, in many instances, are a key element in augmenting the earned income of the institution. And many of them tour, extending their benefits to numerous other museum publics across the country.

Utilization of Museum Collections. This category provides funding for new installations of permanent collections in museum galleries, study-storage centers benefiting scholars and students, and reinstallation of heretofore outdated exhibits. Funds requested would support only about 45 installations in Fiscal Year 1977, approximately the same number as in the current year. The maximum grant amount is generally $75,000. The holdings of many museums are unavailable to the public because of poor installation, and indeed, in many instances, museums have been forced, for lack of funds, to leave works permanently in storage rather than on view.

Catalogue. This category was established in Fiscal Year 1974 in recognition of professional demands to assist in the cataloguing of permanent collections, and in the publication of collection handbooks. Since the establishment of this category, considerably more applications have been received than can be funded; this year out of 132 applications requesting $2.1 million, the Endowment can support only 54 projects totaling approximately $775,000. Examples range from $4,190 to a small museum in Oregon for recataloguing its

collection to $30,000 to a large museum in Colorado for a catalogue of its American Indian art collection. In addition, a portion of the funds will be used to study the use of computers for more efficient and effective cataloguing of America's vast museum collections.

Visiting Specialists. This category is used by museums to obtain the temporary services of outside experts for specific projects. One example: a Baltimore museum used $9,800 to prepare an exhibition on "The Black Presence in Baltimore History" for touring local and state schools. It is also through this activity that the larger museums located in the urban centers are able to share their resources with smaller and developing museums. For Fiscal Year 1977, the Endowment additionally is offering a pilot program of grants enabling state arts agencies to provide museums technical assistance services within their states.

Matching grants range from approximately $5,000 to $15,000.

Museum Purchase Plan. This category provides matching grants ranging from $5,000 to $20,000 to museums for the purchase of works by living American artists. All matching monies must be "new" dollars. The Endowment's program, which began in Fiscal Year 1968, has significantly affected museum collection patterns in the country and thus provided a market for works by living American artists, a market that must be expanded.

IN MUSIC

FY 1975 (Actual)	FY 1976 (Estimate)	Transition Quarter (Estimate)	FY 1977 (Proposed)	Increase
$10,527,608	$4,806,000	$8,600,000	$4,806,000	$-0-

Pending policy discussion by the National Council at the February 1976 meeting, the orchestra and opera companies will be funded at the same level in Fiscal Year 1977 as in Fiscal Year 1976 and the Transition Quarter. Funding limitations have not enabled the Endowment to increase the amount of the maximum grants for the past 2 seasons which would extend to 3 if no increment is provided in Fiscal Year 1977. The Endowment will continue to postpone the development of a program in choral music. The pilot program in this area was reduced in Fiscal Year 1976 to the funding of one Institute and will remain at the lower level in Fiscal Year 1977.

Orchestras. There are over 1,000 orchestras in the country with cumulative annual budgets of over $120 million. Approximately 105 of them were eligible this year for matching project grants from the Endowment under present guidelines. By Fiscal Year 1977, we anticipate 8 more will be eligible. These orchestras employ about 13,000 professional musicians. The nominal increase in Endowment support to orchestras over the past three years has not been commensurate with steeply rising costs or expanding service to their communities. The maximum grant which was $140,000 for about 30 groups 4 years ago has only risen $10,000 representing less than a 2 percent increase per year. The Endowment's funding of orchestras has provided an important impetus for increased funding from state and local sources.

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Opera. While there are more than 400 opera groups in the country, only 45 received Endowment matching grants in Fiscal Year 1976. Federal funds are used to present performances in schools, parks and other public areas, develop new audiences and provide apprentice opportunities for young musicians. The maximum grant (except for the Metropolitan Opera Association) is $150,000 in the current year and for the Transition Quarter; most are for much less.

Choral. The Endowment is presently defining priorities for support of this field in which the dominant participation is amateur rather than professional. In the interim, funds will continue to be concentrated on a regional institute in Fiscal Year 1977. Until a comprehensive policy can be implemented, the Endowment will not seek a funding increase in this category.

Chamber. In addition, the Endowment has been planning a pilot program of aid to chamber music ensembles. Because of budget constraints, funds for chamber music are not requested at this time.

IN THEATRE

FY 1975 (Actual)	FY 1976 (Estimate)	Transition Quarter (Estimate)	FY 1977 (Proposed)	Increase
$4,864,900	$2,487,000	$3,715,000	$3,205,000	+$718,000

Pending discussion by the National Council at the February 1976 meeting, professional theatre companies will be funded at the same level in Fiscal Year 1977 as in Fiscal Year 1976. The funding levels for theatre for youth and professional theatre companies with short seasons are also projected to hold even. The increase shown mainly relates to an adjustment between Fiscal Years 1975 and 1976 funds in order to assist Endowment constituents.

Professional Theatre Companies. This category of support for permanent professional theatre institutions represents the cornerstone of the Endowment's Theatre Program. Of the more than 3,000 theatres of various types throughout the country, only about 60 qualify as eligible for this Program, the requirements including annual operating budgets of over $200,000, seasons of 5 months or more, and professional salary scales. It should be noted that until the early 1960's, there were only a handful of resident professional theatre companies. Such theatres now exist in 40 cities. Federal assistance is directed toward artistic and administrative improvement, including new play production, fund raising and community programming. Matching grants presently range from $5,000 to $150,000. These nonprofit professional theatres are extremely important. They are increasingly the home of some of the best playwrights, directors and performers in American theatre today.

As in the Museum and Music Programs, the critical financial situation is beginning to require cutbacks in productions and services to the community at a time when demand is increasing sharply. Endowment assistance is essential to their ability to stimulate other sources of support. Further, while the growth in number of theatres has been phenomenal in the past decade, there are still many areas of the country where professional theatre does not exist, although is much in demand.

As reported in the Fiscal Year 1976 Congressional budget submission, the Endowment is expecting to close out during the current year its contract with the American National Theatre and Academy for the theatre building in New York City. This was done after discussion with cultural leaders and members of Congress and after careful review by the National Council on the Arts.

Theatre for Youth. This category includes professional groups which offer dramatic presentations for children and young people from preprimary grades through junior high school. Grants generally do not exceed $25,000.

Professional Theatre Companies with Short Seasons. This category offers aid to nonprofit professional theatre companies with seasons of less than 5 months. These include summer theatres of a noncommercial nature and ongoing festivals. These theatres are a vital part of the drama scene and most often reach new and diverse audiences. Grants range from $2,500 to $25,000.

IN DANCE

FY 1975 (Actual)	FY 1976 (Estimate)	Transition Quarter (Estimate)	FY 1977 (Proposed)	Increase
$626,747	$538,000	$-0-	$645,000	+$107,000

The proposed increase is for resident professional dance companies. Although the need exists, there are no additional funds provided in management and administration.

Resident Professional Dance Companies. One of the cultural phenomena of recent years is that many cities throughout the country have developed quality professional dance companies. The Endowment initiated this category in 1972 to provide support for resident dance companies in their communities and regions to encourage them to further develop their local and regional seasons and better serve their audiences.

In Fiscal Year 1975, only 19 of the 40 companies that applied could be funded. Nearly 70 companies applied for support in this fiscal year, and it is anticipated that even more will request assistance in Fiscal Year 1977. Though the guidelines limit maximum funding under this category to $50,000, funds have not yet been sufficient to permit grants much in excess of $30,000, and most are for much less.

Management and Administration. This category assists in improving dance company management through grants to individual companies for partial salary support for professional management. It is clear that this Program has begun to answer a strongly felt need in the dance world. The number of good applications received has consistently exceeded available funds. No increase is requested due to limited funds.

IN LITERATURE

FY 1975 (Actual)	FY 1976 (Estimate)	Transition Quarter (Estimate)	FY 1977 (Proposed)	Increase
$566,095	$750,000	$-0-	$900,000	+$150,000

The proposed increase in Literature would be applied to support for independent presses. Support for the literary magazines is projected at a hold-even level in Fiscal Year 1977. The National Council on the Arts has urged repeatedly that the Endowment should put more emphasis on the literary arts.

Literary Magazines. Support for literary magazines is accomplished by providing funds to the Coordinating Council of Literary Magazines (CCLM). During the past 5 years, an estimated 200 small literary magazines, out of approximately 600 to 700 magazines, have received assistance from CCLM. These magazines have been plagued by spiraling costs of printing, paper, postage and general operations. Also, despite Endowment support many of the magazines are still unable to offer payment to writers for their materials. However, funding considerations necessitate that Endowment support of literary magazines be maintained at the current level in Fiscal Year 1977.

Independent Presses. This category provides funds for the production of chapbooks (small, soft-bound volumes) containing the poetry, short fiction or novels of relatively unpublished writers whose work is of high quality. Out of this year's 162 applications totaling $1.5 million, we will be able to assist 112 presses for only $350,000. Grants range from $500 to $6,000 and will reach 27 states. The quality of small press material and production is rising sharply. And the production and distribution of volumes of serious poetry and fiction are falling more and more to the small, independent, alternative press, as commercial publishers move farther away from taking the necessary financial risks of such efforts. Additional funding is needed to meet the growth and heightened importance of independent presses, accordingly an increased amount is proposed in this category in Fiscal Year 1977.

III. Advancement of Our Cultural Legacy

FY 1975 (Actual)	FY 1976 (Estimate)	Transition Quarter (Estimate)	FY 1977 (Proposed)	Increase
$21,218,801	$20,406,000	$3,814,000	$21,124,000	+$718,000

The advancement and preservation of our Nation's rich and varied cultural legacy constitutes the third major goal of the Endowment. It was in America that film, blues and jazz were born. It was in America where dance, architecture, painting and photography, crafts and folk arts reached new levels of achievement. Efforts by the Endowment in this area have helped to stimulate the Nation's pride in its cultural heritage and build upon the creative and cultural base of the country. It is imperative that the momentum gained during the bicentennial be maintained. Accordingly, the Endowment's Fiscal Year 1977 request in this goal shows an increase over Fiscal Year 1976.

CREATIVE DEVELOPMENT

FY 1975 (Actual)	FY 1976 (Estimate)	Transition Quarter (Estimate)	FY 1977 (Proposed)	Increase (Decrease)
$7,431,166	$7,313,000	$890,000	$7,083,000	-$230,000

The decrease for Creative Development is related to the fact that some fellowships are funded on a 2-year cycle. Essentially, the Endowment's Fellowships, Developmental Work and Professional Training programs are projected at approximately the same level in Fiscal Year 1977 as in 1976.

Fellowships. The desirability of assisting individual artists has been strong since the inception of the Arts Endowment. At its second meeting in June 1965, the National Council passed a "Resolution on the Creative Arts" calling for projects to assist the creative artist with "grants which will release the artist for creative activity." The Endowment now offers fellowships for architects and environmental arts professionals, choreographers, creative writers, composers, librettists, museum professionals, cable television professionals, filmmakers (through contract with the American Film Institute), painters, sculptors, craftsmen, photographers and printmakers. In Fiscal Year 1975 applications for fellowship grants were received from about 5,000 individuals from all across the country. Because of limited funds only 765 applicants or 15 percent of the total, received fellowships. Applications have jumped during the first half of Fiscal Year 1976 to an anticipated annual level of more than 8,000, but funds available will provide grants to only about 800, or 10 percent of the applicants. The National Council on the Arts has urged that more fellowships be offered at higher levels. Funding considerations preclude accomplishing this in Fiscal Year 1977.

New/Developmental Work. Under this category the Endowment provides grants that assist creative development in contemporary music, theatre, and visual arts and crafts through workshop activities. A

modest increase for Visual Arts workshops is proposed. These workshops, in painting, sculpture, photography and video, have stimulated groups of artists to assist themselves and their communities in a dozen states. Since the beginning of our assistance for workshops in Fiscal Year 1972, applications have more than doubled.

Professional Training. The Endowment has programs to train professionals in the fields of music, museums, architecture and environmental arts, media, criticism, arts administration and theatre. Although additional funding in most of these categories is needed due to greatly increased pressures for professional training, funding stringencies have not permitted the inclusion of additional funds except for professional education and development in Architecture.

INDIGENOUS AMERICAN ARTS

FY 1975 (Actual)	FY 1976 (Estimate)	Transition Quarter (Estimate)	FY 1977 (Proposed)	Increase
$2,518,903	$3,047,000	$1,250,000	$3,230,000	+$183,000

Certain art forms are thought of as being truly American. Jazz, modern dance and film took root in this country.

Our craft and folk arts are distinctly American. The interest in, and demand for, these art forms has been growing dramatically. The bicentennial year has provided further impetus. The Endowment, with Congressional encouragement, has moved toward developing adequate programs as quickly as possible. Council members join Congressional members in being particularly concerned about the level of Endowment support for Jazz/Folk/Ethnic Music and in the Folk Arts, and the need to expand both. The Folk Arts Program is being doubled in Fiscal Year 1976, and a further increase is proposed in Fiscal Year 1977. A proposal to enhance support of Jazz/Folk/Ethnic Music in 1976 and 1977 will be presented to the National Council in February. Funds also are needed urgently to carry out programs which would preserve and enhance other indigenous American arts.

Crafts. In Fiscal Year 1975, the Endowment established the position of a full-time professional Crafts Coordinator in the Visual Arts Program. Funds in this category are planned at the same level as in Fiscal Year 1976 and would be applied to our Master Craftsmen Apprenticeship Program which was piloted in Fiscal Year 1975. At that time, 73 applications were received from 25 states. One hundred and forty applications are expected in Fiscal Year 1976 from over 40 states. This Program enables crafts apprentices to work with master craftsmen for extended periods. The Endowment is working with state arts agencies and with other Federal agencies to stimulate interest and funding for the crafts. The Coordinator also seeks to direct the interest of other Endowment programs in advancing the crafts; for example, the encouragement of exhibitions and purchase of craft products by museums. A special Crafts Component was included in Artists-in-Schools in Fiscal Year 1974 and this year was fully incorporated into that Program.

Folk Arts. In Fiscal Year 1975, the Endowment established a Folk Arts Program as a separate office within the Special Projects Program. This Program aims to foster and make more widely available the diverse traditional arts of cultural groups throughout the country. It adds strength and specific focus to folk arts activities now assisted by other Endowment programs; for example, Expansion Arts and Music. A special Folk Arts Component was established in the Artists-in-Schools Program this year. The Endowment estimates that through all of its programs, a minimum of $3 million in Fiscal Year 1975 and $4 million in Fiscal Year 1976 is directed to the folk arts.

During Fiscal Year 1975, the separate Folk Arts Program funded 25 grantees from 19 states. This year those figures will rise to 90 grantees from over 35 states. This Fiscal Year 1977 budget provides a substantial increase for the Folk Arts Program in order to build on the successes to date and to better respond to great demand from all the states.

Jazz/Folk/Ethnic Music. This Program is designed to encourage indigenous music. Grants are provided chiefly to individuals, performing groups and sponsors. In addition, archival efforts are being pursued in cooperation with the Smithsonian Institution. Last year nearly 200 grants went to individuals and groups working in 40 states. They ranged from $250 to a North Carolina composer for a jazz work synthesizing Black folk music in America, to $25,000 assisting the Library of Congress Archive of Folk Song to continue work on its recorded anthology of American folk music. The Endowment's Jazz/Folk/Ethnic Music Program is experiencing rapidly increasing interest from the field; the number of applications nearly doubled for this year's Program. As noted, the Council will be discussing this at its February meeting.

Film. In addition to the Endowment's other programs including aid for regional film centers (see Availability, Goal I), media studies, etcetera, the American Film Institute will continue to be assisted in its efforts to enhance the art of film in this country. This budget submission allocates Federal funds for the American Film Institute grant at the Fiscal Year 1975 level according to our reading of the Appropriations Conference Report and pending further consultation with the Council and the Congress.* It should be noted that the Institute's fund-raising efforts indicate considerable increases in other funding. Endowment funds aid the Institute's advanced film training, research, information publications, education and service activities. (The Endowment's assistance for America's young filmmakers and for critical film preservation work are also carried out by the Institute through contractual arrangements.)

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* Considerably prior to the 11/19/75 Senate Appropriations Committee Report (and the December Conference Report), the Endowment had obligated $1,290,000 on a 50-50 matching basis, to the Institute.

PRESERVATION

FY 1975 (Actual)	FY 1976 (Estimate)	Transition Quarter (Estimate)	FY 1977 (Proposed)	Increase (Decrease)
$5,196,319	$3,674,000	$529,000	$3,529,000	-$145,000

This category includes the various efforts to preserve our Nation's art forms and treasures -- through museum conservation and renovation, film, dance and architectural preservation -- before they are irretrievably lost. The slight decrease in funding reflects a changed Program/Treasury Fund ratio in Fiscal Year 1977 compared with Fiscal Year 1976. In actuality, the Endowment's preservation program will hold approximately even in total Federal dollars in Fiscal Year 1977 compared with Fiscal Year 1976.

Museum Conservation and Renovation. The funds requested are for urgent requirements of our Nation's museums. We simply must train more conservators and provide more emergency conservation funds or irreparable damage to our Nation's treasures will continue. Additional funds for these purposes are provided for in this budget.

Needs for renovation -- particularly security and storage -- continue. We are pleased to report that the major thrust toward improving climate control, begun by the Endowment in 1972 with the full support of the Congress, has been tremendously successful. Most of the Nation's great museums have ensured the survival of major works by installing proper climate control. In support of these grants, the Endowment monies have generated as many as five to six nonfederal dollars. As a result of this success, the proposed Fiscal Year 1977 renovation program is projected slightly below the current year.

Film Preservation. To date efforts in film preservation have failed even to hold the line against rapid deterioration and an increase is critically needed to prevent further loss of this important part of every American's heritage. The Endowment will continue to contract with the American Film Institute to support the preservation efforts of the Institute, the Library of Congress, the Museum of Modern Art and George Eastman House. In turn it is hoped that nonfederal funding sources interested in film preservation will be encouraged to greater efforts by this Federal leadership. (It is noteworthy that a study conducted several years ago put the total need for film preservation at that time at $80 million.)

Dance Preservation. The preservation and recording of our dance heritage is a pressing need. Dance is an ephemeral art; the life of a work seldom survives the death of its creator since it is literally built from the mind of the choreographer onto the bodies of the dancers. There is almost no way to write it down as is the case with other art forms. Methods of "scoring" dance works are absolutely critical. The proposed funding for Fiscal Year 1977 -- slightly less than what the Endowment is able to provide in the current year -- is specifically aimed at projects to record and save dance works. Media projects aimed at broad public audiences are included in Programming in the Arts (under Availability, Goal I). The Dance and Public Media Programs work closely together in both areas.

Architecture Preservation. Over one-third of the structures listed on the National Register of Historic Sites since 1930 have been destroyed. While there is a strong private tradition in this country for architectural preservation, the Federal Government should stimulate and encourage the movement to revitalize the country's structural resources. A major new thrust is required, with emphasis on adaptive uses of old structures to meet today's needs. The Endowment is working closely with a wide spectrum of public and private groups, including HUD, GSA, Interior, and the National Trust for Historic Preservation. In 1977, increased funds will be used to assist local groups in planning specific preservation projects. The aim will be to encourage major private, state and local funding for actual implementation.

THE ENVIRONMENT

FY 1975 (Actual)	FY 1976 (Estimate)	Transition Quarter (Estimate)	FY 1977 (Proposed)	Increase (Decrease)
$961,565	$1,345,000	$200,000	$905,000	-$440,000

The Endowment is not proposing an increase in funds for the National Theme Research Program or for the Federal Design Improvement Program, despite their great success. The major reason for this is that grants dealing with planning for new Cultural Facilities and American Architectural Heritage programs, previously funded under the National Theme category, must now be handled in their own categories.

The National Theme Program was initiated in 1972 with "City Edges." It continued as a 2-year program in Fiscal Years 1974 and 1975 and was entitled "City Options." One hundred and forty-eight grants were awarded to help communities of all sizes focus on the alternatives they had for the future development of particular settings. "Cityscale" (Fiscal Years 1976 and 1977) focuses attention on the design of the smaller, but important amenities in the community -- benches, street lights, signs, etcetera -- that are rarely considered but which are essential if the physical "scale" of the city is to be compatible with the proportions of its human activities. "City Limits" (Fiscal Years 1978 and 1979), which is in the preliminary planning stage now, will deal with the various aspects of urban growth -- population density, corporate limits, etcetera -- and their effect on the aesthetic values of life in cities, towns, and communities.

The Federal Design Improvement Program was established by Presidential initiative in 1972 and the Endowment was designated as the lead agency to implement it. In response to this initiative, the Endowment has been coordinating a number of efforts to upgrade the quality of design among Federal agencies.

As a result of two successful national Federal Design Assemblies, the first Federal Regional Design Assembly was held in Denver, Colorado, October 30-31, 1975. Over 350 Federal, state and local

government administrators and designers from 15 western states attended the Assembly's four sessions (Architecture, Interior Design/Industrial Design, Landscape Architecture/Environmental Planning, and Visual Communications) and focused on the use of design as a prime management tool to provide more effective and more cost efficient government.

GENERAL PROGRAMMING, RESEARCH, SERVICES

FY 1975 (Actual)	FY 1976 (Estimate)	Transition Quarter (Estimate)	FY 1977 (Proposed)	Increase
$5,110,848	$5,027,000	$945,000	$6,377,000	+$1,350,000

This increase is essential to ensure the flexibility, current data on the field, vital self-help information, and technical assistance which are essential to the administration of sound, viable programs. These efforts are also critical to the Endowment's constituents in the management of their institutions.

General Programming. The National Council on the Arts participates actively in developing the underlying policies for guidelines in all funding areas. At the same time, the Council believes it would be entirely wrong for the Endowment to be locked into rigid patterns and unable to respond to important requests. A modest increase in these funds will continue to implement this Council philosophy, though the amount is still far short of the 10 percent of total funds the Council has urged consistently.

Research. Up until Fiscal Year 1975, the Endowment basically used Program Development and Evaluation funds for research efforts, such as its national museum study, MUSEUMS USA, which has proven to be an important tool in developing future directions for the Endowment's Museum Program and an invaluable resource for the entire field. The Endowment is being asked increasingly to assist research initiated outside the agency often aimed specifically at gathering information of direct and immediate benefit to the field. A limited number of important research efforts will continue to be assisted, and since 1975 program funds have been used. For example, the Research Division is currently conducting, or exploring the feasibility of, a continuing series of economic data studies on the condition of America's cultural institutions, a study of commercial and nonprofit theatre, a study of crafts in the United States, a study of cultural presentations on public and commercial broadcasting networks, and a study of consumer demand for cultural activities in the South.

The Council has stressed often the urgency and importance of stepped-up research activities in order to plan efficiently for the future expenditure of Federal funds. The Endowment is working closely with other research groups, public and private, and is actively exploring cost-sharing possibilities with other government agencies and with private funding sources.

Services to the Field. The Endowment feels it essential to strengthen and encourage private service groups in the improvement of services to all cultural fields. A variety of groups and individuals, ranging from national service organizations to artists'

workshops, have a role to play that is increasingly urgent given current growth in the fields combined with the economic situation. Included are groups such as the American Symphony Orchestra League, American Association of Museums, American Folklore Society, Association of American Dance Companies, Theatre Communications Group, National Association for Regional Ballet, OPERA America, Poets and Writers, Inc.

In addition to the national service organizations, which provide important information and technical assistance to their broad professional and nonprofessional memberships, other service groups in expansion arts and visual arts serve smaller regional areas in important ways.

Self-help programs are increasingly important particularly because demands have kept growing in the face of the recent financial downturn. These service groups can set up workshops and open up lines of communications so that means and methods of attracting additional private monies, cutting costs and increasing earned income can quickly be translated into action on a wide front at the local level. Too often cultural groups go to unneeded efforts and expense to re-invent the wheel in areas such as these. Funds in this area are both urgently needed and will reap multiple benefits for a very few Federal dollars.

IV. Program Development and Evaluation

FY 1975 (Actual)	FY 1976 (Estimate)	Transition Quarter (Estimate)	FY 1977 (Proposed)	Increase
$1,783,865	$2,460,000	$1,000,000	$2,610,000	+$150,000

The increase in Program Development and Evaluation (PD&E) funds coincides proportionately to the proposed increase in program funds. It has been the Endowment's continuing practice to use PD&E funds to support the advisory, technical and research expertise that is essential to having the Endowment effectively carry out its legislated mission. Similarly, the Endowment has and will continue to use a portion of PD&E funds for part-time and temporary assistance for program development and evaluation purposes.

These funds provide the panels of experts from the field to review every application submitted to every program of the Endowment. PD&E funds are used also to provide consultants and special experts for short periods to give independent judgment to our program offices and panels and to give technical assistance to grantees. Without the dedication and assistance of these men and women from around the country the Endowment could not function.

(See the Administrative Section of this submission for details of the Program Development and Evaluation Budget.)

V. The Treasury Fund (Gifts), Donations, and Matching Federal Funds)

	FY 1975 (Appropriated)	FY 1976 (Appropriated)	Transition Quarter (Appropriated)	FY 1977 (Proposed)	Increase
Appropriations	$7,500,000	$7,500,000	$500,000	$7,500,000	$-0-
Gifts	$7,500,000	$7,500,000	$500,000	$7,500,000	$-0-

The arts in America are being supported, practiced, viewed and enjoyed by more of our citizens than ever before in our history. As a positive example of this interest, over the past decade the Arts Endowment has received donations totaling well over $30 million. The funding mechanism which generated those gifts, The Treasury Fund, or matching Federal funds, has been an overwhelming success as a vehicle to bring private interest and Federal dollars into cooperative efforts.

During the current year, Fiscal Year 1976, the Endowment is using the Treasury Fund method to stimulate new and increased private funding for orchestras, opera companies, theatres, dance companies, independent conservatories of music, and for museum renovation for preservation purposes. Also, it is anticipated that the Treasury Fund will be used increasingly in programming of the arts on public media. Altogether, 94 institutions in 28 states and the District of Columbia will take advantage of the Endowment's Treasury Fund this fiscal year.

Additionally, the Treasury Fund has helped encourage the partnership between the Federal Government and an extraordinarily broad representation of the private sector and other government sources. In Fiscal Year 1975, the Endowment received 2,500 donations, up substantially from the 992 in Fiscal Year 1973.

Contributors are extremely varied. The largest numbers were individuals. There are also many small businesses and major corporations, family-type donations, and national foundations, banks, hotels, television stations, city agencies and universities, civic clubs and even children in public schools. Donations ranged from as little as $1.00 to $582,880. The concept of the Federal Government matching funds donated by private sources has long been a "selling point" for cultural organizations to use in attracting new sources of funds in their communities. It is furthermore and most importantly an endorsement by the Federal Government that indeed art and artist belong in our society, responsive to the people.

For these reasons, the Endowment urges that its Fiscal Year 1977 request for $7,500,000 in Treasury Fund monies, the same amount appropriated the Fiscal Years 1975 and 1976, be approved.

TABLE 2

NATIONAL ENDOWMENT FOR THE ARTS

SUMMARY OF OBLIGATIONS BY OBJECTIVE

(in thousands)

	FY 1975/Actual Amount	%	FY 1976/Estimate Amount	%	Transition Quarter/Estimate Amount	%	FY 1977/Proposed Amount	%
1. Availability of the Arts	$37,638	47	$39,298	54	$15,008	46	$41,470	54
2. Cultural Resources Development	21,004	26	12,918	18	13,615	42	14,296	19
3. Advancement of our Cultural Legacy	21,218	27	20,406	28	3,814	12	21,124	27
SUBTOTALS	79,860	100	72,622	100	32,437	100	76,890	100
4. Program Development and Evaluation	1,784	---	2,460	---	1,000	---	2,610	---
5. Miscellaneous	21	---	-0-	---	-0-	---	-0-	---
6. Gifts, Donations, and Matching Funds	1/	---	18,486 2/	---	1,000	---	15,000	---
TOTALS	$81,665	---	$93,568 2/	---	$34,437	---	$94,500	---

1/ Gifts, donations, and Federal matching funds have been distributed by objective.

2/ Includes funds carried over from Fiscal Year 1975. Does not include $1,218,000 equity in assets which is not available for obligation.

NATIONAL ENDOWMENT FOR THE ARTS

SUMMARY OF OBLIGATIONS BY PROGRAM AREA
(in thousands)

Program Area	FISCAL 1974[1/] ACTUAL	%	FISCAL 1975[1/] ACTUAL	%	FISCAL 1976[2/] ESTIMATE	%
Architecture + Environmental Arts	$ 4,202	6	$ 2,652	3	$ 3,443	5
Dance	3,942	6	6,126	8	5,183	7
Education	3,576	5	4,754	6	4,303	6
Expansion Arts	4,099	6	5,698	7	5,085	7
Federal-State Partnership	10,558	16	14,669	18	15,301	21
Literature	1,394	2	1,747	2	2,145	3
Museums	9,051	14	10,836	14	8,375	12
Music	16,116	25	14,895	19	6,972	10
Public Media	4,682	7	5,423	7	6,206	9
Special Projects (Incl. Folk Arts)	894	1	3,494	4	7,429	10
Theatre	4,957	8	6,372	8	3,944	5
Visual Arts	2,336	4	3,199	4	3,221	4
Research	-0- [3/]	0	-0- [3/]	0	1,015	1
Subtotal	65,807	100	79,865	100	72,622	100
Miscellaneous	1		16		-0-	
Program Development and Evaluation	1,808		1,784		2,460	
Total	$67,616[1/]		$81,665[1/]		$75,082[2/]	

1/ Includes the Treasury Fund (both gifts and donations and Federal matching) distributed by program area.
2/ Does not include the Treasury Fund (gifts and donations nor Federal matching).
3/ Funds have been distributed by program area.

NATIONAL ENDOWMENT FOR THE ARTS

SUMMARY OF OBLIGATIONS: NATIONAL, REGIONAL, AND WITHIN STATE

	FY 73		FY 74		FY 75	
	No.	Amount	No.	Amount	No.	Amount
National			172	$13,028,612.26	147	$11,742,290.40
	123	$ 7,488,765*				
Regional			52	2,458,115	59	2,598,610
Within State	2020	34,542,293	2745	52,129,248.30	3586	67,339,547.64
TOTALS	2143	$42,031,058**	2969	$67,615,975.56***	3792	$81,680,448.04****

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*The number and amount of grants obligated in FY 73 were not broken down into National and Regional projects; hence, the figures for this year indicate the National and Regional projects combined.

**$60 unreconciled.

***$28 unreconciled.

****$15,000 unreconciled.

NATIONAL ENDOWMENT FOR THE ARTS
FY 75 GRANTS WITH STATE AND REGIONAL BREAKDOWNS

	Grants to Individuals, Groups, and Agencies, by State (excluding Regional Projects)		State Participation in Regional Projects*		Total Grants and Monies Directly Affecting Each State	
	No.	Amount	No.	Amount	No.	Amount
Alabama	24	$ 439,707	4	$ 18,388	28	$ 458,095
Alaska	30	547,699	3	11,890	33	559,589
Arizona	44	612,678	9	85,289	53	697,967
Arkansas	16	497,082	6	32,363	22	529,445
California	455	6,393,603.14	3	28,689	458	6,422,292.14
Colorado	42	1,217,026	9	68,374	51	1,285,400
Connecticut	64	1,454,358	7	79,946	71	1,534,304
Delaware	23	666,023.33	2	6,664	25	672,687.33
Florida	47	923,636	4	18,388	51	942,024
Georgia	38	811,047	6	28,058	44	839,105
Hawaii	33	943,430	2	9,774	35	953,204
Idaho	16	321,228	10	73,407	26	394,635
Illinois	129	2,345,465	2	6,611	131	2,352,076
Indiana	36	822,619	2	98,944	38	921,563
Iowa	34	473,484	6	70,521	40	544,005
Kansas	35	593,969	7	75,808	42	669,777
Kentucky	31	655,536	4	120,472	35	776,008
Louisiana	44	851,661	4	21,363	48	873,024
Maine	30	449,068	4	41,003	34	490,071
Maryland	68	1,528,267.85	4	10,997	72	1,539,264.85
Massachusetts	180	3,046,774.31	7	51,926	187	3,098,700.31
Michigan	86	1,364,010	1	5,611	87	1,369,621

*Some amounts for individual states were determined by dividing the grant amount by the number of states involved; this was done in those cases where a dollar breakdown by state was not available.

NATIONAL ENDOWMENT FOR THE ARTS
FY 75 GRANTS WITH STATE AND REGIONAL BREAKDOWNS

	Grants to Individuals, Groups, and Agencies, by State (excluding Regional Projects)		State Participation in Regional Projects*		Total Grants and Monies Directly Affecting Each State	
	No.	Amount	No.	Amount	No.	Amount
Minnesota	71	$ 1,720,547.08	8	$ 109,878	79	$ 1,830,425.08
Mississippi	19	397,202	6	40,159	25	437,361
Missouri	56	1,645,177	7	75,808	63	1,720,985
Montana	12	290,023	8	66,379	20	356,402
Nebraska	22	469,360	6	68,499	28	537,859
Nevada	12	283,165	8	67,336	20	350,501
New Hampshire	41	687,417	4	41,003	45	728,420
New Jersey	59	939,694	2	7,498	61	947,192
New Mexico	50	675,727	10	89,566	60	765,293
New York	813	12,203,515.76	4	13,498	817	12,217,013.76
North Carolina	62	813,067	6	28,058	68	841,125
North Dakota	13	297,935	7	75,521	20	373,456
Ohio	101	2,379,611	2	101,167	103	2,480,778
Oklahoma	20	473,842	7	75,812	27	549,654
Oregon	33	504,203	12	94,886	45	599,089
Pennsylvania	134	3,911,209	2	8,331	136	3,919,540
Rhode Island	30	877,520	3	18,919	33	896,439
South Carolina	27	656,102	9	53,932	36	710,034
South Dakota	14	280,396	7	75,521	21	355,917
Tennessee	41	744,651	8	56,081	49	800,732
Texas	91	2,067,959.62	2	13,978	93	2,081,937.62
Utah	23	587,760	9	68,374	32	656,134
Vermont	27	472,236	2	14,003	29	486,239
Virginia	44	626,816	4	34,109	48	660,925
Washington	62	1,563,922	11	90,614	73	1,654,536

*Some amounts for individual states were determined by dividing the grant amount by the number of state involved; this was done in those cases where a dollar breakdown by state was not available.

NATIONAL ENDOWMENT FOR THE ARTS
FY 75 GRANTS WITH STATE AND REGIONAL BREAKDOWNS

	Grants to Individuals, Groups, and Agencies, by State (excluding Regional Projects)		State Participation in Regional Projects*		Total Grants and Monies Directly Affecting Each State	
	No.	Amount	No.	Amount	No.	Amount
West Virginia	18	$ 365,165	2	$ 8,702	20	$ 373,867
Wisconsin	43	796,655	7	75,703	50	872,358
Wyoming	12	300,585	9	68,390	21	368,975
American Samoa	1	60,000	0	-0-	1	60,000
District of Columbia	113	2,478,396.55	8	82,398	121	2,560,794.55
Guam	2	212,200	0	-0-	2	212,200
Puerto Rico	10	376,950	1	4,998	11	381,948
Virgin Islands	5	222,167	1	5,003	6	227,170
Totals	3,586	$67,339,547.64	59**	$ 2,598,610	3,645***	$69,938,157.64

*Some amounts for individual states were determined by dividing the grant amount by the number of states involved; this was done in those cases where a dollar breakdown by state was not available.

**This is the total of Regional Projects, not the total of states involved.

***This is the total of grants within states plus the total of Regional Projects.

NATIONAL ENDOWMENT FOR THE ARTS

REGIONAL PROJECTS

FY 1975

Alaska State Council on the Arts (Festival)(Alaska, Washington, Oregon)	6,116
American Choral Foundation, Inc. (Regional Institutes) (Connecticut, Minnesota, Washington,D.C.)	94,575
Boston Foundation, Inc. (Regional Coordination) (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont)	84,025
Cincinnati Symphony Orchestra (Tour) (Ohio, Indiana, Kentucky)	280,000
Connecticut Commission on the Arts (Tour) (Connecticut, Massachusetts, Rhode Island)	14,750
Colorado Foundation on Arts & Humanities (Federal Regional Design Assembly) (New Mexico, Idaho, Arizona, Colorado, Utah, Wyoming, Montana)	30,000
Creative Music Foundation, Inc. (Tour) (Illinois, Maryland, Massachusetts, New York, Washington, D.C.)	5,000
Eastern Washington State College (ARTBUS) (Idaho, Oregon, Washington)	8,270
First Tennessee-Virginia Development District (cable TV) (Tennessee, Virginia)	44,150
FOCIS/Appalachian Community Arts (Kentucky, Tennessee, West Virginia, Virginia)	21,475
Hawaii State Foundation on Culture and the Arts (Conference) (Alaska, California, Hawaii, Oregon, Washington)	8,000
Institutional Developmental and Economic Affairs Service (publications)(Washington, D.C.)	9,975
Jackson Symphony Orchestra Association/Southeastern Regional Metropolitan Orchestra Managers Association (Alabama, Arkansas, Florida, Georgia, Mississippi, North Carolina, South Carolina, Tennessee)	40,000
Kansas City Trusts & Foundation (Regional Coordination)(Texas, Arkansas, Kansas, Louisiana, Mississippi, Oklahoma)	43,855
Massachusetts Arts and Humanities Foundation, Inc. (Tour) (Connecticut, Maine, Massachusetts, New Hampshire)	60,000
Massachusetts Council on the Arts and Humanities (Tour) (Connecticut, Maine, Massachusetts, New Hampshire)	48,000
Merry-Go-Rounders, Inc. (Tour) (Connecticut, New Jersey, New York)	7,500
Mid-America Arts Alliance (Kansas, Missouri, Nebraska, Oklahoma)	157,500
Mid-America Arts Alliance (Kansas, Missouri, Nebraska, Oklahoma)	116,500
National Folk Festival Association (Washington, D.C)	10,000
National Folk Festival Association (Washington, D.C)	9,900
National Jazz Ensemble (Massachusetts, New York, Washington D.C.)	15,000
Oregon Arts Foundation (Regional Coordination) (Alaska, California, Hawaii, Nevada, Oregon, Washington)	49,045
People's Bicentennial Committee (Tour)(Washington,D.C.)	10,000
Performing Artservices, Inc. (Tour) (Minnesota, Ohio)	15,665
Regional Cultural & Educational Development Association (Maryland, Pennsylvania, West Virginia)	10,000
Sangamon State University (Regional Coordination) (Illinois, Indiana, Iowa, Michigan, Minnesota, North Dakota, South Dakota, Wisconsin)	44,895
Shreveport Symphony Society (Tour) (Arkansas, Louisiana, Texas)	20,000
South Carolina Arts Commission (Rural Arts Project) (Kentucky, Mississippi, South Carolina)	26,650
South Carolina Arts Commission (Conference) (South Carolina)	4,100
South Carolina Arts Commission (Tour) (Georgia, North Carolina, South Carolina, Tennessee)	14,794

Regional Projects - 1975 (Cont.)

South Carolina Arts Foundation (Regional Coordination) (Alabama, Arkansas, Florida, Georgia, Mississippi, North Carolina, South Carolina, Tennessee)	168,056
Southern Growth Policies Board (Study) (Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, and Tennessee)	9,565
Susquehanna Festival Theater/Harford Community College (Delaware, Maryland, Virginia)	5,000
University of Wisconsin (Tour) (North Dakota, South Dakota, Wisconsin)	15,175
Upper Midwest Regional Arts Council (Iowa, Minnesota, North Dakota, South Dakota, and Wisconsin)	315,550
Upper Midwest Regional Arts Council (Tour)(Iowa, Minnesota, North Dakota, South Dakota, Wisconsin)	9,000
Utah State Division of Fine Arts (Indian Cultural Coordinator) (Colorado, Nevada, Utah, Wyoming)	8,000
Washington Performing Arts Society, Inc. (Regional Coordination) (Delaware, Maryland, New Jersey, New York, Pennsylvania, Puerto Rico, Virgin Islands, Washington, D.C.)	44,987
Western Opera Theatre (Tour) (Arizona, California, New Mexico, Oregon, Washington)	94,579
Western States Arts Foundation (Regional Development) (Montana, Wyoming, Colorado, Idaho, Utah, New Mexico, Arizona)	435,210
Western States Arts Foundation (Tour) (New Mexico, Idaho, Oregon)	42,833
Western States Arts Foundation (Study) (Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming)	128,915
Western States Arts Foundation (Conference)(Colorado)	12,000
FY 75 Total, Regional Projects	$2,598,610

NATIONAL ENDOWMENT FOR THE ARTS

NATIONAL PROJECTS

FY 1975

Affiliate Artists, Inc.	$ 401,500
Afro-American Music Opportunities Association (Record Anthology)	60,000
Alternate Media Center/New York University (Internships)	101,000
America the Beautiful Fund	65,000
American Association of Museums (Publications)	114,579
American Association of Museums (Seminar)	8,165
American Council for the Arts in Education (Study)	143,000
American College Theatre Festival	10,000
American Crafts Council/Museum of Contemporary Crafts	17,780
American Federation of Arts (Conference)	15,000
American Federation of Arts (Touring Exhibitions)	10,590
American Film Institute	1,100,000
American Film Institute (Preservation)	406,084
American Film Institute (Filmmaker Grants)	275,000
American Music Center, Inc.	21,000
American Numismatic Society (Publications)	19,150
American Society of Interior Designers Educational Foundation	13,000
American Symphony Orchestra League	75,000
American Theatre Association (Conference)	10,500
American Theatre Association (National Auditions)	12,500
Associated Councils of the Arts (Publications)	259,807
Associated Councils of the Arts (Seminars)	85,000
Association of American Dance Companies	50,000
Association of American Dance Companies (Conference)	12,732
Association of American Dance Companies (West Coast Institute)	13,000
Association of College, University, & Community Arts Administrators	6,800
Association of Independent Colleges of Music	20,000
Robert Brannigan (Evaluation Dance Touring)	60,000
Balkan Arts Center, Inc. (Broadcasts)	15,000
Ballet Theatre Foundation (American Ballet Theatre) (Touring)	220,259
Frederick Brink (Design Assembly)	17,000
Frederic Burk Foundation/San Francisco Poetry Center (Video Series)	58,459

National Projects - 1975 (Cont'd)

Ralph Caplan (Publications)	$ 10,000
Center for Southern Folklore (Study)	37,241
Center for Understanding Media (Filmmakers Association)	10,000
Center for Understanding Media (D.C. Bicentennial Center)	15,000
Center for Understanding Media (Broadcasters)	25,000
Center for Understanding Media (Publications)	19,500
Center for Understanding Media (Touring Short Films)	100,000
Ivan Chermayeff (Architectural Preservation Conference)	13,500
Cincinnati Ballet Company (Network Programs)	8,061
City Center of Music and Drama (Touring)	42,000
City Center of Music and Drama/New York City Ballet (Touring)	53,034
Coordinating Council of Literary Magazines	300,000
Council of Landscape Architects Registration Boards Foundation (Study)	20,000
Council on Foundation, Inc.	50,000
Lois Craig (Federal Design Awards)	128,000
Cultural Council Foundation (Preserving Historic Areas)	19,000
Cultural Council Foundation (Preserving Historic Areas)	10,900
Dance Notation Bureau, Inc. (Library of Dance Scores)	50,000
Educational Broadcasting Corporation (Video Services)	600,690
Educational Broadcasting Corporation (Broadcasting)	20,000
Educational Broadcasting Corporation (Video Services)	7,500
Educational Facilities Laboratories (Publications)	160,000
Educational Film Library Association, Inc. (Publications)	2,000
Environmental Action Foundation, Inc./Center for the Visual Environment	17,500
Festival Foundation, Inc.	35,000
Foundation for American Dance, Inc./City Center Joffrey Ballet (Touring)	143,000
Foundation for American Dance, Inc./City Center Joffrey Ballet (Touring)	21,767

National Projects - 1975 (Cont'd)

Glen Fleck Design (CITY SPIRIT Film)	$ 92,841
Mildred Friedman (Federal Design Assembly)	183
Goldovsky Opera Institute (National Tour)	10,000
Hospital Audiences, Inc.	85,000
International Contemporary Music Exchange, Inc.	65,000
International Film Seminars, Inc.	18,336
International Theatre Institute of the United States	75,000
KCTS Seattle (Video Series)	100,000
League of Professional Theatre Training Programs, Inc.	240,000
Library of Congress (Recorded Anthology)	25,000
Lincoln Center for the Performing Arts (Video Series)	50,000
Lincoln Center for the Performing Arts (Video Series)	50,000
Living Theatre Foundation/First American Congress of Theatre	10,000
Robert Marchand (CITY SPIRIT Program)	252,265
Metropolitan Opera Association	200,000
Missouri State Council on the Arts (Conference)	10,000
Barbara Morgan (Dance Archives)	10,000
Music Mountain, Inc. (Radio Series)	10,000
Music Project for Television, Inc. (Film)	50,000
National Architectural Accrediting Board (Conference)	16,630
National Association for Regional Ballet	42,000
National Association for Regional Ballet (Conference)	29,937
National Center for Experiments in Television/ KQED (Video Series)	5,032
National Center for Urban Ethnic Affairs	17,500
National Council on the Aging, Inc.	25,000
National Guild of Community Music Schools, Inc.	35,000
National Opera Institute	446,000
National Public Radio	27,520
National Sculpture Center (Conference)	4,000
George Nelson (Film)	12,000
New York Center for Ethnic Affairs, Inc.	13,800
New York Street Theatre Caravan (National Tour)	30,000
Eugene O'Neill Memorial Theatre Foundation (Conferences)	268,650

National Projects - 1975 (Cont'd)

OPERA American, Inc.	$ 30,000
Opportunity Resources for the Performing Arts	30,000
P.E.N. American Center (Poets, Playwrights, Essayists, Editors and Novelists)	163,301
Performers Committee for 20th-Century Music (Workshop)	10,000
Poets and Writers, Inc. (Publications)	140,000
Dennis Reeder (Federal Design Program)	20,000
Religious Communities, The Arts and the American Revolution	28,000
Carole Ann Rollins (Publications)	10,000
San Francisco Art Commission (Videotaping)	10,000
Santa Barbara Museum of Art (Study)	4,500
Harry Schwartz (Architectural Preservation Conference)	17,500
Randall Schwartz (National Design Center)	24,000
Second Federal Design Assembly	23,000
Senahan, Inc. (Directory)	24,546.16
Senahan, Inc. (AIS Dance Component)	240,000
Lorna Shanks (Graphics Improvement Program)	10,000
Steve Sohmer (Federal Design Assembly)	4,840.95
Carl Stover (Bicentennial Resources Development Project)	174,960.29
Teachers and Writers Collaborative (Publications)	80,000
Technical Assistance Group, Ltd.	22,000
Tennessee Arts Commission (Symposium)	6,000
Theatre Development Fund	165,000
United Church Board for Homeland Ministries	15,000
University of Maryland International Piano Festival and Competition	7,500
University of Wisconsin System/Board of Regents (Radio Series)	200,000
Volunteer Lawyers for the Arts	50,000
Washington Center for Metropolitan Studies (Conference)	17,500
WETA/TV Virginia (Film Series for Television)	100,000
WPBT/Community TV Miami (Film Series for Television)	52,818
Young Audiences, Inc.	250,000
Young Concert Artists, Inc.	35,000
Young Concert Artists, Inc. (National Development Program)	30,000

National Projects - 1975 (Cont'd)

Miscellaneous	$ 20,617
Program Development and Evaluation	1,783,865
FY 75 Total, National Projects	$11,742,290.40

NATIONAL ENDOWMENT FOR THE HUMANITIES

Estimates of Appropriations, Fiscal Year 1977

Submitted as part of the NFAH Budget to the Congress

January 1976

NATIONAL ENDOWMENT FOR THE HUMANITIES

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NATIONAL ENDOWMENT FOR THE HUMANITIES

Summary of Funds Available
(in thousands)

	1975 Actual	1976 Estimated	1977 Requested	1976-77 Increase or Decrease(-)
Appropriation, definite program.....	$67,250	$72,000	$79,500	$7,500
Appropriation, indefinite matching funds	6,500	7,500	7,500	--
Total appropriation.....	73,750	79,500	87,000	7,500
Gifts and donations.....	6,050	7,500	7,500	--
Transfers from other agencies.....	--	--	--	--
Recovery of prior years' obligations....	879	--	--	--
Unobligated balance prior year.....	5,295	12,798	--	-12,798
Total available.....	85,974	99,798	94,500	-5,298
Transfer to Arts Endowment (-).....	--	--	--	--
Obligations (-).....	73,176	99,798	94,500	-5,298
Unobligated balance.....	12,798[1/]	--	--	--

1/ Includes $6,109 thousand in definite funds and $6,689 thousand in gifts and matching funds most of which were committed to approved projects but received too late in the fiscal year to be obligated.

NATIONAL ENDOWMENT FOR THE HUMANITIES

Analysis by Program Element
(in thousands)

Program and Element	FY 1975 Actual	FY 1976 Estimated	Fiscal Year 1977			1976-77 Increase or Decrease (-)
			Unobligated Balance Prior Year	Requested	Estimated Total Available	
DEFINITE APPROPRIATION	$24,447	$31,000	--	$34,200	$34,200	$3,200
Public	13,530	15,600	--	17,500	17,500	1,900
State-based programs	4,452	6,000	--	6,500	6,500	500
Media grants	4,457	5,400	--	6,200	6,200	800
Museum & historical org. program	2,008	4,000	--	4,000	4,000	--
Program development	14,926	18,600	--	16,400	16,400	-2,200
Education	4,848	7,900	--	7,900	7,900	--
Institutional grants	(1,089)	(1,100)	--	(1,500)	(1,500)	(400)
Pilot 1/	(1,945)	(3,600)	--	(3,400)	(3,400)	(-200)
Program	(1,814)	(3,200)	--	(3,000)	(3,000)	(-200)
Development	6,765	6,500	--	6,700	6,700	200
Projects	(4,750)	(4,200)	--	(4,300)	(4,300)	(100)
Higher education	(2,015)	(2,300)	--	(2,400)	(2,400)	(100)
Elementary and secondary	2,769	3,000	--	500	500	-2,500
Humanities institutes	544	900	--	900	900	--
Cultural institutions	--	300	--	400	400	100
Consultant grants						

1/ Formerly called Planning Grants.

Analysis by Program Element (continued)
(in thousands)

Program and Element	FY 1975 Actual	FY 1976 Estimated	Fiscal Year 1977 Unobligated Balance Prior Year	Fiscal Year 1977 Requested	Fiscal Year 1977 Estimated Total Available	1976-77 Increase or Decrease(-)
Fellowships	$9,851	$10,850	--	$11,100	$11,100	$250
Residential programs						
College teachers....	2,571	2,600	--	2,600	2,600	--
Summer seminars.....	2,485	2,800	--	3,050	3,050	250
Professions.....	1,133	1,650	--	1,650	1,650	--
Centers for advanced study.....	492	400	--	400	400	--
Independent study programs						
Independent.....	2,762	3,000	--	3,000	3,000	--
Summer stipends.....	408	400	--	400	400	--
Research Grants	9,890	10,500	--	10,500	10,500	--
General research	2,596	3,000	--	3,100	3,100	100
Basic.....	(2,187)	(2,400)	--	(2,400)	(2,400)	(--)
State, local, and regional history..	(409)	(500)	--	(600)	(600)	(100)
Program development.	(--)	(100)	--	(100)	(100)	(--)
Research materials	3,864	4,500	--	4,400	4,400	-100
Tools.....	(2,475)	(2,800)	--	(3,000)	(3,000)	(200)
Editing.....	(1,389)	(1,700)	--	(1,400)	(1,400)	(-300)
Centers.....	1,636	2,600	--	3,000	3,000	400
Bicentenial state histories.....	1,015	300	--	--	--	-300
International bicentennial conferences.....	779	100	--	--	--	-100

Analysis by Program Element (continued)
(in thousands)

Program and Element	FY 1975 Actual	FY 1976 Estimated	Fiscal Year 1977 Unobligated Balance Prior Year	Fiscal Year 1977 Requested	Fiscal Year 1977 Estimated Total Available	1976-77 Increase or Decrease(-)
Planning	$5,128	$7,159	--	$7,300	$7,300	$141
Development.....	3,208[1]/	4,809	--	5,050	5,050	241
Youth programs.....	1,404	1,300	--	750	750	-550
Evaluation and analytical studies.....	282	750	--	1,000	1,000	250
Dissemination.....	234	300	--	500	500	200
Total obligations definite approp..	64,242	78,109	--	79,500	79,500	1,391
Unobligated balance.....	6,109	--	--	--	--	--
Total definite appropriation available.....	70,351	78,109	--	79,500	79,500	1,391
INDEFINITE APPROPRIATION						
Obligation from gifts and matching funds.....	8,934	21,689	--	15,000	15,000	-6,689
Unobligated balance	6,689	--	--	--	--	--
Total indefinite appropriation available.....	15,623	21,689	--	15,000	15,000	-6,689
GRAND TOTAL	85,974	99,798[2]/	--	94,500	94,500	-5,298

1/ Includes all obligations from definite program funds for miscellaneous "Program development and evaluation" activities undertaken by NEH divisions (FY 1975: $909 thousand; FY 1976 $2,089 thousand).

2/ Includes FY 1976 appropriations ($72,000 thousand definite and $7,500 thousand indefinite), carryover from FY 1975 ($6,109 thousand definite and $6,689 thousand in gifts and matching funds largely committed to approved projects but received too late in the fiscal year to be obligated).

NATIONAL ENDOWMENT FOR THE HUMANITIES

II. SUMMARY STATEMENT: THE ENDOWMENT IN FY 1977

The Dimensions of the Budget

The budget for fiscal year 1977 proposes $79.5 million in definite appropriations and $7.5 million in indefinite funds to match gifts generated from private or non-Federal sources. This represents an increase of $7.5 million over appropriations for the present fiscal year.

The requested funds are modest when measured against the variety of programs which the Endowment conducts and the vast number of citizens whom those programs increasingly serve. Funds from the Endowment for the Humanities are now broadly spread among a large number of agencies, organizations, institutions, and individuals.

Today, the demands upon the humanities -- on the institutions that store and purvey this knowledge -- are extremely great. Americans, having endured both social and economic dislocations, are raising basic questions about the nature of our civil and political order, about the concepts of social justice and equity, and most fundamentally about the resilience of our civilization.

At the same time that Americans are seeking answers to critical questions, the institutions most appropriate to help them are least able to respond effectively. Humanities institutions are, like the aging, the part of society most severely affected by inflation since their incomes remain fixed and the costs of essential services and plant maintenance continue to rise.

The nation's humanistic institutions number in the thousands, and their work force in the millions -- teachers, librarians, museum and historical society staff, educational broadcasters, film-makers and publishers. They represent this country's knowledge resources and the active pursuit of learning and rationality. They interact with a huge percentage of the population: one-third of all Americans are attending schools or colleges, or taking some kind of adult education course, at any given time. And they are a vital economic element in every city, every town, in the land, in terms of jobs, buildings, equipment, and services.

These are the Endowment's immediate constituency, helping the agency to serve its ultimate constituency -- the American people -- and particularly to reach various population groups in this broader constituency not routinely involved in the humanities -- the two-year college vocational student, the rural small town resident, the young person, the adult citizen, whether housewife, blue-collar worker, or practicing professional.

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Efforts to identify groups and develop effective ways of bringing the humanities to them have been guided by the legislative mandate which makes clear that the NEH mission is not that of a solitary agency, but to be a part of the Federal Government's coordinated ventures in cultural and humanistic progress: the Federal role is complementary to and supportive of that of other government and private sectors. Accordingly, the agency's perspective required it to assist and guide experiments, innovations, and traditional programs in the humanities by working with the structures that transmit humanistic knowledge. And during this past year these structures have been numerous as well as diverse; their supported activities varied and many; their effects, widespread, with many Americans reached for the first time.

The Reach of the Endowment

During the year ending June 30, 1975, the Endowment received 6,824 applications, requesting $302 million; (in addition, thousands of applications were made to organizations conducting NEH State-based programs, and under several fellowship programs aided by NEH). Because of limited funds, actual grants numbered only 1,330 and totaled $73.1 million. These were made to individuals and institutions in all 50 states, the District of Columbia, and Puerto Rico. Compared to the total eligible universe of qualified individuals and institutions serving the humanities, this balance sheet records a troubling shortfall in the means available to the Endowment to support important work. That NEH grants can have a wide, constructive and continuing impact is suggested in these examples:

-- The American Issues Forum, developed by the Endowment and officially begun in the fall of 1975, has become the national framework for serious Bicentennial observance. Moreover, the majority of Forum activities are carried out without Federal support: major television networks have scheduled programs to coordinate with the Forum's topics; national public radio is presenting a monthly series tied into the Forum; leading magazines, in-flight publications, and organizational/corporate publications will feature articles on Forum topics; national organizations (AFL-CIO, NAACP, National Grange, Foreign Policy Association, National Council on the Aging, and others) are developing specialized materials for their members; educational institutions have adopted the Forum's calendar for their programming and for outreach activities into their communities; and thousands of local civic, religious and professional bodies across the nation will be conducting reading and discussion programs on AIF issues. All these activities suggest that a "nation in dialogue with itself" -- the goal of the Endowment and others who helped develop the American Issues Forum -- is becoming a reality.

-- Each state in the Union now has an operational State-based humanities program, while the five territorial jurisdictions are receiving planning grants this year to undertake similar work for their citizens. In FY 1976 local and statewide projects will involve over 12,400 humanist scholars in programs addressed to an adult

audience of 21 million, directly and through the media, bringing America's knowledge resources to bear on public policy issues.

-- The Adams Chronicles, the largest historical series ever produced by American television (and the largest series of any kind undertaken by public television), supported from its beginning by NEH, was broadcast in early 1976 to millions, receiving critical and public acclaim, and incorporated into school and college curricula around the country.

-- Since September, 430 newspapers (compared to 250 last year), have been publishing the third "Courses By Newspaper," offering their 45 million readers a specially prepared course (based on the topics in the American Issues Forum) which can also be taken for credit through a local cooperating college.

-- The Bicentennial Youth Debates, which involves young Americans in active study of the ideas, problems, and values of our society, has enrolled nearly 10,000 high schools and colleges across the nation, with 125,000 students and out-of-school youth participating.

-- The exhibition of "Archaeological Finds of the People's Republic of China," supported by Endowment funds, set records in San Francisco (it was seen by 835,000 persons from throughout the western United States during its two-month stay) and in Kansas City (where it drew 285,000 viewers). Equally large crowds on the East and West coasts have pressed to see the "Scythian Gold" exhibit from the Soviet Union. And while not receiving national publicity, NEH-funded exhibitions presented by historical societies and museums in smaller cities and towns have confirmed the existence of large new audiences anxious to learn about the roots of their local and regional history.

-- The Endowment's Education Consultant Program has won an enthusiastic response from colleges and universities seeking to identify the most effective means of strengthening their humanities programs: in the first month of its existence over 1,000 inquiries were received, notably from two-year institutions and small four-year schools in the Midwest and the Deep South -- institutions traditionally receiving very little Federal aid.

-- Over 100 colleges and universities were directly assisted in improving their instructional programs in the humanities; many more will be aided through model curriculum projects and through the second National Institute for the Humanities, which was established in 1975. These Institutes draw together distinguished senior and promising junior teachers from various regions in a major effort to develop exemplary interdisciplinary courses for the nation's colleges, which they will then help to establish.

-- Over 1,500 individual scholars and teachers received support

for projects designed to increase the nation's stock of humanistic knowledge about ourselves, our institutions, our relations with the outside world, and about the development and contemporary problems of foreign societies.

-- Twenty-three international conferences received NEH aid to help bring many of the world's most distinguished intellectuals and cultural leaders to the United States during 1975-76 to contribute to the nation's Bicentennial.

-- Forty-seven of the 51 volumes planned for the Bicentennial history series ("The States and the Nation") were commissioned by the end of 1975, with the remainder to be underway in 1976. Every American will thus have at hand an up-to-date, popular, but academically sound account of his state's origins and development, and its place in the larger scope of American history.

-- Once again, as in the five previous years, the offer of gifts equalled the limit of the Endowment's matching authority. Thus, cumulatively, over $25 million of private money has been contributed to NEH, a striking indication of the acceptance of the Endowment's role in fostering the humanities in national life.

The Needs

NEH programs address needs which are both diverse and large in scope. The perennial gap between these needs and Federal support has, during the past year, been exacerbated by inflation; thus not much headway was made. The humanities continue to claim an extremely small proportion of the Federal funds devoted to the national effort in production and dissemination of knowledge. For FY 1977, the total NEH request amounts to less than one-half of one percent of the $22 billion now being provided by the Federal government annually for scientific and technological R & D. This great imbalance, which NEH was created to help redress, thus remains and will continue to be reflected in many ways throughout the society. Some of the more obvious areas are:

-- Humanities faculty in most institutions of higher education are being cut back and educational improvement reduced, thus undermining the advances made during the previous decade in strengthening humanities instruction.

-- Again in 1974 three states reported that no humanities doctorates were awarded by their institutions, while every state reported at least six science doctorates.

-- The proportion of graduate students in the humanities who must provide their own support is two to three times the proportion of those in the sciences; and beginning salaries of new science B.A. degree-holders continue to average 25 percent above those of their counterparts with humanities degrees.

-- The great increase in the cost of scholarly publishing has strained college and library budgets and resulted in reduced dissemination of humanistic works.

-- Commercial television, while planning occasional Bicentennial specials during 1975-76, indicates no regular programming will be allocated to the humanities; even on public television few hours are devoted to the humanities, despite the long-standing evidence from Britain that a high level of quality and quantity of such programming is feasible.

-- Support available nationally for youth-oriented programs in the humanities continues to be less than one-fifth that available for young people with scientific interests.

Emphases for 1977

1. Program Balance. No new programs are proposed for FY 1977. This is not because underfunded areas of the humanities grow fewer, but because the economic situation of humanities institutions is putting increased demand on existing programs. The situation is, if anything, more critical this year than last, because colleges and universities, scholarly organizations, and research libraries need greater NEH support in this hour of financial strain.

It is worth noting that there is an interrelationship among NEH activities which assumes a healthy, mutually-reinforcing state in each of the sectors contributing to the nation's humanistic life. The programs, and the sectors or functions they serve, are these:

-- the Research Grants Programs are addressed to the production of knowledge;

-- the Fellowship Programs assist the development of human resources responsible for the discovery and transmission of knowledge;

-- the Education Programs promote the transmission of knowledge from generation to generation through institutions and programs of formal education; and

-- the Public Programs draw upon all these resources in supporting activities which increase the use of humanistic knowledge by the adult public.

In sum, the Endowment must always be concerned with the subject matter, the individuals, and the institutions of humanistic knowledge and its teaching; from that foundation it can pursue its ultimate mission of serving the full population.

Because of the small increase available next year, the proportion of NEH funds allocated to the major areas shows very little change. Thus Public Programs will continue to be the Endowment's largest sector, while in addition each of the other major program areas has one or more program elements directed specifically at the non-academic, non-scholarly part of the population. About 49 percent of definite funds

will be used to advance understanding and use of the humanities among the general adult public, while over three-fourths go for dissemination broadly, whether aimed at the general public, at special non-academic sectors of the population, or at young Americans in educational institutions. Less than one-fourth of Endowment funds will be allocated to scholarly work.

2. Priority Areas. As begun two years ago, the Endowment is increasingly focusing upon carefully determined priority areas. Created to respond primarily to the initiatives of a very broad constituency, NEH cannot set off on its own course; nevertheless it does have a responsibility to evaluate its operating experiences, to identify national needs, and then to bring these to the attention of appropriate institutions which can take effective action. The budget request reflects this kind of planning in several specific ways:

-- Media programs will give special attention to radio, to Spanish language programs, and to areas outside the traditional areas of history and literature.

-- The bulk of experimental program development oriented to the general public is focusing on delineated activities rather than responding solely to unsolicited applications.

-- Subject priorities will be stressed in education projects, and two-year colleges will receive special attention in the other education programs and in faculty development activities carried out through fellowships.

-- The effects of the National Humanities Institutes established in FY 1974-76 will be reinforced through follow-up grants to Institute participants in order to assure the initiation of carefully tested interdisciplinary college courses in many institutions.

-- The new education consultants program will be further expanded to help guide colleges (especially poorer, weaker ones) in maximizing their humanities resources.

-- Fellowship programs now direct the greater proportion of support (in 1977: 68 percent) to guided study in specific subject areas, thus reversing the situation of just two years ago when individual one-person projects claimed most of the available funding.

-- The Research grants program has been reorganized to achieve a sharper focus on priority areas of scholarship, and on the most pressing problems to which the humanistic disciplines can respond.

-- Evaluation and analytical studies will be increased in order to identify major national needs, to develop information useful to future NEH planning and budgeting, and to insure the integrity and cost-effectiveness of grants-in-progress.

All of these changes and emphases are intended to assure that the limited public funds for humanistic work will achieve the greatest impact on the areas of greatest need.

3. Continuing Examination of American Institutions and National Issues. Consistent with the mission assigned it by the NFAH Act -- to aid in "a better understanding of the past, a better analysis of the present, and a better view of the future,"-- the Endowment has welcomed the Bicentennial stimulus toward a national concern with American history and values. While offering an opportunity to make its purposes known to millions, the Bicentennial period has enabled the agency to reach various non-academic elements of the population for the first time. Many of these citizens have been "turned on" to the serious kind of work long supported by NEH, to a thoughtful examination of our country's past, its present condition, and its possible futures.

This public-spirited concern will reach a peak on July 4, 1976 and will be more than a case of mere rhetorical self-indulgence. It will produce a momentum of heightened expectations as to the nation's well-being, and a readiness to serve that well-being.

Inevitably, the Administration and Congress will face the challenge of consolidating and building on the gains of the Bicentennial year; certainly, the Humanities Endowment will be an instrument for meeting that responsibility. Indeed, the Endowment's legislative charter is addressed to the long-haul buttressing of human values in American society, not just for the euphoria of a 200th anniversary. Having always worked to that end, NEH plans no radically new departures. Accordingly, in FY 1977:

-- The State-based programs will continue their focus on broad policy issues affecting the future of states and local communities.

-- Television programs and museum exhibitions directed at informing the public about American civilization will be maintained.

-- Education projects will give priority to further upgrading of American history and American studies curricula in schools and colleges.

-- Fellowship and scholarly research projects on the development of national and regional institutions and on the historical and philosophical background of contemporary problems, will continue to press legitimate claims for NEH support.

-- Youthgrant projects will build on progress already achieved in encouraging young people to explore the historical development of their communities and local institutions, and their role in national life.

-- Evaluation of the various American Issues Forum activities

will be undertaken to determine the most promising approaches to involving non-academic sectors of the population in constructive activities bearing on the quality of American life.

The Bicentennial has created an incentive and a foundation for greater understanding by Americans of themselves, and toward securing "a more perfect union." The various activities outlined above will help secure these gains into the nation's third century.

4. Major Program Increases

a. Public programs. Programs directed to the general adult public would receive a proportionately smaller increase than in previous years, but in absolute amounts, would still get the largest part of the additional funds sought for 1977. The largest single increase would be for the State-based programs in order to make them fully operational in all states and territories. The second priority is for museum and media activities in order to raise the quality, increase the amount, and extend the limited variety of programming in the humanities presently available to adults.

b. Formal education. Selected programs directed at improving teaching and learning in educational institutions will also be slightly expanded to help sustain curriculum reform.

c. Research centers. Particulary hard hit by inflation and rising costs, many of the nation's great research centers are struggling to survive and to perform the services crucial to humanistic scholarship in the United States. Most of these centers are privately endowed, with little access to state or local government funds. Possessing unique collections, they constitute priceless national resources in the humanities, serving teachers and scholars from institutions and organizations across the country. Like the New York Public Library several years ago, before the NEH challenge grants helped it broaden its base of support, many of these centers will have to curtail their services unless additional outside help is made available. In recognition of their national importance the budget request proposes an increase on their behalf, drawing from definite funds for specific projects and from gifts and matching funds to help these institutions attract money from new sources.

III. PROGRAM DESCRIPTIONS

PUBLIC PROGRAMS

(Definite Appropriation in Thousands)

Activities	FY 1975 Actual	FY 1976 Estimate	FY 1977 Request	FY 1976-77 Increase or Decrease(-)
1. State-based....	$13,530	$15,600	$17,500	$1,900
2. Media grants...	4,452	6,000	6,500	500
3. Museums & historical organizations program.....	4,457	5,400	6,200	800
4. Program development..	2,008	4,000	4,000	--
Total....	24,447 1/	31,000	34,200	3,200

1/ Plus $1,831 thousand in gifts and matching funds.

The fundamental purpose of grants made through the Endowment's Public Programs is, in the language of the Endowment's authorizing legislation, to foster "public understanding and appreciation of the humanities." In its support of initiatives that are designed to make the humanities an essential part of the structure of American life, the Endowment has developed a range of grant-making programs to reach the broad public of adult citizens who are not engaged in formal academic pursuits.

In order to make the insights and learning of the humanities available and useful to all Americans, the Endowment has developed programs that strengthen the humanities in public service institutions, that bring the humanities to bear upon salient areas of American life, and that support informal educational activities rooted in the institutions, resources and concerns of each state.

-- Grants to public service institutions, such as museums, historical organizations, public libraries, and media production centers, aid them in developing the resources necessary to serve the public with strong and effective humanities programming on the local, regional and national levels.

-- Grants that bring the humanities to bear upon salient areas of American life, such as those that increase the availability and use of the humanities in major urban areas and in the programming of national organizations, are a means of integrating the humanities into the professional lives and civic concerns of a broad spectrum of the American public.

-- Finally, in response to a long-standing perception in the Congress and among local leaders throughout the country, grants to

volunteer committees of citizens from all walks of life support decentralized grant-making, rooted in the states. These autonomous State-based committees mount programs in each of the 50 states in order to provide a focus for the thoughtful exploration of issues of public and private choice.

1. State-based Program ($17,500,000)

FY 1976 $15,600,000; FY 1977 $17,500,000; increase $1,900,000.

Following the intent of Congress, the State-based Program was undertaken in FY 1971 to bring resources in the humanities to bear upon public policy issues of concern to adult Americans. The program has grown from six states in FY 1971 to 50 states in FY 1976, with planning grants in five jurisdictions. It is operated through a Federal-state-local sharing of resources, with the Endowment providing basic funding to State-based volunteer committees of private citizens, which in turn grant these funds to non-profit groups and organizations within the states.

Each state humanities committee is required to raise an amount at least equal to the total of the NEH grant. Since the inception of the program $37,950,000 in non-Federal resources have been generated by state committees, overmatching Endowment funding by approximately $8,300,000. Because the entrance of states into the program was staggered over a 5-year period, many state programs are only beginning to generate significant in-state "matching," and the total amount is now expected to rise rapidly. In FY 1977 the State-based programs will generate an additional $17.5 million minimally in local funds and services to "match" Endowment allocations. In addition, it is anticipated that state humanities committees will raise $1.2 million in gifts under the Endowment's gifts-and-matching provision, and will have donated to them approximately $1 million for administrative support. Thus the State-based program is expected to be generating at least $19.7 million in local resources during FY 1977.

As a result of these efforts, the notion of bringing the resources of the humanities to bear upon issues of public policy is no longer an experimental one. In every state an effective, complementary, and ongoing relationship between the adult public and scholars in the humanities has developed. It is clear that the public is becoming increasingly aware that public policy decisions cannot be made without reference to their historical context or the nation's cultural values and traditions. It is clear, moreover, that the public has begun to realize how scholars in the humanities can be of service in deliberations upon complex questions of public policy.

Most state humanities committees follow a rather predictable pattern in the course of their development. The first year is primarily one in which program development work predominates and in which committees establish firm standards for operations and evaluation. As these activities continue into the second year, the committees begin to see a stronger response to the program from the general public as well as from professionals in the humanities, who have by now become aware of the opportunities the program offers. By the third year and in subsequent years, the average state program achieves broad public recognition and constituent interest. At this point the volume of applications usually increases significantly -- often doubling from one year to the next -- and can easily outstrip the fiscal capacity of a committee to respond to all applications meriting support.

For FY 1976 NEH funds of $15,600,000 would permit an average funding level per state of approximately $300,000 for 50 states, together with planning funds for the five jurisdictions. However, owing to the addition of the last six states to full operational status and the increase in application demand in the older state programs, the slight budget increase in FY 1976 over FY 1975 cannot compensate for the rise in demand for these funds. Further, given the influence of inflation, the size of typical regrants by state committees has had to increase. The FY 1976 budget, therefore, is at best a no-growth instrument.

Two factors make it possible to operate under these constraints without reducing the program: (1) several of the most populous states, including New York and California, either were not yet operational during portions of this period or are in their first, basically developmental, year of operation; and (2) as yet relatively few states have entered the highly visible, high-volume third, fourth and fifth year phases of operation.

The inclusion of all fifty states and the five jurisdictions by FY 1977, and the maturing of most programs during their third, fourth, fifth and sixth years of operation, will make this a period of important change. In FY 1975 there were only 22 state committees with three or more years of experience; in FY 1977 44 committees will have reached that stage. In addition, the states which entered the program in the last two years have benefited from the reservoir of experience available from earlier entering states, so their development has been unusually rapid and their fiscal needs especially urgent.

Though a significant portion of NEH's total request for FY 1977 is allocated to the State-based Program, in reality it will permit only a slight increase in the level of activity of existing operations. With a budget allocation of $17,500,000, the program would make some headway in meeting the needs of the state committees -- enabling them to hold their ground in the hope that in the future they will be able to respond adequately to the public's interest in the program. The pressures generated by the national growth of public interest as the program has matured have not been met since there have been two consecutive fiscal years with only limited funding increases (during which the program expanded to its full complement of state committees, including the two most populous states).

The requested level would permit an average funding level per state of approximately $340,000, and an average first-year operational grant of $100,000 to five territories and other jurisdictions. Projecting from the 1974-75 pattern, the total national impact would be 2,500 local and state-wide projects, involving 7,000 communities and 15,000 scholars in the humanities, and reaching an adult audience of 25 million people. Among the sponsors of these projects would be 900 civic and community organizations; 750 colleges and universities; 300 museums, historical societies and libraries; 150 churches and religious organizations; 110 educational radio and television stations; and 220 miscellaneous sponsors.

Examples of State-based programs

(i) During its second grant year, the Tennessee Committee supported projects in which more than 165 humanists engaged in dis-

cussions with adults in 86 communities on a variety of public policy questions of concern to citizens of Tennessee.

-- In a series of five sessions in Knoxville, attended by philosophers, professors of jurisprudence, physicians, clergymen and members of the public, public policy issues related to national health care were examined in relationship to practice in other cultures and other historical periods. The project has generated considerable interest and plans are under way to expand and continue the discussion without further committee funding.

-- In a project in Oak Ridge, historians, philosophers, professors of literature, scientists and engineers debated the social and economic effects of strip-mining on Appalachian communities. There were four sessions in all, with 1,200 people attending.

(ii) When the South Dakota program completed its third year of activity in June 1975, 160 humanists, approximately two-thirds of the total number in the state, had engaged in discussions with adults in 112 communities on issues of land use and education.

-- In Manderson, a village located on the Pine Ridge Reservation, scholars in literature, languages, philosophy, and religion examined questions regarding the curriculum of the school system as it relates to Indian culture. Of the 109 participants in the two-day meeting, 81 were members of the Oglala Sioux tribe.

-- Historians and scholars in literature discussed the implications of technology, taxation policy, and land use planning on rural life in programs held in Yankton, Rapid City, Watertown, Huron, and ten smaller communities. The series attracted overflow audiences, including farmers, ranchers, business leaders, and public officials.

2. Media Program ($6,500,000)

FY 1976 $6,000,000; FY 1977 $6,500,000; increase $500,000.

The Endowment's media grants are aimed at bringing to adult audiences a diversified and enriched understanding of the humanities and an appreciation of the historical and cultural roots of American society. These goals are achieved through support for (1) the production of nationally and regionally usable, high-quality radio and television programming, and (2) the strengthening of humanities-oriented production capability in the United States by encouraging humanities scholars to combine their talents and resources with professional writers, producers, directors and technicians in the media through seminars and residencies as well as through production.

The Media Program recognizes three facts:

a. Television and radio are the primary sources of information for the vast majority of Americans and are the most efficient way to reach the largest part of our population. (Currently, more than 40 million Americans watch television 35 hours or more per week and better than 70 percent of the entire population listens to an average of 20 hours per week of radio programs.)

b. Despite the widespread public use of the media, programs focusing on the humanities or which draw upon the humanities for an

enhanced perspective are limited to very few hours during any broadcast season.

c. There is a strong demand for such programming, and Endowment-supported programs have been consistently well received. In FY 1975, "The Japanese Film: Insights to a Culture," supported with Endowment funds, drew an audience of over 14 million viewers. Almost 26,000 viewer guides developed for the series were requested in the first two weeks. However, during the remainder of that fiscal year, less than two hours per week of humanities programming was available through public or commercial television.

As the sole national agency charged with supporting broad public appreciation of this nation's history, traditions and culture, the Endowment continues to view the Media Program as a major agency priority, for it feels compelled to respond to a need which is not now being met through private organizations or at state and local levels. Thus far the private sector has not taken the initiative in establishing broad support for the dissemination of humanities material through media, but it has demonstrated its interest in initiatives undertaken by the Endowment by providing matching funds for many of the media grants. Over the course of the past two years, gifts and matching awards for Media projects have exceeded $3.2 million.

The Media Program's current constituency consists, in part, of 246 public television outlets operated by 152 licensees whose potential audience is 167 million people, or 76 percent of the public. Moreover, there are 156 radio stations operated by 140 licensees, with a potential audience of 130 million people, or 64 percent of the public. Of the more than 2,600 independent film, television and radio producers whose projects could be supported by Endowment funds, the Media Program attracts from 50 to 75 applications each year. The volume of applications in the Media Program has grown steadily and is expected to continue to increase.

FY 1976 funds will support production grants which include a documentary series examining American traditions of freedom and liberty, a critical evaluation of the work of William Faulkner, and a major historical drama for the Bicentennial. Further developmental support will be provided for regional series such as "The Mind of the South." Radio grants will include funding for a major series examining the American philosophical tradition and several short series examining ethnic contributions to our society.

Total programming for FY 1976 is as follows:

a. Television grants ($5,260,000): Four major grants for separate 13-hour series, costing $3 million in direct funds (one-third of the total cost to be assumed through gifts and matching); nine production grants averaging $200,000 for single programs or mini-series to explore experimental use of the cable, as well as to provide programs for the handicapped and the Spanish-speaking population; $400,000 allocated for sixteen grants averaging $25,000 for planning; and three grants averaging $20,000 to support the development of new humanities programming at major production facilities.

b. Radio grants ($740,000): One major grant for a 20-hour series costing $250,000 in direct funds (one-fourth of the total cost to be assumed through gifts-and-matching); five production grants averaging $50,000 for special audiences; eight grants averaging $25,000 for planning; and two grants averaging $20,000 for support of the development of new humanities programming at major production facilities.

These funding levels and distribution will allow for programming which would reach an audience of 23 million people, involve 48 institutions as primary grantees, and provide 135 program hours over public radio and television. Almost the entire population will have access to many of these NEH sponsored projects, via primary distribution in open broadcast on radio and television and by secondary distribution through schools, public libraries, civic groups, and other community organizations.

In FY 1977, budget restrictions will permit only slight expansion of the current level of activity. Specifically, the available funds will enable projects previously in the developmental stage to move to full production, and a very limited number of new planning and production grants can be made. Despite inflationary pressures, a slight redistribution of emphasis from television to radio programming should enable the Media Program to serve at least as large a sector of the public as during FY 1976.

Funding projections for FY 1977 are based upon partial Endowment support, with the expectation that the total cost of productions can be met through heavily increased cost sharing, corporate contributions, and gifts-and-matching grants. Gifts-and-matching support in FY 1977 should reach $5 million from current and expected projects.

The scope of total programming allowed by the $6.5 million requested for FY 1977 is as follows:

a. Television grants ($5,300,000): Three series ranging from 9 to 13 hours, costing $2.5 million in direct funds (one-third of the total cost to be assumed through gifts-and-matching); five regional production grants for separate 5-hour series, averaging $300,000 per series; six production grants averaging $100,000 for a single program or mini-series which will include Spanish language versions, programs designed for the handicapped, and humanities programming for cable television; $600,000 allocated for 20 grants averaging $30,000 for planning; and five grants averaging $20,000 to support the development of new humanities programming at major production facilities.

b. Radio grants ($1,200,000): Two 15-hour series, each costing $250,000 in direct funds (one-third of the total cost to be assumed through gifts-and-matching); ten production grants averaging $60,000 for special audiences; three grants averaging $20,000 for planning; and two grants averaging $20,000 to support the development of new humanities programming at major production facilities.

Because of the increased emphasis on radio programming, these funding levels will allow for activities which reach an audience of up to 25 million people, involve 54 institutions as primary grantees, and provide 139 program hours over public radio and television. It is expected that the majority of the population will continue to have access to many of these media projects through open broadcast and secondary distribution.

Examples of media program grants

(i) A grant of $77,919 was recently awarded to Northeastern Pennsylvania Educational Radio and Television Association for a 52-week radio series documenting the cultural, linguistic, religious and social diversity provided by various ethnic groups who have settled in the Northeast region of Pennsylvania. Using primary source materials in local historical societies, museums, libraries and other organizations, as well as interviews with first generation immigrants, the series will examine the problems, accomplishments and contributions of the various ethnic groups. Once produced, the series will be offered for regional and national broadcast.

(ii) A grant of $59,559 has been made to The University of Virginia (in cooperation with Hearst-Metrotone Films) to support the research and development of scripts for a series examining the development of American democratic principles and institutions through the work of Thomas Jefferson. Merrill Peterson, Professor of History at The University of Virginia, and one of the outstanding scholars of Jefferson, will direct the research and script development in conjunction with Richard Hanser, writer for the CBS television series, "The 21st Century."

3. Museums and Historical Organizations Program ($6,200,000)

FY 1976 $5,400,000; FY 1977 $6,200,000; increase $800,000.

Museums, historical organizations, and other cultural institutions are experiencing a growing demand to expand their public role as educators in the humanities from an increasing number of citizens who want to learn and understand about the values, traditions, and ideas that make up their lives. Over 56 percent of the adult public visit a history museum or historical site on the average of at least once a year; over 49 percent visit a science or natural history museum; and over 48 percent visit an art museum. Yet museums and historical organizations, with their unique resources in the humanities, are frequently under a prohibitive financial strain which makes it difficult for them fully to use their collections and other institutional resources for public education and enrichment. The Endowment assists these institutions in implementing a broad range of educational programs which effectively convey and interpret knowledge of the social and cultural history of people to the general public.

There are 1,821 museums in the United States including 340 art museums, 683 history museums (including natural history), 284 science museums, 186 art/history museums, and 328 other combined museums. In addition there are approximately 3,500 historical organizations, as well as the numbers of universities and other organizations which are potentially eligible for Endowment support for public programs in the humanities based on their unique resources.

To serve these institutions, the Museums and Historical Organizations Program supports three kinds of activities: exhibitions; interpretive programs; and personnel training to assist museums, historical organizations, and other eligible organizations to better fulfill their public role as educators in the humanities. The details of each program element are presented below.

FY 1976

a. Exhibition grants ($3,900,000).

Exhibitions are the major way in which objects of material culture, if displayed and interpreted effectively, serve to explore man's history and values. The Endowment provides funding for exhibitions of regional or local interest as well as those which have international or national impact. Small exhibition grants to local institutions are particularly important because these institutions reach many people who have little other exposure to humanities programs. In order to spread our national resources, a special category of exhibition support exists for grants to major institutions for the assembling of small educational exhibitions drawn from their outstanding collections and circulated to smaller museums and historical organizations with limited resources.

Another major thrust of the exhibition program is to stimulate museums to make broader use of the disciplines of the humanities in exhibiting and interpreting their permanent collections to the public.

FY 1976 funding of $3,900,000 is supporting 11 major interpretive exhibitions averaging $225,000, including traveling components (expected audience averaging 300,000); 10 planning grants for major exhibitions averaging $20,000; 20 grants for smaller institutions averaging $25,000 (expected audience averaging 25,000); 10 planning grants for smaller exhibitions averaging $5,000; six grants for long-term interpretive exhibitions of permanent collections averaging $50,000 (expected average yearly audience of 150,000 each); two grants to major institutions for sharing collection resources averaging $200,000 (expected audience of 300,000). An estimated 5.3 million persons will be reached through these various grants.

b. Interpretive programs ($900,000).

There is a broad range of interpretive programs other than exhibitions that are important ways in which museums and historical organizations can bring the humanities to the general adult public. Endowment grants encourage innovative programs that accomplish this goal through formats such as (a) public symposia, lectures, seminars, discussions; (b) film and slide programs which interpret collections or explore other significant local or regional themes; and (c) printed materials which interpret the institution's collections or deal with other topics in the humanities related to the institution's role in the community.

The FY 1976 funding of $900,000 will support 35 grants for the planning and execution of interpretive programs at an average cost of $20,000. These will involve approximately 70 institutions, at least 100 scholars, and reach an audience of 1,300,000 people.

c. Personnel development grants ($600,000).

Recognizing the importance of assisting museum and historical organization personnel to be public educators in the humanities, the Endowment supports training for professionals and volunteers who can have a direct influence in the development of exhibitions and other interpretive programs at their institutions.

At the FY 1976 allocation of $600,000, the Endowment will fund fellowship and intern programs ($275,000); seminars and institutes for in-service training of museum professionals ($250,000); and short-term workshops for volunteers ($75,000).

FY 1977

The request of $6,500,000 for FY 1977 would allow for:

a. Exhibition grants ($4,400,000): To support five major interpretive exhibitions averaging $240,000 including traveling components (expected audience averaging 300,000); 10 planning grants for major exhibitions averaging $20,000; 44 grants for smaller exhibitions averaging $25,000 (expected audience averaging 30,000); 25 planning grants for smaller exhibitions averaging $5,000; 22 grants for long-term interpretive exhibition of permanent collections averaging $50,000 (expected yearly audience averaging 200,000); three grants to major institutions for sharing collection resources among 36 institutions across the country averaging $225,000 (expected audience of 360,000).

b. Interpretive programs ($1,500,000): At the requested level 50 grants can be made for planning and implementation of interpretive programs for an average cost of $30,000. These would involve approximately 100 institutions, at least 120 scholars in the humanities, and reach an audience of 2.5 million people.

c. Personnel development grants ($600,000): Funds will provide support for seminars and institutes ($250,000); combined programs of workshops and ongoing correspondence courses for in-service training of professionals ($150,000); workshops for volunteers or individuals with little professional training ($100,000); and international personnel exchange programs for curators to enhance their ability to interpret the collections with which they deal at their home institutions ($100,000).

To assist the development of these programs, it is expected that approximately $1.2 million will be generated through gifts and matching contributions from private sources, with an additional $6 million contributed through institutional cost-sharing by grantees.

Examples of museums program grants

(i) The Walters Art Gallery in Baltimore, Maryland, was awarded a grant of $14,450 to support an interpretive exhibition on its collection of Armenian manuscripts. The grant enabled the museum staff to place a relatively obscure area of exceptional cultural achievement within a frame of reference that would appeal to a diversified audience. Museum personnel, in collaboration with consultants in the humanities, provided imaginative interpretations of this rather esoteric subject matter which resulted in a surprisingly popular public exhibition. The interpretive techniques included the use of explanatory maps, descriptive labels, photo enlargements, free exhibition guides, microfilm readers, a scholarly catalogue, and public lectures. These efforts were successful in attracting a record audience to the exhibition -- over 72,000 visitors during the 3-month exhibition period.

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(ii) In June 1975, following a very successful planning grant, a 3-year grant of $381,677 was awarded to the Museum of Texas Tech University in Lubbock, Texas, for the Ranching Heritage Center. It enables the Center to involve American historians, art historians, archaeologists, and anthropologists in fashioning a comprehensive program that interprets 22 historic ranch structures representing the various periods and themes that contributed to the ranching heritage. The grant, combined with support from the private sector of over $1,000,000, permits the Center to develop audio-visual interpretive programs, orientation exhibits, guided tours, and printed materials. In addition to these activities, the Center intends to initiate diverse informal as well as structured programs for elementary and high school children as well as adult groups. The Center anticipates more than 750,000 visitors each year to this permanent resource in Southwestern culture.

4. Program Development ($4,000,000)

FY 1976 $4,000,000; FY 1977 $4,000,000; no increase.

Begun in 1970 as a special category for projects that did not fit in other programs, Program Development has undergone several transmutations as various ways were tested to see how it could best serve as the experimental and analytical arm of the Endowment's Public Programs. Its aim is to seek the most effective ways of reaching new constituencies with the humanities as well as to identify patterns of grant-making activity that complement existing types of public humanities programs.

Four areas are being given priority in FY 1976: public libraries, national organizations, urban projects, and experimental projects testing new formats and techniques for bringing the humanities to the adult public. The Endowment is currently concentrating on these grant areas because at present there is no local, state, or private funding that (1) enables the nation's 13,000 public libraries to make better public use of their humanities resources, (2) provides national organizations with an opportunity to develop programs in the humanities for their membership, and (3) allows community organizations and institutions in urban areas to develop new models of community humanities activity.

During FY 1976, Program Development will allocate $1.5 million, or slightly more than 35 percent of its total funds, to Bicentennial-related projects within the four funding categories. Grants are anticipated as follows:

a. Library projects ($1,200,000): six major grants to regional consortia, state library systems, and city-county systems, averaging $200,000;

b. Humanities programs through national organizations ($900,000): three major grants averaging $300,000;

c. Urban projects ($1,500,000): six grants for major urban humanities projects related to Bicentennial programming, averaging $250,000; and

d. Experimental projects ($400,000): 16 grants averaging $25,000 to institutions, organizations and groups for experimentation with new formats, resources and audiences for public humanities programs.

Cumulatively, these grants will reach about 9,000,000 people directly or indirectly through print and electronic media, and will involve 1,300 academic humanists, over 150 institutions of higher learning, 500 community groups and neighborhood associations, and at least eight regional or national associations.

The FY 1977 requested budget is $4,000,000, the same amount allocated in FY 1976. Severe over-all budget limitations require this "holding operation," and the experimental unit of Public Programs is by its nature better equipped to operate with a constant budget than the other programs with established constituencies which will continue to require higher levels of funding.

The request for FY 1977 will work a severe strain on the ability to respond to high-quality applications, but it will be partly counterbalanced by increased effectiveness in the funding categories. Many of the urban projects funded during FY 1975 and FY 1976, for example, were specifically designed as Bicentennial activities, so they will not make new demands on the FY 1977 budget. In other categories, such as public libraries and national organizations, FY 1977 allocations will enable recipients of planning grants during the previous fiscal year to mount full-scale programs based on that planning.

Within the FY 1977 requested level of $4,000,000, funds will be distributed as follows:

a. Library projects ($1,200,000): five grants averaging $150,000 to major urban and city-county public libraries; ten grants averaging $40,000 to smaller urban and regional library systems; and five grants averaging $10,000 for planning of public humanities programs in libraries.

b. Humanities programs through national organizations ($1,100,000): six grants averaging $150,000; and ten planning grants averaging $20,000, for systematic dissemination of programs in the humanities to the membership of adult-oriented national organizations.

c. Experimental projects ($1,700,000): six grants averaging $150,000 to test ways of accelerating the development of effective humanities programs in major urban centers, in cooperation with State-based humanities committees; 15 grants averaging $40,000 for experimental programs which will employ a wide range of devices, resources and sponsoring institutions, including established adult education channels, informal learning programs, print and other media, and workshops and conferences; and ten grants averaging $20,000 for planning.

Examples of program development grants

(i) A grant was awarded to the Mississippi Library Commission for a project based upon the rich literary heritage of the state that will increase use of the humanities materials available through Mississippi's 232 public libraries. A series of six half-hour television programs, featuring nationally noted scholars of Southern literature and history, examines six themes in Mississippi literature. It will reach a primary viewing audience of 250,000, and transcripts of the series will be distributed subsequently throughout the state's public libraries. Local humanists and librarians are preparing special book displays, exhibits, pamphlets, and annotated bibliog-

raphies on Mississippi literary traditions that will reach approximately 300,000 adult library users.

(ii) The League of Women Voters received a grant to undertake a major nationwide program using The Federalist Papers as a point of departure for examining fundamental issues in jurisprudence and political theory as they relate to current constitutional problems. The planning committee has included distinguished scholars such as Willard Hurst (University of Wisconsin Law School); Merrill Jensen (Historian, Wisconsin); George Kennedy (Classicist, University of North Carolina); Martin Diamond (Political Theorist, Northern Illinois); James Banner (Historian, Princeton); and Charles Hardin (Political Scientist, University of California-Davis). Six regional seminars involving humanists, public officials and League members will serve as the basis for preparation of reading materials to be distributed to the League's 1300 local chapters for program use with local humanists.

EDUCATION PROGRAMS

(Definite Appropriation in Thousands)

Activities	FY 1975 Actual	FY 1976 Estimate	FY 1977 Request	FY 1976-77 Increase or Decrease (-)
1. Institutional grants	$ 4,848	$ 7,900	$ 7,900	--
a. Pilot[1]	(1,089)	(1,100)	(1,500)	(400)
b. Program	(1,945)	(3,600)	(3,400)	(-200)
c. Development	(1,814)	(3,200)	(3,000)	(-200)
2. Projects	6,765	6,500	6,700	200
a. Higher education	(4,750)	(4,200)	(4,300)	(100)
b. Elementary & secondary	(2,015)	(2,300)	(2,400)	(100)
3. Humanities institutes	2,769	3,000	500	-2,500
4. Cultural institutions	544	900	900	--
5. Consultant grants	--	300	400	100
Total	14,926[2]	18,600	16,400	- 2,200

1/ Formerly called Planning.

2/ Plus $2,139 thousand in gifts and matching funds.

The Endowment's Education Programs support the improvement of the teacher-learning process in the humanities. Two distinct rationales underlie the various categories of funding described further below: (1) that distinctive programs designed to fit particular needs in a single institutional context merit consideration and (2) that projects designed to produce general or even national improvement deserve support.

In the first category fall the Institutional grants -- Pilot, Program, Development -- and Consultant grants; in the latter category fall the Project grants -- Higher Education and Elementary and Secondary -- Humanities Institutes and Cultural Institutions.

1. Institutional grants

Institutional grants provide support to colleges and universities seeking to improve the quality and effectiveness of humanities instruction on a scale broader than a single course or discipline. Such grants are awarded to serve the needs of institutions in their particular contexts. Applications are judged on the extent to which they reflect a critical re-examination of existing resources and a sound plan for making more effective use of those resources. Institutional grants are of three kinds: pilot, program, and development. All institutions of higher education are eligible for these grants.

a. Pilot grants ($1,500,000)

FY 1976 $1,100,000; FY 1977 $1,500,000; increase $400,000.

The purpose of a pilot grant is to enable an institution which has developed a tentative but concrete plan addressed to curricular needs in the humanities to test that curriculum on a pilot basis with an eye toward necessary revision, refinements, and further development, before making a final commitment of scarce resources. This experience may be a preliminary step in a more extensive development or redeployment of resources in the humanities aided by an Endowment program or development grant (see below), but it should be stressed that a pilot grant is not considered simply as support for the preparation of a subsequent proposal. The accomplishments made possible by the award of a pilot grant are valuable in themselves; many pilot periods are successful in securing the redirection of an institution's own resources in such a way as to preclude the need for further outside support.

Pilot grant funds are used primarily to provide released time (regular full-time faculty are released from certain of their normal responsibilities to engage in grant activities while their regular duties are carried out by replacements) -- an expense few institutions can presently afford. Without these funds, most institutions cannot go beyond departmental budgets to engage in such periodic planning: the humanities curriculum stagnates and its influence can diminish rapidly.

On the average, each grant involves 10 faculty who teach about 2,000 students. The maximum pilot grant is $50,000 and this upper limit will be maintained through FY 1977. In FY 1976 it is anticipated that 190 applications will be submitted in this category, with 25 grants being awarded.

In FY 1977 it is estimated that 30 institutions will be aided in this category; cost-sharing will generate at least $360,000 in institutional contributions. The programs funded will involve the participation of 300 faculty members, and will affect an estimated 60,000 students.

Example of pilot grant

Funds from the Endowment will enable eight faculty members from Dallas Baptist College to develop a humanities program for adult student candidates for the Bachelor of Career Arts Degree. The program will consist of a combination of seminars and traditional course experiences. The seminars will provide a unique opportunity for students to combine the insights and information from the fields of literature, philosophy, religion, and psychology and their own experiences to the world of work and contemporary society. In addition, these seminars will enable faculty to maintain close contact with these students. The grant will provide released time for faculty to plan specific assignments, produce materials for dissemination, and to develop special evaluation procedures for the program. The program provides a stimulus for the students to understand more completely the importance of the work that they do and its relationship to the values they hold.

b. Program grants ($3,400,000)

FY 1976 $3,600,000; FY 1977 $3,400,000; decrease $200,000.

A program grant offers support for the development of a specific academic area of the humanities curriculum. This may include the development of a group of related courses or an ordered program of studies. A program grant may be designed to reform humanities instruction at a particular instructional level, such as the freshman year, or it might address a specific region, culture, or historical era. A program grant is distinguished from a development grant (see below) by the scope of its proposed activity; a program grant addresses itself to a single aspect of the institution's humanities curriculum.

Support is limited to $200,000 spread over a three-year period, with cost-sharing increasing during the grant period from at least 20 percent of total program costs in the first year to over 50 percent in the final year. This enables the institution to assume total costs more readily when funding ends; such commitment to the continuation of the program is an essential part of a successful application. Approximately 18 awards will be made in FY 1976.

In FY 1977 it is estimated that the budget request will permit 14 institutions to receive program grants. Each grant affects an average of 20 faculty and 3,000 students; thus in FY 1977, 280 faculty and 42,000 students will be affected.

Example of program grant

A program grant was awarded to Portland State University in Portland, Oregon, to strengthen humanities courses in this institution which serves a predominantly urban working-class clientele. The program aims at providing an alternative to the traditional

and presently fragmented humanities requirements. The proposed six-course sequence will examine the relationships between arts, ideas, science, and politics over the course of western civilization. The program will explore consecutively The Ancient World, The Middle Ages, The Renaissance, The Eighteenth Century, The Industrial Age, and The Age of Technology. Faculty will be drawn from the disciplines of intellectual history, history of science, history of art, and literature.

c. Development grants ($3,000,000)

FY 1976 $3,200,000; FY 1977 $3,000,000; decrease $200,000.

Development grants provide support to two- and four-year colleges and universities seeking to make more economical and effective use of their humanities resources on an institution-wide basis. Applicants are required to conduct a comprehensive examination of the strengths and weaknesses of their total humanities program, and to submit a long-range plan for redirecting existing resources, as a means to improve substantially the quality and efficacy of humanities instruction.

Because NEH requires interested applicants to base their proposals on a solid core of research into institutional needs and priorities and long-range planning goals, development grants assist institutions to increase their efficiency. Through careful planning, disparate and obsolete courses, many of which may duplicate other courses, are replaced by new programs organized around comprehensive themes. Faculty from several disciplines are enabled to coordinate subject material and to present it in more coherent modes.

Before submitting a development grant application, an institution must have completed a feasibility study or a pilot program to test its plans. Applications are judged on the academic soundness, thoroughness, and feasibility of the plan; on its suitability to the institution's students, faculty, and other resources; on its impact on humanities instruction within the institution; and on its potential usefulness as a model for other institutions seeking to redirect their own resources in the humanities.

All institutions of higher education are eligible for support, in an amount ranging from $100,000 to $200,000 per year, for up to five years. The institution's share in total costs is significant, progressing from 20 percent in the first year to more than 50 percent in the final year of the grant. In addition, each grant program generates approximately one-third of total funds from private sources, through a gifts and matching grant.

To date the Endowment has awarded 36 development grants. By FY 1977, 28 of these grant programs will have been completed. To increase the impact of these grants, two-year follow-up grants will be awarded to a limited number of institutions on a competitive basis.

These grants will provide opportunities for colleges and universities to share the results of their development programs with other institutions, through faculty seminars and workshops, teaching assistantships, faculty exchanges, and other related activities, thus extending the effects of the Federally supported effort.

The amount of funds requested has increased significantly in the past year in response to rising institutional costs. In FY 1976, the average grant size will be $450,000 from outright funds and $200,000 from gifts and matching funds. At each grantee institution approximately 100 faculty members and 4,000 students will be directly affected. Approximately seven development grants will be awarded, with a total impact on some 30,000 faculty and students.

For FY 1977, the average grant size will be $550,000 from outright funds and $250,000 from gifts and matching funds for development grants, and $125,000 for follow-up grants. It is anticipated that each grant will affect more than 100 faculty members and 4,000 students. Approximately five development grants and four follow-up grants will be awarded, with a total impact on some 36,900 faculty and students.

Example of development grant

The University of Florida has received a five-year grant to create a new liberal arts program of courses designed to relate the substance and method of the humanities disciplines to the issues and concerns of five professional fields: medicine and allied health, law, engineering, business administration, and the Graduate School of Arts and Sciences. Courses will draw upon the expertise of faculty in the professional schools as well as in the humanities, and will focus on problems of concern to pre-professional students, where the contributions of the humanistic disciplines may challenge the methods and objectives of the professional curricula. Since 60 percent of the 28,200 students enrolled at the university are working toward pre-professional undergraduate degrees, professional degrees, or graduate degrees, the grant program promises institution-wide impact. Additionally, seminars and colloquia involving professionals in the non-academic community have been stimulated by the grant program.

2. Education Projects

The purpose of this program is to promote the development and testing of new and exemplary approaches to humanities education by supporting demonstration projects that can be completed within a specified period of time. This program, in particular, solicits applications for projects that show promise of serving as models for, or of influencing in specific ways, the programs of other institutions. Projects must have national or regional implications.

a. Higher Education Projects ($4,300,000)

FY 1976 $4,200,000; FY 1977 $4,300,000; increase $100,000.

Several types of activities characterize higher education project applications: (1) experimental courses or programs, either single discipline or interdisciplinary in subject matter, that might otherwise be considered too specialized for a small college to sustain, yet in which there seems to be newly emerging interest at the applicant institution; (2) curriculum materials, including film and TV materials, by which colleges and universities try to reach non-traditional audiences; (3) new efforts by exemplary programs to conduct re-training institutes to make their special strengths available to a wider group of interested students and faculty; and (4) cooperative endeavors between schools and institutions of higher learning, cooperative programs between two-year colleges and universities, and proposals that foster the study of the humanities in the professions.

The cost of worthy projects has increased. A higher education project often involves a request for two or three years of funding. Their average size in FY 1975 was $105,000. In the case of an exemplary program that contains several years of outreach activities, the cost of an effective project can be as high as $300,000.

Grantees will continue to contribute a minimum of ten percent of total project costs (with 75 percent of the grantees, however, contributing 20 percent or more). In addition, one-fifth of the project grants are awarded on a gifts-and-matching basis, with the Endowment matching private contributions on a dollar-for-dollar basis.

Priority in FY 1977 will be placed on support of those fields whose survival in undergraduate curricula has become marginal -- for example, foreign languages and literature. Special attention will also be given in all disciplines to new programs for the training of graduate students in the teaching of their disciplines to undergraduates, especially at community colleges.

In FY 1976, 30-35 project grants will be awarded. The requested funding for FY 1977 will support approximately the same number of grants; the slight increase in funds will be needed to meet the expected increase in costs for projects.

Projects generally reach a significantly larger audience, due to the requirement for inclusion of a feasible plan for dissemination through scholarly or educational publications, films, or the prior commitment of co-participants.

Examples of higher education projects

(i) The Center for Southern Folklore in Tennessee received a

grant of $120,000 in outright funding and a possible additional sum of $240,000 in gifts and matching funds for the purpose of developing classroom materials (workbooks, films, sound recordings) on aspects of Southern folklore. These materials are to be distributed to interested schools and colleges at nominal cost. No other institution has attempted to serve the needs of folklore so comprehensively; the Center will coordinate the many local attempts to document particular aspects of folk culture so that these many efforts will not be lost in parochialism.

(ii) John Tyler Community College of Chester, Virginia, received a grant of $47,494 to develop self-instructional materials in art history that are suited for the community college level. No materials currently exist for instruction at this level, where problems of scheduling and students' job and family obligations make a regular lecture format impractical. The project has been disseminated through the Journal of the American Association of Community and Junior Colleges and promises to reach all two-year institutions in which art history and appreciation are taught.

b. Elementary and Secondary Education Projects ($2,400,000)

FY 1976 $2,300,000; FY 1977 $2,400,000; increase $100,000.

Several types of activities characterize the projects supported through elementary and secondary project grants. First, there are projects which combine teacher training with curriculum development; these are often large-scale projects which reflect the need for new or up-dated materials in either traditional or relatively unfamiliar areas of study in the schools. A common design brings together school and university faculty for intensive summer work. During the ensuing academic year or years, the school teachers introduce into their classrooms the new materials and approaches with the continuing supervision and support of the project's staff. Second, there are experimental courses or programs which use either an interdisciplinary or single-discipline approach, and which may involve new areas of study in the schools. Third, the Endowment is especially interested in cooperative endeavors between schools and institutions of higher learning and cultural institutions. All schools or school systems in the country are eligible.

Projects which promise to be most effective have increased in size and often require several years of funding. Also, the most promising projects appear to involve a combination of curriculum development and teacher training, support services for the participating teachers, and inter-institutional collaboration (schools, school districts, state departments of education, two- and four-year colleges, universities, teacher centers, schools of education). Although the average size of a grant in FY 1975 was $130,000, the cost of a program which integrates these various elements with careful plans for dissemination and years of impact can be as high as $300,000.

Institutions are required to contribute a minimum of 10 percent of

total project costs; 75 percent of the grantees, however, contribute 20 percent or more. In addition, one-fourth of the project grants are awarded on a gifts and matching basis, matching private contributions on a dollar-for-dollar basis.

The Endowment has been supporting a number of elementary and secondary projects designed to improve teaching and learning in history and social studies. While continuing to give priority to projects aimed at strengthening the study of American history and culture, the program in 1977 will encourage projects which aim to: (1) use the resources of local cultural institutions, (2) integrate the creative arts with the humanities, and (3) emphasize the study of values in the study of literature and social studies.

The increased size and scope of the most promising projects coincides with an increased Endowment commitment to elementary and secondary education upon the urging of the National Council on the Humanities. In FY 1976, 15-20 grants in this area will be made. The requested funding for FY 1977 will aid approximately 15-20 organizations. These figures represent merely the immediate audience, however, for each project should reach a far wider audience because of the requirement for feasible plans for dissemination through educational or scholarly publications and conferences, films, and the prior commitment of state and district superintendents.

Examples of elementary and secondary education projects

(i) Kansas State University received a grant of $200,806 to introduce a program on South Asia into the social studies courses of schools in Kansas, Nebraska, Colorado, and Oklahoma. Because the authority for curriculum content is extremely decentralized in these states, Kansas State University will conduct summer conferences for classroom teachers, will visit these teachers during the following school year, and will supply them with teaching materials.

The significance of this project lies in its possible influence on other states in which curriculum content is largely a matter of local control.

(ii) The Indiana Department of Public Instruction received a grant of $296,480 for a program of interdisciplinary humanities instruction in high schools. Expert visiting teachers will collaborate with local instructors in creating, teaching and evaluating model courses for at least 40 schools. Also, conferences involving 150-200 participants will be conducted by the visiting teachers. The results of these activities should provide a model to other states that wish to improve instruction in literature and history.

3. Humanities Institutes ($500,000)

FY 1976 $3,000,000; FY 1977 $500,000; decrease $2,500,000.

In FY 1974 the Endowment launched a major new experiment in developing and improving humanities curriculum with the establishment of the first National Humanities Institute. Originating in a widely expressed need for superior interdisciplinary instruction and curriculum design in the humanities, the Institutes program is designed to provide opportunities, otherwise lacking, for established and promising scholars and teachers to come together and create new courses outside the pattern of disciplinary education. By enabling scholars in various disciplines to devote a year of their time to intensive study, discussion and curriculum materials development and testing, the Endowment hoped to encourage a serious nationwide re-evaluation of teaching the humanities.

The experimental Institutes, two now underway and a third to be initiated this year, are located at major host universities in separate regions of the country and are funded each for a period of four years. Their role is to engage the attention of teachers in a significant theme common to several fields of study and appropriate to interdisciplinary treatment -- a body of subject matter valuable both in its own right and as a vehicle for the transmittal of humanistic learning. Younger and experienced scholars selected in open competition from all types of colleges and universities around the country join in seminars, collect and create curriculum materials and test new courses in the host institution and in neighborhood colleges. Each year for three years, twenty fellows attend each Institute. Upon their return to their home institutions, the participants administer NEH demonstration grants in the amount of $20,000 to create exemplary interdisciplinary courses to be incorporated into the regular curricula. When a Humanities Institute is fully operational, at least 600 faculty members from colleges and universities of all types, with an ultimate audience of at least 60,000 students, will be benefited from it.

In the current fiscal year, the first group of twenty fellows will begin work on curricula in American Studies at the National Humanities Institute at Yale University. The National Humanities Institute at The University of Chicago will advertise its program, recruit fellows and plan activities for the following three years. In February, a panel will be assembled at the Endowment to consider applications to host the third Institute and to recommend support of one applicant university from a region and in a subject different from those of the two existing Institutes. Funds committed in FY 1976 will permit the establishment of this Institute as well as provide small grants for the late stages of planning and a group of demonstration grants for which the first twenty fellows are eligible to apply at the end of the fiscal year.

Because of limited funds, FY 1976 will see the third and last new Institute to be established unless private gifts should be available. FY 1977 plans provide only for a few small grants for the late stages of planning and up to forty demonstration grants for eligible fellows of the first two Institutes. Endowment support of each Institute will

cover the salaries of a small permanent staff, stipends for participating fellows, library materials, supplies, travel, indirect costs, and consultants.

Examples of National Humanities Institutes

(i) The first Institute, devoted to the subject "The Humanities and the National Life," is located in New Haven, Connecticut, at Yale University. The Institute, established by a direct grant of $2.7 million, is engaged in a three-year program to assess and enrich teaching in American Studies. The first twenty fellows from states, representing the disciplines of English and American literature, history, anthropology, political science, and art history, will plan and test courses in pluralism, early American history and the artistic and cultural expressions of American experience. In addition, each fellow will produce a videotaped lecture for public television. The number of students affected by the Institute's activities during the training year and in the demonstration year at the fellows' home institutions should reach 1,000 for each year of the Institute's operation. It is expected that indirect benefits from the Institute will extend to the great majority of American Studies teachers in the country who will use the materials produced by the Institute.

(ii) "Technology and the Humanities" is the theme of the National Humanities Institute at The University of Chicago. It, too, was established with a grant of $2.7 million. The 60 fellows who will attend the Institute over its 3 operational years will develop courses on the ways in which technology interacts with culture, with society, and with the individual. Fellows will represent the academic disciplines of literature, anthropology, history, philosophy, and art. They will work closely with the Museum of Science and Industry and with small colleges in Illinois, Indiana and Wisconsin. Each year of the Institute's operation should eventually affect 1,000 students. Widespread national interest in the humanistic implications of advancing technology promises a substantial demonstration effect from the curricula developed at the Institute in the teaching of the humanities, and the social, natural and physical sciences.

4. Cultural Institutions Program ($900,000)

FY 1976 $900,000; FY 1977 $900,000; no increase.

The Cultural Institutions Program is an experimental program to help libraries, museums, and other cultural institutions become centers of formal education for their communities. Cultural institutions are easily accessible to, and their distinctive resources are available to, all persons in their communities. And cultural institutions always have provided opportunities for self-education and offered discrete educational events and services. Now, cultural institutions are showing a strong interest in becoming centers of formal education for their communities, and, since they must devote almost all the funds they receive from state and local resources to their basic

operations, they are turning to the Federal Government for help.

In FY 1976, the Cultural Institutions Program is helping a small number of major libraries and museums throughout the country develop and offer distinctive educational programs -- NEH Learning Library and Learning Museum Programs. An NEH Learning Library or Learning Museum Program is an educational program that lasts at least 3 years, that may or may not offer academic credit and that is aimed at a diverse audience of prospective learners and present and former students. The program is organized each year by a theme that is related to the collections of the library or museum, the geographical area in which the library or museum is located, or any intellectual interest that persons develop as they go about their lives and that may be pursued systematically with the aid of the humanities. Each year's theme is treated in several extended group learning activities -- sequences of lectures, discussion meetings, film showings, interpretive performances, and so on -- and individual study guidance sessions.

In FY 1976, the Cultural Institutions Program will support three NEH Learning Library and Learning Museum Programs; that is, three 3-year programs at approximately $300,000 each. The FY 1977 request will permit a continuation of the program at the same level, thus aiding three other communities to establish a Learning Library or Learning Museum Program.

Example of an NEH Learning Library Program

In FY 1975, the Boston Public Library was designated an NEH Learning Library and was awarded a grant for its "Boston: An Urban Community" program. The focus of the program is on Boston as a cultural, political, and economic center, and the purpose of the program is to establish a living relationship between the city's past and its present. In the program's first educational "season" there were sequences of lectures and discussions, as well as individual study guidance sessions on "Bibles, Brahmins, and Bosses: Leadership and the Boston Community," "Boston's Architecture: From First Townhouse to New City Hall," "Shaping the Boston Landscape: Drumlins and Puddingstone," and "Family Life in Boston: From Colonial Times to the Present." Approximately 500 persons registered for regular learning activities in the program's first season, and hundreds more attended special guest lectures that were open to the general public, as well as learners in the program. A preliminary statistical analysis of the responses of those learners in the first season who filled out the program questionnaire indicates that 60 percent of the learners lived in Boston and 40 percent in surrounding cities and towns, that 17 percent never before had attended "enrichment" or "extension" courses that are not part of a formal degree program, and that 40 percent had visited the library rarely or no more than once a year before they registered in this program.

5. National Board of Consultants Program ($400,000)

FY 1976 $300,000; FY 1977 $400,000; increase $100,000.

The National Board of Consultants serves institutions of higher education by offering advice on how to build successful humanities programs. This program enables two- and four-year colleges, universities, professional schools, and cultural institutions to engage the services of outstanding teachers, scholars, and administrators in order to develop viable new programs in the humanities or to evaluate and strengthen existing curricula. Each consultant works with a college for 10 to 20 days, helping faculty, administrators, and students deal with curricular, intellectual, administrative, and budgetary problems in humanities education.

The National Board of Consultants Program, unlike the other Education programs of the Endowment, is not aimed at institutions which have already completed most of the planning for new projects or directions in the humanities; rather, it is intended for institutions which are in the early stages of planning new programs or are in the process of reconsidering existing curricula, and may wish to seek the advice and assistance of outside experts in order to meet their particular needs. For many institutions, money may not be as great a need as advice; in these schools, assistance at the most basic level of planning might have a significant impact on students, faculty, and administrators.

The program is open both to institutions which are developing a specific area of the curriculum -- such as freshman year studies or a major program -- and need the assistance of a consultant who has competence in a particular discipline or approach, and to institutions which see a need to revamp their entire humanities curriculum and need advice from a humanities teacher and administrator who could help to stimulate institution-wide reforms.

Few consultancies are expected to produce immediate and dramatic changes in the institutional climate or to result in fully formed or reformed curricula, but it is hoped that the brief but concentrated assistance which the consultant provides may produce a stimulus which will enable the institution to continue its planning effectively.

The first three application deadlines for the consultants program drew 1, 17, and 63 requests respectively. This rapid increase in the number of requests, and the availability of four application deadlines each year, suggest that as many as 300 applications may be received during FY 1976. It is likely that at least 100 grants will be awarded during the year, with the majority going to colleges which have received no previous Endowment funding. Grants range from $2,000 to $5,000; the average grant is $3,000. Grants are made in outright funds, with all funds channeled through the institution to support the consultant's honorarium, travel, per diem, and incidental expenses.

It is anticipated that with the funds requested, at least 135 grants will be awarded in FY 1977. Since the majority of requests deals with division-wide or institution-wide concerns, in many cases virtually every student, faculty member, and administrator will be affected by the consultancy. The National Board of Consultants Program is thus significant in enabling the Endowment, at only modest expense, to help a large number of institutions intelligently deal with their own problems.

Examples of Consultants grants

At Baker University in Baldwin, Kansas, the first institution receiving consultant assistance, Dr. Joe E. Elmore, Vice President for Academic Affairs and Professor of Religion at Earlham College, is working with faculty, administrators, and students to examine Baker's humanities core curriculum, to study the College's resources for humanities general education, and to explore alternative possibilities for general education in the humanities.

Among other consultants who are currently working with colleges or universities or who intend to begin assignments in the near future are:

-- Edmund N. Pellegrino, M.D., Chairman of the Board of Directors, Yale-New Haven Medical Center, who will work with faculty at Morehouse College, Atlanta, Georgia, to incorporate a humanities component into a new basic medical sciences program for minority students.

-- Richard Crockford, President, Dean Junior College, who will help Chesapeake College, a 2-year institution in Wye Mills, Maryland, to evaluate its humanities offerings for technical, transfer, and off-campus students.

-- Edward Lindell, President, Gustavus Adolphus College, who will assist Berea College, Berea, Kentucky, to strengthen a freshman course on "Man and the Arts" to make it a viable component of the College's interdisciplinary core curriculum.

-- Mary Brackett, Academic Dean, Norwalk Community College. Dean Brackett is helping New River Community College in Appalachian Dublin, Virginia, to plan and develop a humanities program which blends humanistic and vocational knowledge.

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FELLOWSHIP PROGRAMS

(Definite Appropriation in Thousands)

Activities	FY 1975 Actual	FY 1976 Estimate	FY 1977 Request	FY 1976-77 Increase or Decrease(-)
I. Residential programs				
1. College teachers..	$2,571	$2,600	$2,600	--
2. Summer seminars...	2,485	2,800	3,050	$250
3. Fellowships in the professions.....	1,133	1,650	1,650	--
4. Centers for advanced study..	492	400	400	--
II. Independent study programs				
5. Independent study and research fellowships...	2,762	3,000	3,000	--
6. Summer stipends...	408	400	400	--
Total.....	9,851 1/	10,850	11,100	250

1/ Plus $1,100 thousand in gifts and matching funds.

Fellowships are the means by which the Endowment helps individual scholars, teachers, and practitioners of other professions continue to contribute to knowledge and understanding in the humanities. Fellowships permit the recipients to free themselves from their customary academic or professional responsibilities so that they may do some sustained study or research, may have time for reflection, and, in many cases, may put their thoughts into writing. The results of a fellowship are new approaches to teaching and other professional responsibilities and, frequently, books and articles which add to the nation's stock of humanistic knowledge.

These results are both immediate and long-range. The immediate effect of intensive study is to sharpen a fellow's insights, open up new perspectives, and expand the scope and quality of his or her knowledge. At the same time, these new insights often provide that necessary vitality of perspective which makes the difference between excellence -- in the classroom, in scholarship, in leadership to the fellow's profession -- and stale mediocrity.

While these opportunities for intellectual growth are vitally important for work in the humanistic professions, the number of such opportunities available has always been disproportionately small.

There are approximately 140,000 college and university teachers in the humanities. At the time the Endowment was established, there were fewer than 500 postdoctoral fellowships annually available to humanists, and this number has not increased since then, aside from the fellowships offered by NEH. A relatively small number of leading colleges and universities have traditionally offered sabbatical leaves to faculty members, but this number has never been large and many institutions have been forced to curtail sabbaticals as a consequence of the economic pinch of recent years. Thus the Endowment's programs are playing an indispensable role in providing fellowship opportunities in the humanities.

The impact of the Endowment since 1967 has been substantial. The Endowment awarded 157 fellowships and 128 summer stipends for 1967-68, the first year of NEH support, and it has increased this number in FY 1976 to an estimated 385 fellowships and 1,160 awards for summer study. This growth has been accompanied, and indeed, justified by a parallel growth in both the quantity and quality of individual applicants, whose number has jumped from about 1,200 in FY 1967 to an expected 5,200 who will apply directly to the Endowment and an additional 5,000 who will apply to Endowment-sponsored fellowship and seminar programs in FY 1976.

In conducting its fellowship programs, the Endowment began by responding to the initiatives of individual humanists who had discrete projects. However, experience showed that, in addition to the many scholars who are interested in undertaking projects of original research and writing and who need an opportunity to explore their subjects independently, using widely scattered resources, there are many other scholars, indeed the large majority (including particularly teachers in the smaller colleges and two-year colleges), who are primarily interested in refreshing their own learning and improving their ability to convey humanistic understanding to their students. These teachers are better served by the opportunity to work with their peers in a collegial program enhanced by the faculty and library resources of a major institution. Accordingly, the Endowment has in recent years restructured its programs in order to provide fellowship and summer seminar opportunities for teachers in two-year and four-year colleges which would enable them to participate in organized residential programs of study at universities around the nation. Reports from the teachers who have participated in these programs and from the eminent scholars who have directed them have been uniformly enthusiastic.

Because of their proven success and the large number of persons who can and wish to benefit from them, summer seminars are proposed for expansion in FY 1977. Because of limited funds the established programs providing support for independent scholarship and writing and for humanistic study by members of other professions will be maintained at current, that is FY 1976, levels.

I. Residential Programs

1. Fellowships in Residence for College Teachers ($2,600,000)

FY 1976 $2,600,000; FY 1977 $2,600,000; no increase.

The purpose of the program of Fellowships in Residence for College Teachers is to provide opportunities for teachers of ability in

undergraduate and two-year colleges to improve their teaching by working with experienced scholars in their fields at universities throughout the country. Residing at one of the designated universities for the full academic year, the college teachers participate in a seminar directed by a distinguished scholar and pursue a personal program of study and research designed to incorporate new knowledge into their teaching.

An average seminar includes nine participants and costs $174,000; this covers the direct costs of the program to the university at $28,000 for each seminar, a cost-of-education allowance at $1,200 for each fellow, and a stipend and travel allowance at $15,000 for each fellow. The seminars are held at universities located throughout the country, and fellows come from all parts of the country and represent all types of two-year and undergraduate colleges.

In FY 1976, funds are sufficient to offer a total of 15 seminars, or one in each of only the large, traditional disciplines of the humanities and the humanistic social sciences. This is a minimal level of operation for a program covering the full scope of the humanities. The FY 1977 request will allow a continuation of the program at the same level, thus serving again about 135 college teachers.

Example of fellowships for college teachers

Director: Professors Bradford Perkins and Shaw Livermore, Jr., of the History Department of the University of Michigan, Ann Arbor, offered a seminar entitled "The Literature of American History." In the seminar, the Fellows, who are themselves college history teachers, are exploring the most important writings, particularly recent ones, on significant topics and themes in American history from the seventeenth century to the present. The seminar is examining such topics as the social organization of colonial America, the roots of political behavior, the slave and the slave system, the impact of industrialization, and the Cold War. The program is emphasizing changing and contrasting interpretations and historical methods rather than simply the actual historical facts.

Participant: In this seminar one participant was Ronald H. Ridgly, Professor of History at the University of South Dakota at Springfield. Over and beyond his work for the seminar, Professor Ridgly is pursuing a study of the history of technology in the United States and its relation to our society and culture. In particular, he is examining the different effects of technology upon the development of selected United States frontiers such as the Upper Great Plains and the Ohio River Valley. The University of South Dakota at Springfield is largely devoted to vocational and technical training, and Professor Ridgly feels that this project will help him better demonstrate to his technical students that technology exists not in a vacuum but rather in the larger context of the humanistic values of the society, as well as better show his non-technical students the effect of technology on their lives.

2. Summer Seminars for College Teachers ($3,050,000)

FY 1976 $2,800,000; FY 1977 $3,050,000; increase $250,000.

The purpose of these seminars is -- like the Residential program described above -- to provide opportunities for teachers in the

smaller private and state colleges and in community colleges to study in their fields with distinguished scholars at major universities, but for a two-month period during the summer rather than for a full academic year. Meeting regularly throughout the period with the seminar director and a small group of their colleagues for discussion and reflection, and with the resources of a research library available for their study and research, the college teachers sharpen their understanding and improve their ability to convey their understanding to undergraduate students.

In the third year of this program the seminars are continuing to be thoroughly successful both from the point of view of the college teachers and from that of the administering universities and seminar directors. They have also yielded several important secondary benefits, particularly the establishment of ties between major universities and small colleges. College teachers have taken back to their own institutions not only deeper understanding of their subjects but also fresh approaches which they can use in their teaching. Done on a large scale over a period of years, these short-term seminars will have major impact upon the quality of teaching and standards of learning in the colleges.

Each seminar is attended by 12 college teachers from institutions in all parts of the country, including this past year Alaska, Micronesia, and Puerto Rico. The average cost of a seminar is $42,000, including stipends of $2,000 and housing and travel allowances of $250 for each teacher participating in a seminar.

In 1975, 61 seminars were offered with a total of 732 participants selected from over 3,400 applicants. In the summer of 1976, a larger number of seminars will be offered in the principal fields of the humanities and social sciences. The funding requested for FY 1977 will support 72 seminars.

Example of summer seminars

In the summer of 1975 Professor Chu-Tsing Li, Department of the History of Art, University of Kansas, Lawrence, Kansas, offered a seminar designed to enhance and strengthen the knowledge of Chinese art history for college teachers trained primarily in the Western tradition. With the excellent collection of Chinese art at the Nelson Gallery in Kansas City available for study, the seminar members concentrated their efforts upon the historical development and cultural significance of four basic art forms: bronzes, ceramics, sculpture, and paintings, from prehistoric times to contemporary China. In addition, the exhibition of the Chinese Archaeological Treasures sent to the United States by the Peking government and displayed at the Nelson Gallery offered the seminar group the unique opportunity of studying first-hand one of the modern world's most interesting but least known collections. Through their study of the major developments in Chinese art, the seminar members gained a deep understanding of the relationship between artistic, cultural, and social developments in China, which they can convey to their students and from which they can draw parallels for the study of other artistic traditions.

The twelve art history teachers selected to attend the seminar from among 41 applicants came from ten different states from Maine to Hawaii. One seminar member, a professor of history at Muhlenberg

College in Pennsylvania who regularly teaches a course on the history of East Asian art, studied the careers of particular Chinese painters in order to assess the effects of social and political upheaval on artistic creativity, a problem which emerges dramatically several times in Chinese history and which invites comparison with developments in other cultures. Another seminar member, a professor of art history at Sweet Briar College in Virginia, who is responsible for all the courses in Oriental art at a neighboring college, as well as her own, centered her attention upon the development of the major trends in Chinese sculpture through the study of important relief sculptures.

3. Fellowships in the Professions ($1,650,000)

FY 1976 $1,650,000; FY 1977 $1,650,000; no increase.

Leaders in professions outside teaching -- journalism, law, medicine, school administration, etc. -- have an important influence on directions this country takes in all its affairs. Unlike scholars and teachers, whose work involves the advancement and communication of knowledge, people in the professions are concerned with the application of knowledge and have not generally had the time to stand back from their work to examine its philosophical or historical foundations or its wider implications for the community and the nation. Nor have they generally been trained, in the professional schools, to perceive the humanistic dimensions of their work. The quality of the leadership of people in the professions and of professional-school teachers will be enhanced by a period of study designed to broaden and sharpen their humanistic perspectives. In addition to serving the commonweal, the effect should be to demonstrate to their colleagues the importance of humanistic understanding in their professional work.

Twelve academic-year fellowships were awarded in FY 1975 to law teachers and 24 to practicing journalists for study at three institutions during 1975-76. A like number will be awarded in FY 1976 and in FY 1977.

While these long-term, academic-year fellowships are feasible and clearly useful opportunities for journalists and professional-school teachers, members of most non-academic professions typically could not take leave from their jobs for such a long period. For lawyers, physicians, and most other professionals, short-term seminars of four weeks offer the maximum feasible and hence the best opportunities for concentrated mid-career humanistic study. Seven such seminars, each with 12-15 participants, were offered in FY 1975 for practicing lawyers and judges, and for physicians and other members of the health professions. Twenty seminars, serving 240 to 300 persons, are planned for FY 1976 and FY 1977. The programs for lawyers and medical practitioners will be continued, and seminars will be offered for the first time in several additional professions, such as school administration. This level of funding permits a broad range of seminars and will open the program to a wide range of professions.

Stipends in the journalism fellowship program are salary-matching up to $1,500 per month, plus book allowances; fellows in the law teacher program receive a stipend of $15,000 per year, plus book and travel allowances. Participants in the shorter-term seminars receive a $1,200 stipend for room and board, plus reimbursement for travel costs

up to a maximum of $300. Grants are made to the host institutions and cover stipends and allowances, plus the cost of offering the fellowship or seminar programs. The total cost of a fellowship program for one academic year averages approximately $300,000; the total cost of a seminar for one month averages $37,000. Applications in all of the programs are sought from men and women who have achieved substantial standing in their fields, or who show promise of becoming leaders in their professions. The programs are open to applicants on a national basis and awards are well distributed throughout the country.

Examples of fellowships and seminars in the professions

(i) A seminar for practitioners in the medical professions on the subject of "The Human Reality and Professional Responsibility" was offered during July 1975 at Williams College in Williamstown, Massachusetts. It was directed by a theologian who has concentrated on the ethical questions which arise in medicine and health care. The seminar examined the ways in which alternative views concerning human nature, destiny, and obligation affect decisions in medical practice. It dealt, in this context, with such issues as truth telling, organ transplantation, euthanasia, human experimentation, allocation of scarce resources, and high-risk therapy. The 15 members of the seminar came from 11 states and the District of Columbia. They included two chief psychiatrists working, respectively, in a small-town and a large urban hospital; an internist who devotes about two-thirds of his time to his practice and the balance to teaching; the associate director of a hospital intensive-care unit for children; the head of the anesthesiology department in an acute-care, non-profit hospital in Saginaw, Michigan who also has a part-time teaching appointment at Michigan State University; and a partner in a primary-care clinic in Ft. Worth, Texas, practicing his speciality in internal medicine, who also chairs a hospital committee on human experimentation and is the de facto medical director of two nursing homes.

(ii) A seminar for lawyers and judges entitled "An Inquiry Concerning Justice" was held during August at The American University in Washington, D.C. The director (a scholar and teacher in the fields of comparative literature and history) has also been an observer and participant in the legal process as an executive officer of several national organizations formed to protect citizen and professional rights. The seminar examined the concept and practice of justice from two perspectives -- the humanistic and the legal -- and attempted to bring both approaches to a common focus. Readings included works from the classical philosophers, dramatic and general literature, selections from the record of U.S. legal history, and works from modern writers on justice. The 15 participants, drawn from 12 states and the District of Columbia, included a municipal court judge, an associate justice of a state Supreme Court, the general counsel of a state housing authority, the supervising attorney of a state legal services project, an assistant state attorney general, and attorneys from single practices and partnerships working in a wide range of legal specialties.

4. Fellowships at Centers for Advanced Study ($400,000)

FY 1976 $400,000; FY 1977 $400,000; no increase.

The nation's great centers for advanced study and the major research libraries and museums offer opportunities to our leading scholars not only for work in their own fields but also for extended discussion with other resident scholars working in other fields, and hence for interchange of ideas at the deepest levels of understanding. The purpose of this program is to enable these centers to provide such opportunities to an optimum number of humanists -- at the same time strengthening the centers by stimulating their maximum use for work in the humanities and, in many cases, creating a fruitful balance between humanists and social and natural scientists at the centers.

The number of centers capable of providing this kind of opportunity is limited. They include the well-known independent centers for advanced study, a few smaller centers of narrower scope, and the independent research libraries and museums. The optimum numbers of fellowships at each and the average amounts of individual fellowships will vary greatly. The FY 1977 request will maintain support at the present level, providing about 30 fellowships.

Example of fellowships at centers for advanced study

In FY 1975, the Endowment awarded $50,820 to the Henry E. Huntington Library in San Marino, California, to enable the Library to supplement an existing grant-in-aid program with longer-term fellowships. The Huntington has outstanding research collections in English and American literature, in British and American history, and in Western Americana. A series of research seminars is arranged each year, and the Huntington has a journal and a small publication program for articles and books based on work done at the Library. The NEH fellowships make it possible for a few scholars to undertake sustained research projects in the Huntington collections and for fuller collegial interchange than the short-term program allowed. The five NEH fellows chosen for 1975-76, all distinguished scholars, will undertake an extensive range of topics, studying, in addition to English Renaissance literature and history, subjects as diverse as slavery in the era of Dickens and Engels and Indian-White relations in the 16th and 17th centuries. The Endowment grant has thus permitted the Library to broaden its interests, encourage greater use of its rich research collections, and achieve a wider range in its intellectual life.

II. Independent Study and Research Programs

5. Fellowships for Independent Study and Research ($3,000,000)

FY 1976 $3,000,000; FY 1977 $3,000,000; no increase.

The independent study and research programs are for individuals with specific and important projects in the humanities that require full-time pursuit. They are limited to scholars, teachers, writers, and other interpreters of the humanities who, working independently, can make significant contributions to humanistic knowledge. The length of a planned investigation determines whether an individual should seek a Fellowship for Independent Study and Research or a Summer

Stipend (see next section). Both programs will provide assistance to people at any stage of their careers, if they have made significant contributions to humanistic knowledge or have demonstrated promise that they can do so.

It is through the Program of Fellowships for Independent Study and Research that the Endowment provides its most basic kind of support for work in the humanities: that is, support for the research and writing of individual scholars. These fellowships are available for periods of 6 or 12 months of tenure, with stipends of up to $10,000 or $20,000, respectively.

In FY 1975, when 145 fellowships were awarded, and again in FY 1976, when approximately 175 were available, the reviewing panels gave highest-quality ratings to at least as many more excellent and deserving applications, which had to be rejected for lack of funds.

Because of limited funds available the program will remain at the same level into FY 1977, providing 175 awards. This meets the minimal need for support of this fountainhead activity in the humanities, and this is a goal of highest priority for the Endowment's fellowship program.

Example of fellowships for independent study and research

A professor of humanities at Stanford University received a fellowship for the year 1972 to write a critical biography of Bernard DeVoto (1897-1955). The best-known literary figure and most distinguished historian of the Rocky Mountain West, DeVoto was also greatly influential as a novelist and critic. In "The Easy Chair," his monthly column in Harper's magazine, he spoke out for two decades (1935-55) on many issues -- literary censorship, political snooping, conservation, shoddy products -- which are as alive today as they were in those years. The biography, The Uneasy Chair, published early in 1974 by Doubleday, was praised in Time magazine as "one of the best-written biographies 1974 will see. It consistently goes beyond the limits of its subject to illuminate what it meant to be a writer in the America of the 30's, 40's, and 50's." (Time, February 11, 1974, page 78.) In his review in The New York Times Book Review, Malcolm Cowley commented that the author was "an ideal biographer for DeVoto" since both had been brought up in Utah and both, as the author says, were "novelists by intention, teachers by necessity, and historians by the sheer compulsion of the region that shaped us." (Times Book Review, February 10, 1974, pages 1 and 2.)

6. Summer Stipends ($400,000)

FY 1976 $400,000; FY 1977 $400,000; no increase.

This program provides grants of $2,000 to college and university teachers, freeing them from the necessity of summer teaching to enable them to carry out individual projects of study, research, and writing. Because of a limit of three to any one institution, the awards are assured a wide distribution. The program has been particularly helpful to scholars in the smaller colleges and universities. A further benefit of the program is the attention it calls to the value of summer study and the benefits to the colleges and universities of providing institutional funds for this purpose.

The budget requested for FY 1977 will maintain the program at its current level, thus providing study opportunities for 200 individuals.

Example of summer stipends

With the development in biomedical research of new technical capabilities to alter and control human life, scientists have become aware of the important social, moral, and ethical questions resulting from the use of the new technologies. A biologist at Kansas State University proposed to spend the summer undertaking a formal study of moral and ethical philosophical theory and its application to biomedical research. As an immediate result of his study, he will undertake to develop among his students an awareness of the increasing necessity to involve considerations of human values and human concerns in the decisions on the use of biomedical research discoveries. The results of his study will be incorporated into a book on the implications of the uses to which biomedical research is put.

RESEARCH GRANTS PROGRAMS

(Definite Appropriation in Thousands)

Activities	FY 1975 Actual	FY 1976 Estimate	FY 1977 Request	FY 1976-77 Increase or Decrease(-)
1. General Research program	$2,596	$3,000	$3,100	$100
a. Basic.....	(2,187)	(2,400)	(2,400)	(--)
b. State, local and regional history	(409)	(500)	(600)	(100)
c. Program development.....	(--)	(100)	(100)	(--)
2. Research Materials program	3,864	4,500	4,400	-100
a. Tools.....	(2,475)	(2,800)	(3,000)	(200)
b. Editing.....	(1,389)	(1,700)	(1,400)	(-300)
3. Centers of Research program.....	1,636	2,600	3,000	400
4. Bicentennial state history program....	1,015	300	--	-300
5. International bicentennial conferences.....	779	100	--	-100
Total.....	9,890 1/	10,500	10,500	--

1/ Plus $3,539 thousand in gifts and matching funds.

The Endowment meets its Congressional mandate to support the humanities in two principal ways: first, by supporting programs that create and organize humanistic knowledge; second, by supporting programs that disseminate and distribute that knowledge to a broader audience, both through formal and informal educational channels. The Endowment's Research Grants Programs serve the first responsibility, to create and organize humanistic knowledge.

The nature of the support available in the NEH research programs represents a new development in grant programming for American humanistic scholarship. Although long available for the sciences, only recently, and only through NEH, has programmatic and sustained support for large-scale, long-term, or collaborative research projects become a possibility for the humanities.

A general Endowment priority in research is the encouragement of collaborative scholarly work in the humanities. There has been and

still is a tradition in the humanities that scholars work separately and independently. This has contributed to the splintering of scholarship in the humanities as well as to the sense of separateness of humanistic scholars from the general society. By providing programmatic and sustained support the Endowment is encouraging humanistic scholars to work together, promoting a more effective attack on major problems in the humanities, while contributing to the growth of a sense of common effort and purpose.

A major Endowment emphasis in research grants is the development, creation, and conservation of the resources necessary for the life of humanistic scholarship. Just as resources are necessary and vital to other aspects of life -- medical health, energy, the environment -- so resources are vital to the humanistic health of the Nation, and the Endowment has undertaken the responsibility for strengthening and maintaining resources needed by humanistic researchers. Such resources include the ordering and cataloguing of manuscript materials, the creation of reference works which serve as tools in the use of other materials, the collection of works and papers of those who have shaped our history, the oral history of individuals and groups who would not otherwise record their memories and knowledge. These resources like all other resources can be lost and squandered. It is the purpose of NEH-funded activities to identify these resources, to conserve them, and to make them accessible for use by scholars, by teachers, and by the general public. If these resources are lost, our nation will have been deprived of an essential link with our past and an important means of providing a sense of ongoing life and meaning to our society.

The Endowment sees its responsibility as supporting those projects which on one level or another produce the kind of humanistic knowledge needed to update and strengthen the education system and to deepen societal understanding. It is not the Endowment's purpose to support projects to accomplish the trivial supremely well. Through its extensive and thorough review processes NEH undertakes to weed out such projects and to support that humanistic scholarship which makes an important contribution to the mind of the nation both today and for the future.

To accomplish its mission, the Endowment has in the past year reorganized its research efforts into three broad areas: General Research Program, Research Materials Program and Centers of Research Program. Each area includes several elements and contributes both to the Endowment's concern for support of resources as well as for collaborative projects in the humanities.

1. General Research Program ($3,100,000)

FY 1976 $3,000,000; FY 1977 $3,100,000; increase $100,000.

Because it is not aimed towards a specific area or need, the General Research Program complements the Endowment's other problem-oriented programs. The several elements in this program respond to applicants' needs for research assistance across the entire range of the humanistic disciplines. Projects funded in this program are usually designed to explore a problem through original research and creative thought rather than primarily to develop resources for scholarly use. The Endowment is particularly interested here to promote collaborative research projects in which scholars with differing strengths pool their talents.

In FY 1977 the General Research Program will make awards in three areas: basic research; state, local and regional history; and program development.

a. Basic research ($2,400,000)

FY 1976 $2,400,000; FY 1977 $2,400,000; no increase.

The need for research funds to be met by this program element is potentially infinite owing to the open-ended nature of the program. The emphasis tends to be on those humanistic disciplines which lend themselves naturally to collaborative work; for example, a large percentage of the program's projects are in archaeology, linguistics, and literature.

Indicative of the program's impact is the amount of gifts resulting from matching offers. In FY 1975 approximately $2.5 million was obligated in gifts and matching funds in the General Research Program; the awards were made in amounts from $50 to $850,000. The average size of a grant of this kind was $50,000. Outright funds were obligated in awards from $800 to $100,000; the average grant amount was $30,000.

In FY 1976 and FY 1977 the number of applications, as well as the participants, are expected to increase. Applications from heretofore neglected areas of humanities research are rising; significant increases in applications have occurred in the area of humanistic social science and linguistic and language studies. At the same time the demand increases, inflationary pressures will also further erode support outside the Endowment. Approximately 70 awards, averaging $35,000, will be made in FY 1976. The request for FY 1977 will permit approximately the same number of awards, but the average grant size will probably be reduced.

Examples of basic research projects

(i) The Alaska Native Language Center, at the University of Alaska, with support from both the State Legislature and the Endowment, has pioneered efforts to preserve from extinction the literature and language of native Alaskan peoples. Fifteen writers, ranging in age from 71 to 23, have contributed materials in 10 different languages; eight in dialects of the Eskimo language, and seven in different Indian languages. The native writers have labored to develop a literary record for those unwritten languages. Particular concern has gone to preserving in literary form the traditional oral folklore of the Alaskan natives. While their work is a rich research resource for scholars, the work is also invaluable to the Alaskan natives on the verge of losing their cultural heritage. These writers are, indeed, leading their people toward a cultural renaissance. It is expected that the State Legislature will continue the work beyond the period of the Endowment grant; the state is now considering an expansion of the project.

(ii) Professor Dumas Malone received this year a Pulitzer Prize in recognition of his massive study, Jefferson and His Time. The Endowment, together with the University of Virginia and private donors, has supported Professor Malone over the last 8 years in his quest to write the most accurate, just, and complete biography of America's leading humanist. The Endowment considers this grant illustrative

of a national need, both because Malone's work is a benchmark for this kind of scholarship, and because the nation needs a definitive Jefferson biography. The nation's most eminent student of Thomas Jefferson, Malone has labored continually for 35 years on the project. With the Endowment's assistance, Malone is nearing completion of the sixth and final volume. Both scholars and citizens benefit from this unique biographical research, much of which has not been attempted in nearly one hundred years and which may never again be necessary.

b. State, local, and regional history program ($600,000)

FY 1976 $500,000; FY 1977 $600,000; increase $100,000.

In the past year the Endowment's support for state and local history has been reorganized so that the program may provide support for the narrative writing of history at the nation's grass roots. The focus of the program has now been broadened to include regional history. Coming in the wake of a renewed appreciation of our heritage, which the program has tried to sustain, is the growing awareness of the role that the states together and other regions of the nation have played. The genesis of the American people, and our republic, is best seen perhaps by the study of regions of the nation. Beyond an encouragement to scholarship, the program's purpose is to rejuvenate the nation's interest in local customs and folklife, which local institutions and funds have been nourishing. A new focus of the program will include studies of folklore and folklife in response to needs for research manifest in existing projects, such as the Alaska Native Writers Project, and expressed through other inquiries.

The appreciation in which this program is held is evident in the amount of gifts-and-matching funds contributed. In FY 1975 over $200,000 was raised, totaling more than 50 percent of outright awards. The range of awards in both categories is from $1,250 to $118,000; the average award is $35,000.

The FY 1977 request will be needed to continue support for 12-15 existing state and local history projects and to aid initiation of work in an equal number of new communities.

Example of state and local history project

The Endowment has supported a research program with wide educational impact at St. Mary's City, Maryland. This city, situated on the Chesapeake Bay, was the first European colony in Maryland and, as the home of Governor Charles Calvert (Lord Baltimore), was the state's first capital. Beginning with an archaeological excavation, which the Endowment helped to support, a team of workers has amassed information on the historic community. Support for the collection of historical records pertinent to the city's growth has enabled the project to develop materials that enhance the value of the excavation. Out of these records the grantees have developed a number of spinoffs, including an educational exhibit on early Chesapeake Bay life as it evolved around the tobacco trade in the region. This project has been funded on a gifts-and-matching basis with major support contributed by the State of Maryland.

c. Program development ($100,000)

FY 1976 $100,000; FY 1977 $100,000; no increase.

The General Research Program has always been the testing ground to help assess national needs in humanistic research and develop more efficient research methods. In FY 1976 this activity has become a distinct component of the program.

Program development awards will go to the support of projects promising to serve as models for other research efforts. They are measured by their capacity to expand the impact of research. For example, support will continue for small working conferences which bring scholars together in order to share information about new techniques and methodology. Special attention will be paid to transnational research efforts involving significant collaboration, so that scholars in this country and abroad may benefit from one another's work. Surveys of research needs, on which some preliminary work was done in FY 1975, will receive greater emphasis. A number of awards are anticipated in FY 1977 to assess research-need priorities. The program has been studying the problems of the translation of scholarly research materials. There appears to be a critical need to make work in foreign scholarship available in English not only for the humanities but also for the use of educators and the general public. In FY 1977 the Endowment will begin to test the possibilities for making grants for work on translations.

The number of program development grants will remain small (8-12) and the size of the grants will range from small sums available for working conferences ($2,000-$4,000) to the larger grants ($35,000-$50,000) to test the feasibility of a translations program.

2. Research Materials Program ($4,400,000)

FY 1976 $4,500,000; FY 1977 $4,400,000; decrease $100,000.

Established as a part of the reorganization of the Research Grants Program in FY 1975, this area brings together the formerly separate editing and research tools programs. These two programs are intimately related to each other and comprise the most basic materials from which humanistic research proceeds. Editing projects serve to make available an author's or a musician's work in a definitive form or to provide access to the papers of an historic figure. Similarly, research tools projects make available to the scholar -- and, by extension, to the student and the informed layman -- information previously inaccessible or unavailable. This information may take the form of a bibliography, a guide to sources, an index, or a dictionary.

a. Research tools ($3,000,000)

FY 1976 $2,800,000; FY 1977 $3,000,000; increase $200,000.

Established in FY 1974, tools grants provide support for such basic works in humanistic research as bibliographies, dictionaries, and source guides. Although both expensive and difficult projects, research tools form the bedrock of current and future humanistic scholarship and research, for they will benefit not only the current generation of American humanists but also future generations.

Indeed, many of the research tools funded by NEH will be American contributions certain to improve the quality of humanistic study throughout the world.

In 1972, at the request of the National Endowment for the Humanities, the American Council of Learned Societies conducted a survey of the needs for research tools in the various humanistic disciplines. That study indicated that at a minimum, 110 such projects of about 250 proposed have a high priority for American humanists. Few of these projects currently receive funding from the Endowment or from any other source. The ACLS study took place more than 3 years ago and was limited to the Council's constituents; if an extended universe of learned societies and professional organizations were canvassed, it is likely that the list of research tools would now approximate 500 projects.

In FY 1976 the research tools program will place its major emphasis on the continued support of those projects currently receiving funding and on providing initial support for some of the research tools proposals which command the absolute highest priority for American humanists. The ACLS, in presenting the results of its survey to the Endowment, divided the 110 high priority research tools projects into three classes of urgency. About 40 percent of these projects were considered to have the greatest urgency for American humanistic scholarship, and it is to projects of this class that the research tools program will direct itself in FY 1976 and FY 1977. Second, the program will encourage applications for planning and surveys making about 10-15 such small grants each year.

A typical research tools grant now generates 15-20 percent of its total costs in non-Federal funds (through institutional cost-sharing and gifts-and-matching arrangements). In FY 1977 this percentage should rise to 20-25 percent because the program will require that institutional cost-sharing be not less than 20 percent.

In FY 1977, as in FY 1976, since there will be no substantial growth in the budget, 48 projects, at an average grant size of $75,000, will receive support. These projects, along with the then ongoing projects will constitute approximately 28 percent of the envisaged need. The level of funding requested, as in FY 1976, will permit some 15 research tool surveys, at an average of $15,000 per grant, to be undertaken.

Example of research tool project

In FY 1975 the University of Minnesota received a 27-month grant of $277,761 in support of a project entitled "Women's History Sources Survey." The project will create a research tool, a guide to manuscript and archival sources for the study of the history of women in the United States from the colonial period to the present. The guide will survey all known repositories in the country, including national, state, and local archives; state and county historical societies; and church, business, and other institutional archives. The guide compiled from the survey will consist of descriptions of individual collections or record groups with appropriate indices to permit subject, name, and geographic access to material. Six professional personnel and one secretary comprise the project's paid staff. The project will involve the direct (and unpaid) cooperation of numerous learned societies, archivists, librarians, and scholars as it proceeds. When completed, the guide will provide vastly improved access to sources in women's history.

b. Editing ($1,400,000)

FY 1976 $1,700,000; FY 1977 $1,400,000; decrease $300,000.

The editing of literary texts, philosophical writings, and historical manuscripts and correspondence is one of the basic scholarly endeavors supported by the Endowment. This type of editing holds a nearly unique position in being essential to humanistic studies, since texts form the basis for most other types of scholarship in the humanities. Most humanistic scholarship relies upon printed materials and is dependent upon appropriately edited texts. Teaching in the humanities also depends upon the availability of accurate texts. The search for variant manuscripts or the attempt to get beyond a published text to the author's own manuscript is essential to a full understanding of an individual's thought. The gathering together and ordering of the letters and other papers of important historical or literary figures, the first step in any editorial activity of this kind, opens the papers for use by other scholars and makes published or microfilmed editions possible. A published edition, whether in complete or selected letterpress or on microfilm, is the culmination of years of research and results only from the dedicated labors of many individuals -- from the student assistant, learning the techniques of scholarly research, to the senior editor under whose guidance the project proceeds.

Because of the minute accuracy required, the publishing of a scholarly text is not only a time-consuming, but also an expensive, undertaking, going beyond the resources of the individual scholar or individual institution. It is only through coordinated governmental support that large-scale editorial programs in the humanities can be carried out. This is no less true today than it was in the last century when European governments such as Great Britain and Germany provided massive support for the editing and publishing of the documents which illuminated their literary and historical heritage and laid the foundation for modern textual criticism and historical research. The amount of support available either from NEH or the National Historic Publications and Records Commission, which is the only other source of government funding for humanistic editing projects at present, is limited; thus support to date has been focused on the papers of only the most eminent historical figures, neglecting projects dealing with less influential persons, and projects on topical themes such as labor history or the suffrage movement.

The need is therefore extremely large and the amount of support is limited not by a shortage of worthwhile projects but by finite resources. At the present time each decision to fund must be an individual value judgment selecting the most urgent and the most important of some 60 applications received per year.

This year and next, the current emphasis on editions of the writings and papers of significant individuals will continue. However, an effort is underway to gather and edit papers of significant groups, such as labor groups, the suffrage movement, immigrant groups, and others in order to add a new dimension to the program. The actual projects which are and will be supported by editing grants from NEH fall into four categories. The first is the publication of definitive editions of classic American literature, including the writings of American philosophers. Second, editions of the letters and papers of significant Americans who played major roles in shaping the nation's

65-300 O - 76 - 69

history have been and will be supported. Third, there is support for American scholars participating, often as part of large international projects, in the editing of writings of major intellectual figures from the past, such as St. Thomas Aquinas, St. Thomas More, and William of Ockham. Fourth, there will be support for topical projects such as the Women's Trade Union Papers, the Frederick Douglass Papers, the Constitutional Convention documents, and the Civil Rights Legal Papers microfilm project.

In addition, because projects involving the papers of groups often present special problems, funding will be provided for surveys and pilot studies to assess availability of materials and for the gathering of materials to assess what sort of selection can and should be made.

Editorial projects have been particularly successful in raising gifts in response to NEH matching offers with the result that an additional half million dollars was made available to such projects in FY 1975. In addition, the sponsoring institution is expected to make a substantial contribution to the project and this is often as high as 50 percent of the total costs of the project.

For FY 1976 the planned level of funding will provide support for 27 continuation projects and 13 new projects for a total of 40, with an average grant size from combined outright and gifts-and-matching funds of $60,000. For FY 1977, the average grant size from combined outright and gifts-and-matching funds will be $60,000. At this level, 27 grants will be made for continuing the funding of existing projects and 11 grants for new projects.

Example of editing project

Since 1966 the Endowment has supported work on definite editions of classic American literature through its grant to the Modern Language Association's Center for Editions of American Authors. In addition to the over 110 painstakingly edited volumes thus far produced under this grant, CEAA has also fostered the development and maintenance of uniform scholarly standards for textual editing. Endowment support for editions of American authors during the period of the CEAA grant, however, has been largely limited to those editions included under the original grant. With the termination of the CEAA grant in FY 1976, the Endowment expects to broaden its consideration of editions of American authors by accepting applications for editions not previously covered by the CEAA grant in addition to the individual editions currently active under this grant. It is expected that the estimated 20 applications we will receive will continue to maintain and develop the high editorial standards which have already been established through the CEAA grant.

3. Centers of Research Program ($3,000,000)

FY 1976 $2,600,000; FY 1977 $3,000,000; increase $400,000.

Whether conducted by individuals or by teams of scholars, humanistic research of any kind and at any level relies upon the existence and operation of supporting institutions, those centers where the raw materials and reference aids used in such research are accessible.

Because highly trained personnel are required if research centers and collections are to function properly, centers of this sort are traditionally labor-intensive operations. At the present time, labor costs are escalating as are the prices of books and other research materials and the expenses of physical maintenance. Consequently, many centers of research are hard-pressed to continue performing the minimum services required by humanistic scholars; much less can they undertake to improve and expand these services.

The Endowment's Centers of Research Program is directed at providing several types of support for local, regional and national institutions which house humanistic research: libraries, archives, historical societies and museums, research institutes, whether affiliated with a university or independent, and special centers devoted to research in particular areas which cross several humanistic disciplines. Support is available (a) to aid the development of new and existing collections of materials in order to provide scholars, students and others with the resources needed for research into both traditional subjects and important newer areas of interest, such as immigration studies; (b) to help develop new automated data processing technology as a more efficient and effective method of bibliographic control of important humanistic collections; and (c) to support discrete research efforts designed to exploit the resources unique to a particular center.

In FY 1976 NEH funds will aid 41 major collections (at $50,000-$100,000) to increase the accessibility of their materials to scholars; help plan two or three computerized systems (at $40,000) linking a number of centers together for more efficient resource sharing; and support organized research efforts (at $300,000 for three years) at two nationally important centers. This outright support is supplemented with gifts and matching funds often of even greater magnitude.

The FY 1977 request will enable a slight increase in support for systems development and for group research in major facilities with rare collections.

Examples of center grants

(i) The support offered to the New York Public Library provides an example of assistance for an institution to gain bibliographic control of its holdings. Under a $1,250,000 gifts-and-matching award, the NYPL will automate the book catalogue of its Research Libraries. In addition, character sets for the Cyrillic and Hebraic alphabets will be created; resolution of the difficult bibliographic problems posed by these alphabets will permit accessioning of acquisitions in these languages in both the original language and in transliterated form. Furthermore, the developmental work which would be supported will have an impact beyond the NYPL, especially as that institution has recently joined with Harvard, Yale and Columbia Universities in a consortium called the Research Libraries Group. Should on-line systems be established, the NYPL data base developed with NEH support will be accessible throughout the RLG network and thus available to a large audience in the northeastern United States.

(ii) Three years ago a grant of $30,000 in outright support and an offer of up to $140,000 in gifts-and-matching funds was made to St. John's University in Minnesota for continued support of the Monastic Manuscript Microfilm Library (MMML) project. Funded by the

Endowment on essentially a matching basis since 1967, the MMML project was begun in order to bring to this country, and make available to American scholars, copies of major manuscript collections housed in libraries, religious houses, and other institutions in Europe, Malta and Ethiopia. In addition to making these items accessible to scholars unable to travel overseas to work with the original documents, the MMML project helps to insure the preservation of unique resource materials covering a range of disciplines and topics, from theology and law to art history and literature. Over 1,600 scholars in this country and abroad have either come to the MMML or received materials by mail. Furthermore, the project has had great success in attracting private support, meeting and surpassing the requirements of the NEH gifts-and-matching offers.

4. Bicentennial History Program ($-0-)

FY 1976 $300,000; FY 1977 $-0-; decrease $300,000.

This program was initiated by the Endowment specifically for the Bicentennial. It is on schedule, the purpose of the project will be met, and program funding will be completed in FY 1976. In conjunction with the American Association of State and Local History, a 52-volume set of interpretive essays on each state, plus the District of Columbia and the Commonwealth of Puerto Rico, will be written. The books will begin to become available in a hardcover as well as a paperback edition in early 1976.

The project is enlisting the services of more than 50 of the nation's best writers and historians. The books are intended for a general educated audience and the volumes will reach directly a projected audience of about one million citizens. In addition, spinoffs from the project will have an impact on several million others. The National Public Radio is using, in a series of their own, material and authors from this project. Furthermore, since each volume will include an eight-page photographic essay, it is expected that several state museums and historical societies will cooperate in designing public exhibitions of the photography within a region.

5. International Bicentennial Conferences ($-0-)

FY 1976 $100,000; FY 1977 $-0-; decrease $100,000.

As part of the contribution to the national Bicentennial, the Endowment during the FY 1974-76 period has made a series of grants to support 20 international congresses and conferences in which American and foreign scholars could exchange ideas and perspectives on the humanities worldwide. The conferences also provide an opportunity for the American scholarly community to return the hospitality which foreign governments, learned societies, and scholars have extended to Americans in the course of the past half-century. Geographically, the conferences are located in 12 states, including Texas, Iowa, North Carolina, Missouri, Ohio, and Maine. The conferences' foci range from two studies of ethnic literatures in America to an examination of the impact abroad of American cultural institutions.

The program will reach a minimum of 10,000 persons directly as attendees of the conferences; it is estimated that many more scholars, students, and the general public will benefit from new scholarly work resulting from the conferences.

The last of NEH grants for these conferences will be made in FY 1976; accordingly, no funds are requested for this program in FY 1977.

PLANNING: DEVELOPMENT, EVALUATION AND DISSEMINATION

(Definite Appropriation in Thousands)

Activities	FY 1975 Actual	FY 1976 Estimate	FY 1977 Request	FY 1976-77 Increase or Decrease(-)
1. Development[1/].....	$3,208	$4,809	$5,050	$241
2. Youth programs.....	1,404	1,300	750	-550
3. Evaluation & analytical studies.....	282	750	1,000	250
4. Dissemination.....	234	300	500	200
Total	5,128[2/]	7,159	7,300	141

1/ Includes funds for grants and contracts in furthering pilot programs as well as "program development and evaluation funds" (not to exceed three percent of Endowment appropriations) for the support of panelists, consultants, printing and related information services. (FY 1975: $909 thousand; FY 1976: $2,089 thousand; FY 1977: $2,293 thousand).

2/ Plus $324,820 in gifts and matching funds.

As the Federal Government, through the Endowment, becomes a more important and sustained sponsor of humanistic activity, it is even more essential that the Endowment remain open to new ideas; that it actively seek out and, where necessary, initiate new ways of acquiring and applying humanistic knowledge and more effective means of involving larger numbers of people in humanistic study; and that it continually attempt to evaluate the impact of its own efforts and disseminate information about successful activities carried on by other organizations. These various functions are administered or coordinated by the Endowment's Office of Planning.

The following budget headings subdivide Planning activities along more or less functional lines, and indicate examples of the kinds of activities being undertaken or planned. Also noted is the approximate allocation of Endowment funds which may be anticipated for such functions in FY 1977.

1. Development ($5,050,000)

FY 1976 $4,809,000; FY 1977 $5,050,000; increase $241,000.

The Endowment's major priorities for development in FY 1977 will be (a) building on the successful activities undertaken as part of the

American Issues Forum during FY 1976; (b) experimenting with various approaches to foster humanistic activity in non-traditional and traditional settings; (c) designing and testing programs in special areas, particularly for groups in the population hitherto unreached or seriously under-exposed to the humanities; and (d) identifying critical areas within American society in which humanists should be encouraged to work and speak. These efforts, which account for approximately $2.7 million, are described more fully below. The remainder of the Planning funds sought will be used for a variety of program development, consultation, and assessment activities needed throughout all NEH program areas previously described. These funds are within the customary 3 percent set-aside of the NEH appropriation and detailed in the NFAH Administrative Budget section.

a. A major part of Planning funds during the past two years has been used to develop, promote, and help implement the American Issues Forum. Compared with the privately supported activities, NEH funded a relatively small proportion of the implementation efforts, thus fulfilling one of the original hopes of the Forum's designers. Nevertheless, the Endowment-supported projects were important in giving the Forum national linkages and providing certain kinds of resources needed by the numerous state and local groups desiring to participate in substantive discussion of the AIF issues. In some cases already established, ongoing NEH activities, e.g.,"Courses By Newspaper," were able to be oriented to the Forum without any additional cost or change in their operation; in certain cases, special activities already planned for the Bicentennial, e.g., the Bicentennial Youth Debates program, were able to exploit the Forum's calendar as a programming framework; in yet other cases, the Endowment undertook to support activities specifically for the Forum. The latter include the preparation of programming guides and materials for ethnic, religious, and occupational groups never previously reached by NEH directly. These various projects will receive special attention for evaluation in late FY 1976 in order to assess their implications for programmatic efforts which could be designed in FY 1977. Depending on this assessment, $200,000 would be set aside out of the budget request for these efforts.

b. Two modes of transmitting humanistic knowledge -- the newspaper and the electronic media -- will be given special attention in FY 1977. In both areas, NEH has done some testing of the capacity of these media to communicate to large and dispersed audiences systematic, humanistic programming.

The Endowment's first experiment with newspapers, "Courses By Newspaper," began in FY 1974 and was an immediate success. Carried by 273 newspapers from all parts of the country in that first year, it attracted 430 newspapers in its third year of operation beginning this past fall. The course consists of a series of weekly, printed lectures, developed by distinguished scholars from the humanities and related fields of learning and a set of accompanying bibliographical and supplementary reading materials. The course is aimed at

three audiences:

(1) the casual newspaper reader, who may be stimulated by the lecture to reflect upon and discuss with family and neighbors the issues treated in each article;

(2) the reader who wishes to explore the subject further and who is aided by an inexpensive kit of supplementary study materials; and

(3) the reader who wishes to do serious, in-depth study and receive college credit, which may be done through arrangement with a college in the area where he or she is able to obtain supplemental study materials, meet with fellow course participants in occasional seminars, and take a college-level examination.

An extensive evaluation conducted by an independent organization studying the first course indicated that approximately 15 million persons read one or more of the weekly lectures. In different geographic areas, 80-90 percent of these persons expressed interest in additional courses. While the number of kit purchasers (nearly 12,000) and credit enrollees (nearly 5,000) in the first two years has been small, the participants were also highly approving of the experiment and wanted it to continue. On the basis of these results, additional courses are being planned. It should be pointed out that the third and fourth courses, to be distributed in FY 1976, have been designated by the Domestic Council's Cabinet-level Bicentennial Committee as a special Federal program for the Bicentennial and is being carried in newspapers throughout the nation.

On the basis of its demonstrated value and with the expectation that the project has yet to reach its full potential, the National Council has recommended that "Courses By Newspaper" become an established program. Supervised by a national board, the program will provide two new courses per year -- one for the fall, one for the spring semester -- and will seek to make them available for further use after initial newspaper distribution. In this way, it is hoped that NEH can assure opportunity for that part of the population -- especially confined persons or those living in relatively isolated areas -- who cannot enroll in traditional educational programs yet who would like to engage in serious, disciplined study of humanistic issues. The cost of each course is estimated at $300,000, with gifts and matching funds expected to pick up $50,000 of this cost.

The Endowment is also beginning to undertake a sustained exploration of the various uses of the electronic media for continuing education in the humanities. This priority recognizes the regrettable fact that utilization of the media -- broadcast television, cable television, radio, cassette -- for formal humanities education has thus far not achieved the kind of effectiveness and public acceptance as that attained in the early childhood or basic skills education fields, exemplified by "Sesame Street" and "The Electric Company." Indeed,

"instructional television" in the humanities has usually meant simply televised instruction, with the professor lecturing at the TV camera. The research, development, and testing of solid educational programs which exploit the unique capabilities of electronic media is expensive. A televised course equivalent to a college semester course is estimated to cost over $1 million, but, once produced, an effective course by media can reach thousands, if not millions, of persons, both on and off the campus, thus extending the walls of the university and offsetting the costs of the development of the course.

During the past year the Endowment has supported planning by the State University of Nebraska (SUN) for a multi-media course on the cultural history of the Great Plains. The producers of the course are attempting to bring together some of the nation's top scholars and media specialists in order to create a new kind of humanities programming. Depending on an assessment of pilot efforts later this year, the Endowment will consider full production of the Great Plains course and the planning of additional courses. For FY 1977 $1,000,000 is being set aside for these.

Other areas of the electronic media, specifically cassette audio-visual materials, are being examined in 1976 to see how they can efficiently and effectively be used to bring about material of high quality in the humanities. Such projects are expected to promote interest and other applications for innovative and experimental approaches to the dissemination of the humanities. Some small planning grants are expected to be made this year, with production and evaluation of these projects taking place in FY 1977. This will require $200,000.

c. Certain identifiable groups and subject areas will be targeted for special planning efforts with $200,000 set aside for these:

(1) The creation of the Youthgrants and then the Bicentennial Youth Debates program (see below) have previously been developed on behalf of a special group in the population -- young people -- which had not previously benefited directly from the Endowment's services. Lack of participation or only indirect or passive participation in the humanities is, of course, not confined to young people. Certain groups, such as the aged and military personnel are quite frequently removed from the ongoing activities of the Endowment. In recent years these groups have been the objects of study but the recipients of little attention in terms of their needs and possible participation in humanistic study.

With FY 1976 funds NEH is aiding efforts to investigate the particular educational interests and problems of older people. The results of these will determine possible programs which would operate in FY 1977.

Because of budget reductions in FY 1976, plans were deferred until

FY 1977 for developing humanities activities for military personnel, especially those located away from major cultural centers, whether in this country or abroad. After exploration of feasible programming, NEH will work with one or more branches of the Armed Forces on the design and testing of special materials particularly appropriate for this distinct population group.

(2) A second area designated for greater attention will be American folklore and life. In past years such projects have received funding in virtually all areas of the Endowment -- research, education, and public activities. However, the heightened interest in American history, life, and ways resulting from the Bicentennial indicates additional activity should be encouraged in this area.

(3) While financial difficulties are encouraging an increasing number of educational and performing arts organizations to band together at the local level for more efficient planning, resource-sharing, and fund-raising, similar efforts have not yet been tried by the even more numerous institutions comprising the humanities universe. The diversity of these groups -- libraries, museums, schools and colleges, historical societies, etc.-- is undoubtedly one reason for this. Another has been the lack of "how to" information, models, and necessary seed money. In FY 1977 the Endowment will explore the feasibilities of, and, if appropriate, fund a few pilot efforts for, community-wide planning by humanities institutions designed to assess their needs and opportunities for resource sharing.

d. Identifying critical issues that confront the nation, and encouraging humanists to speak to these will receive higher priority. The Endowment's most concentrated effort concerns ethical and value questions which have been generated, or put in sharp focus, by extraordinary contemporary developments in science and technology. To this end a Program of Science, Technology and Human Values was established in 1973. Its premise is that the humanities disciplines -- such as history, philosophy, literature and jurisprudence -- can help locate the developments in science and technology within the larger perspectives of the human enterprise.

Three functions of the program are: to stimulate and coordinate activities of the Endowment's divisions in this area; to maintain liaison with a counterpart program established in the National Science Foundation (NSF); to support projects which provide models for collaborative endeavor by scientists and humanists, and to cooperate in joint NSF-NEH support of such projects.

Endowment-wide support for science-values projects increased in FY 1975 and is expected to continue at a significant level in 1976 and 1977. The range of subjects involved is in part reflected by grants funded directly through the Office of Planning: the Institute of Society, Ethics and the Life Sciences, to study the origins of ethical premises in biomedicine; the American Association for the Advancement of Science, for a work-shop to plan scientist-humanist

research collaboration; Harvard University, Public Conceptions of Science Program, to include humanistic contributions to this area; University of Michigan, to analyze the wide variety of science-values courses being offered at institutions of higher education. It is noted that the last three are among five funded jointly with NSF -- the first joint funding under the auspices of the program.

The kinds of science-technology/ethics-values concerns that prompted the initiation of this program 3 years ago have continued to become even more apparent in their complexity and immediacy. Wrenching value alternatives are going to have to be admitted into the national and international consciousness within the next decade respecting such topics as energy resources and consumption; related questions of world population level; environmental hazards; alteration of behavior through drugs and psychosurgery; selection of individual characteristics through genetic manipulation.

Indeed there is also a vast range of emerging economic and social issues not directly related to medicine or technology, understanding of which could be both broadened and sharpened through the kind of work by humanists which the "Science-Values" program has been encouraging. These questions concerning, for example, family life, sexual roles, criminal punishment, increasing bureaucratization and citizen alienation, must be addressed by scholars in the humanities as well as in the behavioral sciences and in ways which will help ordinary Americans (rather than just other scholars or persons enrolled in formal education) to deepen their own understanding and to orient their own lives.

For FY 1976, $750,000 has been allocated for initiation and continuation of exemplary work in this area. Emphasis will be on model projects in which scientists and humanists join their efforts to understand the complex relationships of ethical and value systems to scientific and technological developments. This level of funding and emphasis will continue into FY 1977.

2. Youth Programs ($750,000)

FY 1976 $1,300,000; FY 1977 $750,000; decrease $550,000.

Approximately one percent of NEH definite funding is being allocated to continuing and new youth-oriented programs as an important part of the Endowment's ongoing effort to reach special groups in the population not normally involved in the humanities.

The Youthgrants in the Humanities Program, now completing its third full year of operation, has generated an enthusiastic response from the nation's youth and the general public, both because of the remarkable and varied projects which the program has funded and because of the fact that, while Federal and private agencies have long supported youth-initiated projects in the sciences, similar support was not elsewhere available to young people desiring to work in the humanities.

Projects supported thus far cover all fields of the humanities, involving education, research, archival work, archaeology, film, and community activities in every geographic region. They include a new curriculum using American History in teaching Latin, developed by college students for use in the junior high schools of Eudora, Kansas; a slide-tape program on the underground railroad in Illinois, prepared for use in the Chicago schools by a group of junior-high and high-school age boys under the guidance of a local community organization; a manual of cultural resources for the large Portuguese community in the Greater Boston area by a group of college undergraduates; development of two humanities courses in music and art which were then taught in 30 nursing homes serving old people; and local history projects undertaken by young people in small towns in many states.

A recent evaluation of the Youthgrants Program found that in a representative sample of these projects assessed by scholars in the field, 75 percent of the projects were found to be excellent to good examples of humanistic scholarship or instructional materials on a level produced by experienced professionals. At the same time, the Youthgrant projects were also found to be increasing the public's appreciation for humanistic work conducted by young people. In view of this assessment of the Youthgrants Program's success, NEH plans a modest expansion of its programming in this area.

The Youthgrants evaluation also indicated that if the Endowment wanted to reach young people of high-school age or those without an already developed interest in the humanities, a different kind of program would be necessary. Therefore, in FY 1976 and increasingly in FY 1977 NEH intends to experiment with various programmatic models which might offer young persons an enriching humanistic experience outside of the normal school/academic curriculum.

The Bicentennial Youth Debates (BYD) program developed under NEH auspices is receiving its final funding of $750,000 in FY 1976. This program, which appears to have become the principal program nationally for serious youth involvement in the Bicentennial observance, has suggested a number of activities for future NEH work oriented to young people. This work will be designed on the basis of an evaluation of BYD in the summer of 1976 and tested in FY 1977.

In FY 1976 approximately 60 grants in the Youthgrants program are expected to be made with an additional $250,000 to be made available for approximately ten experimental grants. These grants will go to institutions for testing new ways of involving large numbers of younger persons, especially those of high-school age, in humanities projects under the guidance of experienced humanists.

In FY 1977 contingent upon successful experimentation in this area, the Endowment plans to devote $450,000 to new institutional grants for further experimentation with national projects, drawing on the

experience with the Bicentennial Youth Debates and other projects in locating new ways of reaching the youth population, and $300,000 to the ongoing Youthgrants program.

3. Evaluation and Analytical Studies ($1,000,000)

FY 1976 $750,000; FY 1977 $1,000,000; increase $250,000.

Sound programming depends upon critical judgment honed from past experiences, both within NEH and elsewhere, and a capacity to identify areas of unmet needs. These activities are no less necessary than they are difficult, especially in an area such as the humanities which does not easily lend itself to the usual standards of quantifiable measurement.

a. Evaluation

In FY 1975 a formal, organized evaluation program was implemented within the Endowment, responsibility for the program being vested in a senior-level Evaluation Officer. The program, as established now, consists of two activities:

(1) program evaluation studies to assess the impact and effectiveness of major NEH programs; and

(2) project evaluation studies of selected, representative grant projects which may have bearing upon subsequent requests for Endowment support.

Evaluation work in FY 1975 included two program evaluations and development of a procedure for evaluation report review within the Endowment. In addition, the procedure and format for project evaluations were improved. Nineteen project evaluations were completed. During FY 1976 two major program evaluations will be undertaken, various American Issues Forum activities will receive in-depth investigation, and the format for project evaluations will be further refined with the assistance of automatic data processing. For FY 1977 four evaluation studies of major programs are projected and the number of project evaluations will be increased.

b. Analytical Studies

In order to be better able to identify areas of need within the humanities and to establish the priorities among competing and deserving demands, the Endowment, in FY 1975, established a Planning and Analytical Studies Program. Through grants and staff projects the information about the humanities universe, about the needs and about the human and material resources supporting the humanities is gathered and studied.

Three kinds of activities are funded:

(1) studies of specific humanities areas to assess the met and unmet needs;

(2) support of research leading to the development of new analytical tools; and

(3) support of research leading to the development of new resources that will enable humanists, planners, and administrators to better assess needs and impacts.

Analytical studies in FY 1975 were limited to three specific area studies (a profile of humanities teachers in two-year colleges, the historical development of Federal support for foreign language and area studies, and the planning for an inquiry into the state of scholarly publication) and two resource studies of humanities doctorates in conjunction with the National Science Foundation and the National Institutes of Health. In FY 1976 support will be continued in one or more of the existing studies and it is expected that three to five additional area studies, two to three resource studies, and one or two tool studies will be initiated.

In FY 1977 all areas will be increased by one or two projects. Areas given especially high priority will be the status of foreign language education in the U.S., improvement in the efficiency of scholarly publishing, the supply and utilization of humanities doctorates, and the extent and purposes of support nationally for humanistic research. Depending on their scope, these studies will require an average of $200,000 a year, with most running for two years.

4. Dissemination ($500,000)

FY 1976 $300,000; FY 1977 $500,000; increase $200,000.

The Endowment's dissemination activities serve two important functions: by disseminating information about successful projects to potential users, the Endowment helps organizations to learn from the experience of others and thereby increases the impact of its efforts and maximizes the use of Federal funds; and by collecting and distributing information about the state of the humanities, the Endowment may more effectively carry out its legislative mandate to help "develop and encourage the pursuit of a national policy for the humanities."

Because of limited funding, dissemination activities in FY 1975 and FY 1976 have been confined to three areas: Humanities, the Endowment's highly successful newsletter; the Jefferson Lecture, which, through the appointment this past year of Paul Freund, attracted extensive coverage in the media and stimulated increased public attention to the humanities and their relation to national life; and reading and film lists prepared by national organizations for the American Issues Forum. Also in FY 1976 staff began planning for a system of abstracting, thereby alerting potential users to, and providing at cost copies of, NEH grant reports.

FY 1977 plans are for the following:

(1) expansion of Humanities from a bimonthly into a monthly publication;

(2) establishment of the reports dissemination system described above and investigation of its possible extension into humanities programs of other organizations;

(3) creation of a series of NEH Grant Profiles or case studies describing in detail successful innovations which have been supported by the Endowment and which might be replicated by other organizations in other parts of the country;

(4) establishment of a humanities information center/clearinghouse collecting, analyzing and disseminating national data on humanistic research, education and public programming and information about materials and other resources available for use by organizations conducting humanistic activities.

These various and long-necessary activities will help the Endowment give concrete expression to that section of its authorizing legislation directing it to "foster the interchange of information in the humanities."

IV. MATCHING FUNDS

(Indefinite Appropriation in Thousands)

Activities	FY 1975 Actual	FY 1976 Estimate	FY 1977 Request	FY 1976-77 Increase or Decrease(-)
Federal matching.....	$6,500[1/]	$7,500	$7,500	--
Gifts and donations.....	6,050	7,500	7,500	--
Carryover from previous year[2/].....	3,073	6,689	--	-$6,689
Total available....	15,623	21,689	15,000	-6,689

1/ Includes matching of gifts received in FY 1974 but held for matching in FY 1975.

2/ These carryovers (which include refunds on prior year's grants of $10 thousand) resulted primarily from gifts received too late in the fiscal year to be obligated; most of these funds, however, were already committed to approved projects.

Through matching funds provided from the indefinite appropriation the Endowment stimulates private gift-giving in support of the humanities and encourages colleges and universities, professional societies, research organizations, and other institutions with humanities programs, to develop new sources of funds and thus broaden their base of support.

Offers of gifts for Endowment-supported activities continue to reach the Endowment and its grantees steadily. Though slightly fewer gifts were received in economically troubled FY 1975, the general public continued to show that they considered the humanities an important part of their lives by making donations of over six million dollars for humanities-related projects.

Each division saw an increase in gift money with the exception of Research Grants (which had received an unusually high amount of donations in 1974 for the New York Public Library challenge offer).

However, the Endowment continues to be encouraged by the amount of money raised in support of Research activities -- an area which until recently had attracted very little support. The largest sum of gifts donated on behalf of any single project ($1,275,000) was for the International Research and Exchanges Board of The American Council of Learned Societies and the Social Science Research Council to support scholar exchange programs involving seven East European countries.

The program distribution of the gifts received during the 1974-75 period is shown below.

Gifts Received, FY 1974-75, by Program

(amounts in thousands)

Program	FY 1974 Amount*	FY 1974 (Percent)	FY 1975 Amount*	FY 1975 (Percent)
Public	$1,429	(23)	$1,586	(26)
Education	682	(11)	898	(15)
Fellowships	69	(1)	1,100	(18)
Research	3,614	(60)	2,063	(34)
Planning	320	(5)	403	(7)
Total	6,114	(100)	6,050	(100)

* Excludes gifts received in previous fiscal year and held for matching until following year.

Again in FY 1975 the Media Program stimulated the receipt of large gifts for two of its projects, with $1.5 million raised on behalf of "The Adams Chronicles" and over $72,000 raised in support of a film depicting the history of Washington, D.C. Museum activities throughout the nation also encouraged sizable support with $150,000 donated on behalf of the Field Museum in Chicago for "Man in his Environment"; $125,000 for the Metropolitan's exhibit on Impressionism; and $150,000 in support of the San Francisco Asian Art Museum's exhibit of the archaeological finds from the People's Republic of China.

In addition to these major gifts, many other humanities projects have been made possible through the combined resources of private and public giving -- including the updating and strengthening of humanities curricula in such colleges as Wofford College in South Carolina, Saint John's College in New Mexico, the University of Wisconsin at Milwaukee, and Alice Lloyd College in Pippa Passes, Kentucky.

Other projects supported with matching funds include: The Alabama Center for Higher Education, which is compiling an oral history of Alabama, and the Western Interstate Commission's Summer Intern Program, which provides its college and university interns the opportunity to help expand community awareness and appreciation of the humanities throughout the West.

Other activities supported include the gathering of Finnish folklore, an Appalachian film workshop, the American Council of Learned Societies' fellowship program, archaeological excavations conducted by institutions both in this country and abroad, international conferences to be held in the U.S. during the Bicentennial period, the preparation of the Atlas of Early American History, the preparation of a medical ethics dictionary, and the preparation of the papers of

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such American notables as John Marshall, Frederick Law Olmsted, and George Washington.

The FY 1976 indefinite appropriation is $7.5 million, or $1 million more than was approved for FY 1975. In view of the fact that the rate of gift-giving to the Endowment fell slightly between FY 1974 and FY 1975, it may well be difficult to meet the $7.5 million level this year. At the same time, however, the Endowment believes it important to try to maintain the momentum in gifts which has developed in the past several years and, therefore, proposes once again a matching authority of $7.5 million.

Based on previous experience and current matching offers outstanding, we should expect approximately 40 percent of gift-and-matching funds to be used in support of State-based programs, film, television, community discussion, and experimental programs for the general public; about 40 percent to support several score humanities research projects; and the remainder to be used for educational projects, especially institutional development, and special fellowship programs.

Note: The tables on the following pages provide (1) historical and projected data on the receipt of gifts and on gift-and-matching fund obligations by major program activity and (2) the distribution of NEH outright and gift-and-matching funds by program element in FY 1975.

NATIONAL ENDOWMENT FOR THE HUMANITIES

Gifts Received: Actual 1967-75 and Estimated 1976-77 (in thousands)

Program	1967-72	1973	1974	1975	Total 1967-75	1976 (est)	T.P. (est)	1977 (est)
Public	$1,223	$108	$1,429	$1,584	$4,344	$2,750	$150	$2,750
Education	4,611	1,496	682	898	7,687	1,000	200	1,000
Fellowship	12	400	69	1,100	1,581	250	--	250
Research	2,910	2,305	3,618	2,123	10,956	3,000	150	3,000
Planning 1/	937	86	316	345	1,684	500	--	500
Total gifts	9,693	4,395 3/	6,114 4/	6,050 6/	26,252	7,500	500	7,500
Matching funds released	9,693	3,500	6,500 5/	6,500 5/	26,193	7,500 5/	500	7,500
Total gifts and matching funds received	19,386	7,895	12,614	12,550	52,445	15,000	1,000	15,000
Unobligated balance from prior year	--	3,872	2,100	3,062	--	6,689	--	--
Adjustments 2/	-37	2	24	11	--	--	--	--
Total available	19,349	11,769	14,739	15,623	52,445	21,689	1,000	15,000

Obligations from Matching Funds, FY 1967-77 (in thousands)

Public	2,320	258	2,727	1,831	7,136	7,566	334	5,500
Education	6,878	3,922	1,741	2,139	14,680	5,305	334	2,000
Fellowship	25	400	538	1,100	2,063	500	--	500
Research	5,153	4,405	6,066	3,539	19,163	7,338	332	6,000
Planning	1,102	684	605	325	2,716	1,000	--	1,000
Total obligated	15,477	9,669	11,677	8,935	45,757	21,689	1,000	15,000
Unobligated balance	3,872	2,100	3,062	6,689	6,689	--	--	--
Total available	19,349	11,769	14,739	15,623	52,445	21,689	1,000	15,000

1/ Includes unrestricted gifts 1967-75.
2/ Includes returns from prior years' grants (+) and transfers to other accounts (-).
3/ Includes $895 thousand in gifts held for matching in FY 1974.
4/ Includes $509 thousand in gifts held for matching in FY 1975.
5/ Includes funds to match gifts received in previous fiscal year.
6/ Includes $60 thousand in gifts held for matching in FY 1976.

Note: Because of rounding, detail may not add to totals.

Summary of Grants and Awards: Fiscal Year 1975[1/]

Programs	Number of Awards	Amount Obligated: Outright	Gifts & Matching	Total
Public	210	$24,446,598	$1,831,473	$26,278,071
State-based programs	63	13,529,332	160,503	13,689,834
Media grants	26	4,452,047	862,970	5,315,017
Museum & historical organizations	94	4,457,176	808,000	5,265,176
Program development	27	2,008,043	--	2,008,043
Education	182	14,925,827	2,138,715	17,064,542
Institutional grants	75	4,847,578	633,969	5,481,547
Pilot	(39)	(1,088,964)	(--)	(1,088,964)
Program	(13)	(1,944,626)	(--)	(1,944,626)
Development	(23)	(1,813,988)	(633,969)	(2,447,957)
Education projects	102	6,765,291	1,504,746	8,270,037
Higher education	(68)	(4,750,533)	(1,330,612)	(6,081,145)
Elementary & secondary	(34)	(2,014,758)	(174,134)	(2,188,892)
Humanities institutes	3	2,769,356	--	2,769,356
Cultural institutions	2	543,602	--	543,602
Fellowships	605	9,850,445	1,100,000	10,950,445
Residential programs	240	6,679,830	(--)	6,679,830
College teachers	(160)	(2,570,586)	(--)	(2,570,586)
Summer seminars	(61)	(2,484,861)	(--)	(2,484,861)
Professions	(11)	(1,132,663)	(--)	(1,132,663)
Centers for advanced study	(8)	(491,720)	(--)	(491,720)
Independent study programs	363	3,071,015	--	3,071,015
Independent	(159)	(2,663,015)	(--)	(2,663,015)
Summer stipends	(204)	(408,000)	(--)	(408,000)
Special	1	99,600		99,600
ACLS[2/]	1	--	1,100,000	1,100,000
Research Grants	249	9,890,035	1,538,959	11,428,994
General research	106	2,187,379	2,174,656	4,362,035
Editing	31	1,388,485	140,446	1,528,931
State and local history	12	408,827	206,335	615,162
Bicentennial history program	2	1,014,592	10,000	1,024,592
Research tools	50	2,475,478	590,291	3,065,769
Research centers	27	1,636,158	317,231	1,953,389
Int'l bicentennial conferences	21	779,116	100,000	879,116
Planning	84	5,129,148	324,820	5,453,968
Science and human values	9	549,249	260,000	809,249
Youth programs	43	1,404,074	--	1,404,074
Projects	31	2,255,409	40,000	2,295,409
Program development & evaluation	--	909,416	--	909,416
Jefferson lecture	1	11,000	24,820	35,820
Grand Total	1,330	$64,242,052	$ 8,933,967	$73,176,019

1/ Includes amendments on previous year's grants.
2/ Matching grant for supplemental support of the post-doctoral fellowship program of the American Council of Learned Societies.

Note: Detail may not add to totals due to rounding.

ADMINISTRATIVE EXPENSES, NATIONAL FOUNDATION ON THE ARTS AND THE HUMANITIES, FY 1977

(1105)

NATIONAL FOUNDATION ON THE ARTS AND THE HUMANITIES

SUMMARY OF FUNDS AVAILABLE

ADMINISTRATIVE FUNDS
(In Thousands of Dollars)

	1975 Actual	1976 Estimate	19TQ Estimate	1977 Request	Increase
Appropriation, Definite	$10,726	$10,910	$2,727	$11,000	
Unobligated Balance Prior Year	-0-	-0-	-0-	-0-	
Total Available for Obligation	10,726	10,910	2,727	11,000	90
Obligations	10,726	10,910	2,727	11,000	
Unobligated Balance	-0-	-0-	-0-	-0-	

NATIONAL FOUNDATION ON THE ARTS AND THE HUMANITIES

SUMMARY BY ORGANIZATIONAL UNIT

ADMINISTRATIVE FUNDS
(In Thousands of Dollars)

	1975 ACTUAL	1976 ESTIMATE	19TQ ESTIMATE	1977 REQUEST	INCREASE 1977 COMPARED WITH 1976	PAGE REF.
National Endowment for the Arts	$ 3,601	$ 3,512	$ 878	$ 3,512	$ -0-	S-4
National Endowment for the Humanities	2,820	2,930	732	2,936	6	S-15
Shared Staff	4,305	4,468	1,117	4,552	84	S-23
TOTAL	$10,726	$10,910	$2,727	$11,000	$ 90	

NATIONAL FOUNDATION ON THE ARTS AND THE HUMANITIES

SUMMARY BY OBJECT CLASSIFICATION

ADMINISTRATIVE EXPENSE FUNDS
(In Thousands of Dollars)

	PERSONNEL COMPENSATION:	1975 ACTUAL	1976 ESTIMATE	1977 REQUEST	INCREASE (DECREASE) 1977 COMPARED WITH 1976
11.1	Permanent Positions	$ 5,605	$ 6,562	$ 6,750	$ 188
11.3	Positions other than Permanent	941	714	592	(122)
11.5	Other Personnel Compensation	98	102	90	(12)
	Total Personnel Compensation	6,644	7,378	7,432	54
12.1	Personnel Benefits - Civilians	567	711	709	(2)
21.0	Travel and Transportation of Persons	467	572	577	5
22.0	Transportation of Things	6	5	8	3
23.0	Rent, Communications & Utilities	1,161	1,313	1,557	244
24.0	Printing and Reproduction	297	145	136	(9)
25.0	Other Services	1,240	576	358	(218)
26.0	Supplies and Materials	168	175	178	3
31.0	Equipment	176	35	45	10
	TOTAL	$10,726	$10,910	$11,000	$ 90

NATIONAL FOUNDATION ON THE ARTS AND THE HUMANITIES

NATIONAL ENDOWMENT FOR THE ARTS

ADMINISTRATIVE EXPENSE FUNDS
(In Thousands of Dollars)

	PERSONNEL COMPENSATION:	1975 ACTUAL	1976 ESTIMATE	1977 REQUEST	INCREASE (DECREASE) 1977 COMPARED WITH 1976
11.1	Permanent Positions	$1,981	$2,377	$2,377	$-0-
11.3	Positions other than Permanent	527	222	222	-0-
11.5	Other Personnel Compensation	46	43	43	-0-
	Total Personnel Compensation	2,554	2,642	2,642	-0-
12.1	Personnel Benefits - Civilians	208	259	259	-0-
21.0	Travel and Transportation of Persons	338	333	333	-0-
22.0	Transportation of Things	2	1	1	-0-
23.0	Rent, Communications & Utilities	23	7	7	-0-
24.0	Printing and Reproduction	155	78	78	-0-
25.0	Other Services	292	162	137	-25
26.0	Supplies and Materials	28	30	30	-0-
31.0	Equipment	1	-0-	25	+25
	TOTAL	$3,601	$3,512	$3,512	$-0-

NATIONAL FOUNDATION ON THE ARTS AND THE HUMANITIES

ADMINISTRATIVE FUNDS

11.1 PERMANENT POSITIONS
NATIONAL ENDOWMENT FOR THE ARTS

FY 1976 - $2,377,000 FY 1977 - $2,377,000

This object class funds the permanent staff of the Arts Endowment. Although the National Endowment for the Arts is not requesting additional permanent positions in Fiscal Year 1977, the workload continues to grow. In Fiscal Year 1975, 13,371 applications were received, and by Fiscal Year 1977 it is anticipated the number of applications will grow to 18,500. The growth stems mainly from heightened interest in cultural activities by community groups and individuals all over the country. A table showing the increase in applications from Fiscal Year 1975 through 1977 follows:

Fiscal Year	Total Applications	Administrative Funds ($000's)	Authorized Full-time Permanent Personnel
1975	13,371	3,601	130
1976	16,500 (est.)	3,512	130
1977	18,500 (est.)	3,512 (est.)	130 (est.)

Further, there is no provision in this budget for the cost of the October 1975 Pay Act. This means that the Endowment will be absorbing that cost and so may actually fund fewer average positions in Fiscal Year 1977 than in Fiscal Year 1976, thereby exacerbating the heavy workload situation relative to authorized staff.

The Arts Endowment is constantly seeking ways to increase administrative efficiency while maintaining its high standards of professional review and administration of grant program categories. The Endowment will continue these efforts in Fiscal Year 1977.

11.3 POSITIONS OTHER THAN PERMANENT
NATIONAL ENDOWMENT FOR THE ARTS

FY 1976 - $222,400 FY 1977 - $222,400

This object class provides salaries for the National Council on the Arts and part-time and temporary positions.

a. Council Meetings ..... $ 49,200

This amount represents the cost of five 3-day meetings with 26 members in attendance and the cost of 12 Council members attending selected panel meetings in which their expertise and advice is of particular importance.

b. Part-time and Temporary $173,200

This amount represents the cost of using 20 average positions to supplement the permanent Endowment staff to meet seasonal workload requirements.

11.5 OTHER PERSONNEL COMPENSATION
NATIONAL ENDOWMENT FOR THE ARTS

FY 1976 - $42,400 FY 1977 - $42,400

The request is for overtime costs based on projections to date and reflects seasonal variations in Endowment workload.

12.1 PERSONNEL BENEFITS - CIVILIANS
NATIONAL ENDOWMENT FOR THE ARTS

FY 1976 - $258,900 FY 1977 - $258,900

This amount finances the personnel benefits including contributions to the Civil Service Retirement Fund, Social Security, Health Benefits, and Federal Employees' Group Life Insurance.

21.0 TRAVEL AND TRANSPORTATION OF PERSONS
NATIONAL ENDOWMENT FOR THE ARTS

FY 1976 - $333,600 FY 1977 - $333,600

The requested amount provides for the travel of the staff of the Arts Endowment and members of the National Council on the Arts.

Staff travel is essential to supervise and manage the various Endowment programs. On-site visits are required. Current and proposed projects under consideration for funding must be evaluated and information from the field must be secured to assist in the planning of our programs. Despite the importance of staff members having direct, first-hand contact with their respective fields, the Arts Endowment has not received additional travel funds since Fiscal Year 1974. The new, higher transportation and per diem rates effective this fiscal year mean that travel will have to be reduced by approximately 25 percent in order to remain within the overall dollar limitation. This is extremely critical since effective program administration, to a great extent, hinges on direct on-site contact.

Council travel will enable members of the National Council on the Arts to attend five Council meetings and selected panel meetings.

Administrative travel costs are as follows:

a) Staff $280,600

b) Council 53,000

Total, Admin. Travel $333,600

22.0 TRANSPORTATION OF THINGS
NATIONAL ENDOWMENT FOR THE ARTS

FY 1976 - $500 FY 1977 - $500

To be grouped with Foundation's request.

23.0 RENT, COMMUNICATIONS AND UTILITIES
NATIONAL ENDOWMENT FOR THE ARTS

FY 1976 - $7,600 FY 1977 - $7,600

This object class provides long-distance telegraph and telephone service as well as short-term rental of equipment for administrative needs such as typewriters and dictation machines.

24.0 PRINTING AND REPRODUCTION
NATIONAL ENDOWMENT FOR THE ARTS

FY 1976 - $78,200 FY 1977 - $78,200

The administrative printing requirements that are provided for in this object class include the cost of printing regular Endowment publications such as the Annual Report (which is required by law), letterheads and envelopes, and the Endowment's six times-a-year, informational newspaper, The Cultural Post.

Despite a rapidly growing demand for Endowment publications and large cost increases, this budget does not provide for additional printing funds. The Endowment is constantly seeking ways to hold down expenditures. While cost cutting measures such as reducing the number of mailings have been introduced, it is becoming extremely difficult to respond to public demand.

25.0 OTHER SERVICES
NATIONAL ENDOWMENT FOR THE ARTS

FY 1976 - $161,900 FY 1977 - $136,900

Decrease - $25,000

This object class currently funds a variety of items, including employee training, $8,000; contractural services for consultants to assist management and administration, $25,000; photo and art work for Arts Endowment publications, $54,300; clipping services, $5,600; addressograph services, $22,000; computer services of mailing lists, $20,000; and costs of physical examination of staff members by the Public Health Service, $2,000.

The decrease projected in Fiscal Year 1977 is for nonrecurring management consultant contracts in the current year's budget.

26.0 SUPPLIES AND MATERIALS
NATIONAL ENDOWMENT FOR THE ARTS

FY 1976 - $29,700 FY 1977 - $29,700

To be grouped with Foundation's request.

31.0 EQUIPMENT
NATIONAL ENDOWMENT FOR THE ARTS

FY 1976 - $-0- FY 1977 - $25,000

Increase - $25,000

We are requesting funds for the purchase of screening room equipment which will be used by the Endowment's programs and panels to view video tapes and films as part of the application and grant review process. Tapes and films are used in some degree by most programs, but are a major part of the Public Media Program's review and evaluation activities. To be able to judge an applicant's work with maximum fairness and objectivity, the Arts Endowment requires equipment of professional quality. These funds will insure that such equipment is available.

NATIONAL FOUNDATION ON THE ARTS AND THE HUMANITIES

NATIONAL ENDOWMENT FOR THE ARTS

PROGRAM DEVELOPMENT AND EVALUATION FUNDS
(In Thousands of Dollars)

	PERSONNEL COMPENSATION:	1975 ACTUAL	1976 ESTIMATE	1977 REQUEST	(+) INCREASE (-) DECREASE
11.1	Permanent Positions	$ -0-	$ -0-	$ -0-	$-0-
11.3	Positions other than Permanent	468	630	705	+75
11.5	Other Personnel Compensation	16	21	21	-0-
	Total Personnel Compensation	484	651	726	+75
12.1	Personnel Benefits - Civilians	36	38	42	+ 4
21.0	Travel and Transportation of Persons	378	453	453	-0-
22.0	Transportation of Things	-0-	4	4	-0-
23.0	Rent, Communications & Utilities	-0-	20	20	-0-
24.0	Printing and Reproduction	123	379	450	+71
25.0	Other Services	754	889	889	-0-
26.0	Supplies and Materials	9	26	26	-0-
31.0	Equipment	-0-	-0-	-0-	-0-
	TOTAL	$1,784	$2,460	$2,610	$+150

PROGRAM DEVELOPMENT AND EVALUATION

11.3 POSITIONS OTHER THAN PERMANENT
NATIONAL ENDOWMENT FOR THE ARTS

FY 1976 - $630,000 FY 1977 - $705,000

Increase - $75,000

This object class funds the salaries of panelists, consultants and part-time and temporary staff who serve the Endowment's 12 programs' Program Development and Evaluation activities.

a. Panelists $228,200

Under its enabling legislation, the Arts Endowment is authorized and encouraged to utilize panels of experts to provide a review of each application submitted for funding regardless of the amounts available. Highly qualified professional experts from the field are selected as panelists to make this review and to provide recommendations with respect to approval or disapproval of pending applications.

b. Consultants $106,000

Individual consultants are retained to perform preliminary evaluation of applications prior to panel review, and to provide the Arts Endowment with advice and informed judgment on program development. Most often the consultants' work is done through on-site visits to applicants and grantees.

c. Part-time and Temporary $370,800

This amount represents projected part-time and temporary employment costs in connection with fluctuating Program Development and Evaluation needs.

11.5 OTHER PERSONNEL COMPENSATION
NATIONAL ENDOWMENT FOR THE ARTS

FY 1976 - $21,400 FY 1977 - $21,400

The request for overtime is based on projections to date and adjusted to reflect seasonal variations in the Arts Endowment workload.

12.1 PERSONNEL BENEFITS - CIVILIANS
NATIONAL ENDOWMENT FOR THE ARTS

FY 1976 - $37,800 FY 1977 - $42,300

Increase - $4,500

This amount finances the personnel benefits including contributions to the Civil Service Retirement Fund, Social Security, Health Benefits, and Federal Employees' Group Life Insurance. The proposed increase is directly related to the part-time and temporary salary request.

21.0 TRAVEL AND TRANSPORTATION OF PERSONS
NATIONAL ENDOWMENT FOR THE ARTS

FY 1976 - $452,600 FY 1977 - $452,600

The requested amount provides for panelists, consultants and invitational travel in support of the Endowment's Program Development and Evaluation activities. The dollar amounts for panelists, consultants and invitational travel is as follows:

a. Panelists $280,600

b. Consultants $127,000

c. Invitational ..... $ 45,000

In view of the vital role that panelists and consultants play in the application review and evaluation process, the amount expended for their travel is viewed as essential to the fair and objective grant-making process. Even though the Endowment will experience a greater number of applications and grants, and despite higher transportation and per diem costs, budget limitations have prevented us from requesting an increase in this object class.

22.0 TRANSPORTATION OF THINGS
NATIONAL ENDOWMENT FOR THE ARTS

FY 1976 - $3,500 FY 1977 - $3,500

This object class funds the costs of shipping films and other materials to out-of-town panel meetings as well as parcel post cost in program areas.

23.0 RENT, COMMUNICATIONS AND UTILITIES
NATIONAL ENDOWMENT FOR THE ARTS

FY 1976 - $20,000 FY 1977 - $20,000

This proposal funds the rental rates of conference rooms, facilities for taping and transcribing of panel sessions, rental of

audio visual equipment, long distance telephones and telegraph charges incurred in connection with Program Development and Evaluation activities.

24.0 PRINTING AND REPRODUCTION
NATIONAL ENDOWMENT FOR THE ARTS

FY 1976 - $379,500 FY 1977 - $450,000

Increase - $70,500

The request is to cover printing in support of the Program Development and Evaluation process at the Arts Endowment. Types of printing include informational brochures on the different programs, panel books, interim and final reports, program guidelines, application forms and instruction booklets. The proposed increase is necessary to meet a constantly growing demand by the public for information and applications. Higher printing costs have also affected this request.

25.0 OTHER SERVICES
NATIONAL ENDOWMENT FOR THE ARTS

FY 1976 - $889,000 FY 1977 - $889,000

This object class funds contracts essential to making the Endowment programs more responsive to current developments and trends in the arts. The studies, evaluations and coordinative efforts funded in this category are essential to the efficiency and effectiveness of the programs. Available funds are not adequate to undertake comprehensive efforts in all the artistic fields. The following list shows examples of what may be undertaken with these limited funds.

I. Program Development

a.	Workshop training and coordination of components of the Artists-in-schools Program which involves approximately 2,700 artists working in over 7,500 schools in all 50 states and the 5 special jurisdictions.	$339,500
b.	A technical assistance program serving community and neighborhood arts constituencies.	$100,000
c.	A study of the economic impact caused by establishment of new arts and cultural enterprises.	$ 7,000
d.	A contract to strengthen the operation and effectiveness of the Endowment's relationship with large public media grantees.	$ 75,000

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e.	The implementation of the Endowment's State Film Program.	$ 35,000
f.	The coordination of interagency liaison activities to increase the potential of arts programs of other Federal agencies: for example, programs that will bring arts to the handicapped.	$ 11,000
g.	Contractual photo and art work necessary to prepare development and evaluation publications.	$ 86,500
h.	Survey of the needs of choral groups and development of a pilot program.	$ 50,000
i.	Architecture and design technical assistance for Federal and state agencies as part of the Design Improvement Program.	$100,000

II. Evaluation

a.	The conduct of administrative and artistic evaluation studies of selected symphony orchestras and opera companies.	$100,000
b.	Evaluation of the Endowment's ten-year old Literature Program.	$ 35,000
c.	Evaluation of other Endowment programs on a random basis as funds permit.	$210,000
d.	Semiannual collection of economic data and descriptive information from selected cultural institutions to provide trend information necessary to the field and the Endowment.	$ 35,000
e.	Comprehensive review and evaluation of all "educational" elements of Arts Endowment programs.	$ 75,000
f.	Study and interpretative follow-up on the role and responsibility of arts institution trustees.	$200,000

26.0 SUPPLIES AND MATERIALS
NATIONAL ENDOWMENT FOR THE ARTS

FY 1976 - $26,200 FY 1977 - $26,200

This object class funds those supply items that are specifically identifiable as being in support of "program development or program evaluation." Types of expenditures that fall within this category are: photographic supplies used for program evaluation work; subscriptions to artistic publications for effective library service to the staff and the public; and pamphlets and documents for the purpose of program evaluation.

NATIONAL FOUNDATION ON THE ARTS AND THE HUMANITIES

NATIONAL ENDOWMENT FOR THE ARTS

COMBINED ADMINISTRATIVE AND PROGRAM DEVELOPMENT AND EVALUATION FUNDS
(In Thousands of Dollars)

	PERSONNEL COMPENSATION:	1975 ACTUAL	1976 ESTIMATE	1977 REQUEST	INCREASE (DECREASE) 1977 COMPARED WITH 1976
11.1	Permanent Positions	$1,981	$2,377	$2,377	$ -0-
11.3	Positions other than Permanent	995	852	927	+ 75
11.5	Other Personnel Compensation	62	64	64	-0-
	Total Personnel Compensation	3,038	3,293	3,368	+ 75
12.1	Personnel Benefits - Civilians	244	297	301	+ 4
21.0	Travel and Transportation of Persons	716	786	786	-0-
22.0	Transportation of Things	2	4	4	-0-
23.0	Rent, Communications & Utilities	23	28	28	-0-
24.0	Printing and Reproduction	278	457	528	+ 71
25.0	Other Services	1,046	1,051	1,026	- 25
26.0	Supplies and Materials	37	56	56	-0-
31.0	Equipment	1	-0-	25	+ 25
	TOTAL	$5,385	$5,972	$6,122	$+150

NATIONAL FOUNDATION ON THE ARTS AND THE HUMANITIES

NATIONAL ENDOWMENT FOR THE HUMANITIES

ADMINISTRATIVE EXPENSE FUNDS
(In Thousands of Dollars)

	PERSONNEL COMPENSATION:	1975 ACTUAL	1976 ESTIMATE	1977 REQUEST	INCREASE (DECREASE) 1977 COMPARED WITH 1976
11.1	Permanent Positions	$1,867	$2,203	$2,290	$ 87
11.3	Positions other than Permanent	215	164	106	(58)
11.5	Other Personnel Compensation	15	20	16	(4)
	Total Personnel Compensation	2,097	2,387	2,412	25
12.1	Personnel Benefits - Civilians	184	234	215	(19)
21.0	Travel and Transportation of Persons	102	208	208	-0-
22.0	Transportation of Things	1	1	1	-0-
23.0	Rent, Communications & Utilities	4	8	8	-0-
24.0	Printing and Reproduction	112	27	27	-0-
25.0	Other Services	306	35	35	-0-
26.0	Supplies and Materials	14	25	25	-0-
31.0	Equipment	-0-	5	5	-0-
	TOTAL	$2,820	$2,930	$2,936	$ 6*

* Transfer to SS Travel

NATIONAL ENDOWMENT FOR THE HUMANITIES

11.1 PERMANENT POSITIONS

FY 1976 - $2,202,900 FY 1977 - $2,290,000

Increase - $87,100

No additional personnel is requested.

11.3 POSITIONS OTHER THAN PERMANENT
NATIONAL ENDOWMENT FOR THE HUMANITIES

FY 1976 - $163,800 FY 1977 - $106,400

Decrease - $57,400

To provide compensation for the National Council on the Humanities and to permit the Endowment to draw upon the resources of the most highly qualified advisory panelists and consultants within the several fields of the Humanities, the Endowment requests the following:

a. Council Meetings ..... $ 47,000

Provision is made for three three-day and one four-day meetings of the National Council on the Humanities, and two two-day committee meetings.

b. Part-time and Temporary ..... $ 59,400

This amount represents utilizing part-time and temporary positions during Fiscal Year 1977 in meeting seasonably varying manpower needs in addition to freeing up staff to provide technical assistance to the field.

11.5 OTHER PERSONNEL COMPENSATION

FY 1976 - $20,500 FY 1977 - $15,700

Decrease - $4,800

Overtime estimates are based on experience to date and reflect seasonal variations in Foundation workload.

12.1 PERSONNEL BENEFITS - CIVILIANS

FY 1976 - $233,900 FY 1977 - $215,000

Decrease - $18,900

This amount will finance personnel benefits including contributions to the Civil Service Retirement Fund, Social Security, Health Services, and Federal Employees' Group Life Insurance.

21.0 TRAVEL AND TRANSPORTATION OF PERSONS

FY 1976 - $207,900 FY 1977 - $207,900

Staff travel is required to carry out Endowment program responsibilities, accomplishment of overall mission and objectives, and participating in developing and maintaining liaison with the academic and the cultural community. In this regard, staff travel includes attendance at meetings at which representation of Endowment officers is required; site-visits to active or prospective grantee institutions for evaluation of projects; lectures given by Endowment staff members on Endowment policy and programs; attendance at symposia, conference and training courses; and preparation for, conduct of, Endowment or Council meetings held at locations outside the National Capitol Region.

Travel costs of consultants and panelists have averaged $150 for each employee who traveled within a region of the United States, and $300 for each attendee at a national meeting. In addition, travel estimate includes subsistence costs at approximately $40 per day. These averages, applied to the consultant and panel use described under "Positions Other Than Permanent," are the basis for travel costs.

Staff $148,400

Council ..... $ 59,500

22.0 TRANSPORTATION OF THINGS

FY 1976 - $1,200 FY 1977 - $1,200

To cover costs of shipment of files to and from conference site when site is held outside Washington, D. C.

23.0 RENT, COMMUNICATIONS AND UTILITIES

FY 1976 - $8,100 FY 1977 - $8,100

To cover the costs of space and office equipment rental for meetings held outside Washington $2,900. Also includes long distance telephone $3,200, and telegrams $2,000.

24.0 PRINTING AND REPRODUCTION

FY 1976 - $27,200 FY 1977 - $27,200

This represents the costs of the Annual Report, dissemination materials on the Endowment's programs, and letterhead and envelopes.

25.0 OTHER SERVICES

FY 1976 - $35,100 FY 1977 - $35,100

The estimate for other contractual services includes: Employee training $22,400; clipping service $8,000; and miscellaneous services, $4,700.

26.0 SUPPLIES AND MATERIALS

FY 1976 - $24,800 FY 1977 - $24,800

This amount will be required for books, technical publications, and subscriptions.

31.0 EQUIPMENT

FY 1976 - $5,000 FY 1977 - $5,000

Purchase of reference books costing more than $50 for the NEH Library include: major general encyclopedias costing an average of $400 each; major biographical directories such as American Men and Women of Science and Director of American Scholars costing about $250 each; unabridged dictionaries at about $50 each; and other major reference works such as the Columbia Lippincott Gazetteer of the World which costs $85.

NATIONAL FOUNDATION ON THE ARTS AND THE HUMANITIES

NATIONAL ENDOWMENT FOR THE HUMANITIES

PROGRAM DEVELOPMENT AND EVALUATION FUNDS
(In Thousands of Dollars)

	PERSONNEL COMPENSATION:	1975 ACTUAL	1976 ESTIMATE	1977 REQUEST	INCREASE (DECREASE) 1977 COMPARED WITH 1976
11.1	Permanent Positions	$ -0-	$ -0-	$ -0-	$-0-
11.3	Positions other than Permanent	249	777	728	(49)
11.5	Other Personnel Compensation	1	11	13	2
	Total Personnel Compensation	250	788	741	(47)
12.1	Personnel Benefits - Civilians	13	47	44	(3)
21.0	Travel and Transportation of Persons	329	664	778	114
22.0	Transportation of Things	2	-0-	2	2
23.0	Rent, Communications & Utilities	68	-0-	1	1
24.0	Printing and Reproduction	80	286	288	2
25.0	Other Services	161	304	416	112
26.0	Supplies and Materials	5	-0-	22	22
31.0	Equipment	1	-0-	1	1
	TOTAL	$ 909	$2,089	$2,293	$ 204

NATIONAL ENDOWMENT FOR THE HUMANITIES

PROGRAM DEVELOPMENT AND EVALUATION FUNDS

FY 1976 - $2,088,500 FY 1977 - $2,293,200

Increase - $204,700

The preceding pages, which comprise the NEH Administrative Budget, detail the funding, by the various object classes, needed for the general management and the basic day-to-day administration of the Endowment's established programs. A large part of essential NEH operations, however, result from unpredictable developments occuring during the budget year which cannot be precisely projected at the time the agency's appropriation request must be prepared. For example, the volume of applications in a particular program may double; or the National Council on the Humanities, in the course of considering applications, may request that a special study on a particular area be conducted, that new activities be explored and pilot-tested, or that certain evaluations be carried out in order to help inform the Council's advisory functions.

Experience indicates that funding for some administrative object classes will need an infusion of funds if the agency is to respond as it should to changing operating needs. Thus, in order to deal effectively with these, a standard provision of the NFAH appropriation acts authorizes the agency to spend -- in addition to whatever Administrative funds are made available -- up to three percent of its appropriations for "Program Development and Evaluation" (PD&E).

Given the nature of PD&E activities (and also the fact that the funds supporting these are derived from the appropriations justified under the NEH Program Budget section), the agency cannot budget separately for these or provide the detailed kind of justification which is provided for Administrative funds. An acccounting, by object class, of the actual PD&E expenditures, for the year past and an estimate for the current year has always been provided in the Administrative Budget section of the appropriation request. At the request of the Congressional committees, an estimate for Fiscal Year 1977 PD&E requirements is also provided this year. These estimates along with the actual expenditures for Fiscal Year 1975 are shown by object class on the immediately preceding page.

Traditionally much less than the authorized three percent has actually been used for PD&E purposes. In Fiscal Year 1975, for example, slightly over one percent of total available was used. In Fiscal Year 1976, based on the experiences of the first six months, it is expected that up to $2 million (or about two percent of available funds) may be needed.

As the above would indicate, any PD&E estimate developed for Fiscal Year 1977 must be both tentative and highly general. Given the fact that the Endowment's program mix and funding levels for next year will, for the most part, be quite close to those of Fiscal Year 1976, the PD&E requirements are likely, at least in their aggregate, to be similar to the present Fiscal Year 1976

estimate. The ever increasing application volume plus continued inflation, however, suggest that perhaps ten percent more money for PD&E purposes may be needed and therefore should be projected, or up to $2.3 million.

The PD&E activities which are likely to be funded with the sums projected for Fiscal Year 1977 may be briefly described as follows:

1. Payments for panelists, consultants and temporary staff needed to help explore new program ideas, formulate program guidelines and evaluate applications, grant projects, and agency operations. (Estimated $785,000)

2. Travel and transportation costs relating to the above. (Estimated $780,000)

3. Printing of reports concerning developments in the humanities and brochures, panelist guidelines, and application instructions pertaining to new programmatic activities. (Estimated $288,000)

4. Cost of computer and time-sharing work needed to analyze data concerning NEH applications and grants and to aid in general program planning as well as contracts for studies, surveys, and evaluations of grant projects. (Estimated $410,000)

5. Books, journals, documents, published reports, photographic supplies, and equipment needed by various NEH divisions and offices for developing and evaluating programs. (Estimated $23,000)

The table on the following page shows the totals which might be spent in each object class combining Administrative and PD&E Funds.

NATIONAL FOUNDATION ON THE ARTS AND THE HUMANITIES

NATIONAL ENDOWMENT FOR THE HUMANITIES

OBJECT CLASSIFICATION

COMBINED ADMINISTRATIVE AND PROGRAM DEVELOPMENT AND EVALUATION FUNDS
(In Thousands of Dollars)

	PERSONNEL COMPENSATION:	1975 ACTUAL	1976 ESTIMATE	1977 REQUEST	INCREASE (DECREASE) 1977 COMPARED WITH 1976
11.1	Permanent Positions	$1,867	$2,203	$2,290	$ 87
11.3	Positions other than Permanent	464	941	834	(107)
11.5	Other Personnel Compensation	16	31	29	(2)
	Total Personnel Compensation	2,347	3,175	3,153	(22)
12.1	Personnel Benefits - Civilians	197	281	259	(22)
21.0	Travel and Transportation of Persons	431	872	986	114
22.0	Transportation of Things	3	1	3	2
23.0	Rent, Communications & Utilities	72	8	9	1
24.0	Printing and Reproduction	192	313	315	2
25.0	Other Services	467	339	451	112
26.0	Supplies and Materials	19	25	47	22
31.0	Equipment	1	5	6	1
	TOTAL	$3,729 1/	$5,019 1/	$5,229 1/	$ 210 1/

1/ See S-19 for breakdown of amounts obligated in FY 1975 and current estimate of amounts to be obligated in FY 1976 and FY 1977 against Program Development and Evaluation Funds.

NATIONAL FOUNDATION ON THE ARTS AND THE HUMANITIES

SHARED STAFF

OBJECT CLASSIFICATION
(In Thousands of Dollars)

	PERSONNEL COMPENSATION:	1975 ACTUAL	1976 ESTIMATE	1977 REQUEST	INCREASE (DECREASE) 1977 COMPARED WITH 1976
11.1	Permanent Positions	$1,757	$1,982	$2,083	$ 101
11.3	Positions other than Permanent	199	328	264	(64)
11.5	Other Personnel Compensation	37	39	31	(8)
	Total Personnel Compensation	1,993	2,349	2,378	29
12.1	Personnel Benefits - Civilians	175	218	235	17
21.0	Travel and Transportation of Persons	27	31	36	5
22.0	Transportation of Things	3	3	6	3
23.0	Rent, Communications & Utilities	1,134	1,298	1,542	244
24.0	Printing and Reproduction	30	40	31	(9)
25.0	Other Services	642	379	186	(193)
26.0	Supplies and Materials	126	120	123	3
31.0	Equipment	175	30	15	(15)
	TOTAL	$4,305	$4,468	$4,552	$ 84

SHARED STAFF

11.1 PERMANENT POSITIONS

FY 1976 - $1,982,200 FY 1977 - $2,083,000

Increase - $100,800

No additional personnel are requested.

11.3 POSITIONS OTHER THAN PERMANENT

FY 1976 - $328,000 FY 1977 - $264,600

Decrease - $63,400

This amount represents projected part-time and temporary employment costs.

11.5 OTHER PERSONNEL COMPENSATION

FY 1976 - $39,400 FY 1977 - $30,800

Decrease - $8,600

Overtime estimates are based on experience to date and reflect seasonal variations in Foundation workload.

12.1 PERSONNEL BENEFITS - CIVILIANS

FY 1976 - $217,900 FY 1977 - $234,800

Increase - $16,900

This amount will finance personnel benefits including contributions to the Civil Service Retirement Fund, Social Security, Health Services, and Federal Employees' Group Life Insurance.

21.0 TRAVEL AND TRANSPORTATION OF PERSONS

FY 1976 - $25,000 FY 1977 - $36,300

Increase - $11,300

This reflects the necessary travel costs for the Audit Staff, Grants Office personnel, and General Counsel personnel, as well as local travel costs for the entire Foundation staff.

22.0 TRANSPORTATION OF THINGS

FY 1976 - $2,000 FY 1977 - $5,600

Increase - $3,600

This sum is required to cover charges for the transportation of things. It includes postage used in parcel post and reimbursement of Government personnel for the authorized movement of household effects.

23.0 RENT, COMMUNICATIONS AND UTILITIES

FY 1976 - $1,388,000 FY 1977 - $1,542,100

Increase - $154,100

This budget provides for $890,000 for space rental, $234,900 for rental of copying equipment and other machines, $252,400 for local telephone service (including installation and service charges, long distance telephone service, telegraph service and $136,000 for postage, and $28,800 for parking space rental.

24.0 PRINTING AND REPRODUCTION

FY 1976 - $40,000 FY 1977 - $30,600

Decrease - $9,400

This estimate will cover the cost of printing letterheads and envelopes for the Foundation, as well as the cost of the various Office of Management and Budget and Congressional submissions and administrative forms.

25.0 OTHER SERVICES

FY 1976 - $378,900 FY 1977 - $185,700

Decrease - $193,200

This estimate for other contractual services includes the costs for employee training, $16,400; building alterations, $60,000; machine maintenance, $20,000; audit services from other agencies, $23,000; photo and art services, $5,500; robotype, $1,000; moving costs, $6,000; ADP development, $45,000; miscellaneous, $8,800.

26.0 SUPPLIES AND MATERIALS

FY 1976 - $120,000 FY 1977 - $122,900

Increase - $2,900

This amount will be required for books, technical publications, subscriptions, supplies for copying equipment, and "desk top" items such as pens, paper, typewriter, ribbons, etc.

31.0 EQUIPMENT

FY 1976 - $30,000 FY 1977 - $15,000

Decrease - $15,000

This estimate covers the cost of various items of equipment and office machines to support the activities of the Foundation.

COMMISSION OF FINE ARTS
BUDGET JUSTIFICATIONS, F. Y. 1977

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COMMISSION OF FINE ARTS
SALARIES AND EXPENSES

Appropriation/Total available, 1975		$176,000
Appropriation/1976	$198,000	
Proposed supplemental for civilian pay cost increase (October pay raise)	5,000	
Total available, 1976		203,000

Summary of Increases and Decreases, 1977

Administration:	Base for 1977	Increase 1977	
Increase in Commission's Operating Expenses	$203,000	$+12,000	$ 12,000
Budget estimate, 1977			215,000

Analysis by Activity

Activity	F.Y. 1975 Amount Available	F.Y. 1976 Amount Available	F.Y. 1977 Estimate	Increase (+) or Decrease (-) 1977 Compared with 1976
Administration	$175,602	$203,000	$215,000	$+12,000
Unobligated balance lapsing	398	---	---	---
Total	176,000	203,000	215,000	+12,000

JUSTIFICATION

Administration: Fiscal year 1976, $203,000; fiscal year 1977, $215,000; increase, $12,000. The increase consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
$+6,000	---	$151,000	7	To provide for increased salary and personnel benefits.
+6,000		64,000		Increased space costs, other contractual services and related staff support.
+12,000		215,000		

The Commission of Fine Arts was established in 1910 to fill the need for a permanent advisory agency whose members would be qualified to make available to the Government expert opinion on questions of art arising in the course of administration. As an independent agency, it is intended to serve a two-fold purpose; first, to give advice concerning aesthetic standards and matters of civic design involved in the orderly development of the District of Columbia; and second, to furnish expert opinion on questions of art to the President, to the Congress and its committees, and to the heads of various departments and agencies of the Federal and District Governments.

The Commission is composed of seven members, appointed by the President, who serve without compensation, receiving only actual travel expenses incurred in attending meetings. Since the Commission was established in 1910, more than 75 distinguished architects, landscape architects, painters, sculptors, and laymen in the field of fine arts have given freely to the Government the benefit of their experience and professional skills in advising the President, the Congress, and government agencies on matters involving the fine arts.

The specific functions of the Commission are as follows:

1. To advise generally upon questions of art when requested to do so by the President, heads of executive departments or by any Committee by either House of Congress.

2. To advise specifically on all plans for parks, public buildings, and other structures constructed by executive departments or the District of Columbia.

3. To advise upon location of statues, fountains, and monuments in public squares, streets and parks in the District of Columbia and upon the selection of models for the statues, fountains, and monuments erected under the authority of the United States and upon the selection of artists for execution of the same.

4. To regulate the height, exterior design and construction of private and semi-public buildings in certain areas of the National Capital. This action requires review and recommendation of the Mayor of the District of Columbia on the merits of designs submitted for building permits.

5. To advise, as necessary, on projects of an important Federal character outside of the District of Columbia, and to render opinions on the merit of designs for medals, insigina, coins, or other art projects created and produced by the executive department.

The Commission of Fine Arts is requesting an appropriation of $215,000 for fiscal year 1977 to finance the expenses of the seven members of the Commission and the salaries and related costs necessary to finance a supporting staff of seven permanent positions. The increases requested for fiscal year 1976 are as follows: $6,000 for increased pay cost and within-grade raises, and $6,000 for space rental, other services and related staff support.

COMMISSION OF FINE ARTS
SALARIES AND EXPENSES

Program and Financing (in thousands of dollars)

		1975 actual	1976 estimate	19TQ estimate	1977 estimate
Program by activities:					
	1. Administration (total costs)	173	203	47	215
	Change in selected resources, (undelivered orders)	3	---	--	---
10	Total obligations	176	203	47	215
Financing:					
	Budget authority (appropriation)	176	203	47	215
40	Appropriation	176	198	45	215
44.20	Supplemental now requested for civilian pay raises	---	5	2	---
Relation of obligations to outlays:					
71	Obligations incurred, net	176	203	47	215
72	Obligated balance, start of year	25	23	31	33
74	Obligated balance, end of year	-23	-31	-33	-30
77	Adjustment in expired accounts	-3	---	--	--
90	Outlays	175	190	43	218
91.20	Outlays from civilian pay raise supplemental	---	5	2	---

Object Classification (in thousands of dollars)

Personnel compensation:					
11.1	Permanent positions	114	131	33	135
11.3	Positions other than permanent	5	3	1	4
	Total personnel compensation	119	134	34	139
Personnel benefits:					
12.1	Civilian	11	11	3	12
21.0	Travel and transportation of persons	3	5	1	5
23.0	Rent, communications and utilities	18	18	4	20
24.0	Printing and reproduction	12	21	3	16
25.0	Other services	11	10	2	19
26.0	Supplies and materials	1	3	-	3
31.0	Equipment	1	1	-	1
99.0	Total obligations	176	203	47	215

COMMISSION OF FINE ARTS
SALARIES AND EXPENSES

Program and Financing (in thousands of dollars)

Personnel Summary

	1975 actual	1976 estimate	1977 estimate
Total number of permanent positions	7	7	7
Full-time equivalent of other positions	1	---	---
Average paid employment	7	7	7
Average GS grade	9.57	10.14	10.14
Average GS salary	$17,738	$19,420	$19,522

NATIONAL CAPITAL PLANNING COMMISSION

JUSTIFICATIONS FOR APPROPRIATION
FISCAL YEAR 1977

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

(11 39)

MEMBERS OF NATIONAL CAPITAL PLANNING COMMISSION

Appointive Members

By the President

David M. Childs, Chairman
District of Columbia

Mrs. Caroline Freeland
Maryland

R. Randall Vosbeck
Virginia

By the Mayor of the District of Columbia

Reginald W. Griffith, Vice-Chairman
District of Columbia

Philip G. Hammer
District of Columbia

Ex-Officio Members

Honorable Thomas F. Eagleton
Chairman
Committee on the District of Columbia
United States Senate

Honorable Charles C. Diggs, Jr.
Chairman
Committee on the District of Columbia
United States House of Representatives

Honorable Walter E. Washington
Mayor of the District of Columbia

Honorable Sterling Tucker
Chairman
Council of the District of Columbia

Honorable Jack M. Eckerd
Administrator of General Services

Honorable Donald H. Rumsfeld
Secretary of Defense

Honorable Thomas S. Kleppe
Secretary of the Interior

NATIONAL CAPITAL PLANNING COMMISSION
SALARIES AND EXPENSES APPROPRIATION
31-25-0103-0-1-451

ANALYSIS OF CHANGES IN REQUIREMENTS
(in thousands of dollars)

	Budget Authority	OUTLAYS
1975 total	$1,777	$1,742
DECREASES		
Program decreases:		
Expert consultant service to initiate study of Federal Employment changes in National Capital Region	-15	
Photogrammetric preparation of D.C. base maps	-10	
Printing and binding for "A History of Planning for the Nation's Capital"	-20	
Purchase and delivery of equipment in FY-75	-3	
INCREASES		
Program increases:		
Funds for payment of $100 per day for members of NCPC when serving in committee and Commission Meeting as per D. C. Home Rule Act, section 203	40	
Miscellaneous cost increases from other government agencies (GSA payrolling-Treasury Health Unit-etc.) Supplies and materials, machine rental, communications and utilities, and commission travel costs	6	
Automatic (non-policy):		
Statutory pay increases, effective 10/1/74	78	
GSA rent increase for FY 1976	18	
1976 total	1,871	1,871
Transition quarter budget total	(419)	(419)
	1,871	1,871
DECREASES		
Program decreases:		
Transportation of things	-7	
Travel and Transportation of Persons	-4	
INCREASES		
Program increases:		
Funds to offset increased cost of printing	5	
Miscellaneous cost increases from other Government agencies (GSA Payrolling - Treasury Health Unit, etc.). Supplies and materials, machine rental, utilities and training cost	6	
Automatic (non-policy):		
GSA rent increase for FY-1977	33	
1977 Total	1,904	1,904

JUSTIFICATION FOR INCREASES
AND EXPLANATION OF DECREASES

Rental of Office Space. General Services Administration, Public Buildings Service, has advised the Commission that cost for rental of office space provided by GSA at approximate commercial equivalent rates effective October 1, 1976, under the provisions of Public Law 92-313, will be $199,090. This space is the same as occupied last year and constitutes the entire tenth floor at 1325 G St., N.W., Washington, D. C., a commercial office building, and provides all the office space needed for the Commission staff. This increase is approximately $33,000 above the FY-1976 figure of $166,500.

Funds to Off-Set Increased Cost of Printing and Binding. Between FY-1973 and FY-1975, the Government Printing Office advised us that the cost of printing and binding had increased 17.3%. Our appropriation was increased to $68,000 in FY-1975 to cover that additional cost. The same inflationary trends are continuing and we are again advised that printing and binding costs from GPO will be higher. We are requesting an additional $5,000 to cover this cost. The new budgeted amount would be $73,000 for FY-1977.

Miscellaneous Cost Increases from other government agencies (GSA payrolling and FTS costs, Treasury-Health Unit, Post Office), Supplies and Materials, and Machines Rental, Communications and Utilities and Commission Training Costs. These higher costs are the results of inflation and do not represent the purchase of additional goods or services. This additional cost is estimated at $6,000 for FY-1977.

Federal Pay Increase prescribed by law, effective October 12, 1975 (includes personnel benefits). The Commission will attempt to absorb the cost of this pay raise in FY-1976, FY-1977 and all subsequent years.

Travel Costs - The Commission will cut its travel budget by $4,000 in FY-1977, consistent with the wishes of Congress and OMB to cut overall expenditures in this area.

Transportation of Things (Household effects) - The Commission will discontinue budgeting the normal $7,000 per year for this item. Again, this is done in order to trim expenditures.

NATIONAL CAPITAL PLANNING COMMISSION

FISCAL YEAR 1977 BUDGET
ANALYSIS BY OBJECT CLASSIFICATION - SALARIES & EXPENSES APPROPRIATION
(OBLIGATIONAL BASIS)

Object Classification	Budgeted FY-1975	Actual FY-1975	Budgeted FY-1976	Budget Transition Qtr.	Increases To FY-1977	Budgeted FY-1977
11.0 Personnel Compensation	1,239,625	1,185,528	1,351,625	325,900	--	1,351,625
12.0 Personnel Benefits	103,625	101,737	109,500	25,000	--	109,500
21.0 Travel & Transportation of Persons	17,500	15,090	17,500	4,600	-4,000	13,500
22.0 Transportation of Things	7,000	1,000	7,000	--	-7,000	--
23.0 Equipment Rental, FTS Telephones, Post Office	40,000	40,175	41,500	9,375	+1,500	43,000
24.0 Printing & Reproduction	88,000	87,414	68,000	1,000	+5,000	73,000
25.0 Contracts with Experts & Consultants	65,000	65,039	50,000	--	--	50,000
25.0 Rental of Office Space from GSA	148,000	148,000	166,500	41,675	+32,590	199,090
25.0 Miscellaneous Services	39,540	37,691	32,075	7,450	+4,160	36,235
26.0 Supplies & Materials	20,710	21,525	22,300	3,200	+700	23,000
31.0 Equipment	8,000	8,000	5,000	800	--	5,000
TOTAL ...	1,777,000	1,711,200	1,871,000	419,000	+33,000	1,904,000

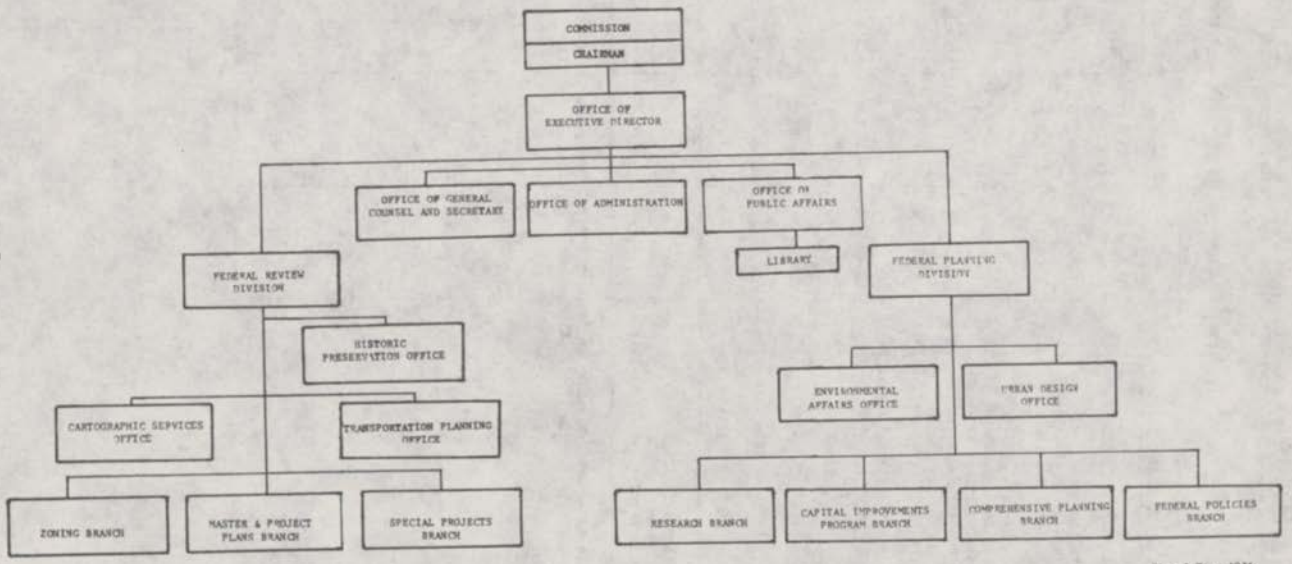
NATIONAL CAPITAL PLANNING COMMISSION

SALARIES AND EXPENSES

For necessary expenses, as authorized by the National Capital Planning Act of 1952 (40 U.S.C. 71-711), including services as authorized by 5 U.S.C. 3109; and uniforms or allowances therefor, as authorized by law (5 U.S.C. 5901-5902), /~~$1,871,000~~/ $1,904,000.

/~~For "Salaries and expenses" for the period July 1, 1976, through September 30, 1976, $419,000.~~/ (Department of the Interior and Related Agencies Appropriation Act, 1976, and the period ending September 30, 1976.)

NATIONAL CAPITAL PLANNING COMMISSION
ORGANIZATION CHART



Fiscal Year 1976

Type size 8 point 22 Initial Case No. Red underscore Case 310

STANDARD FORM 300-T
July 1968, Bureau of the Budget
Circular No. A-11, Revised
300-101

NATIONAL CAPITAL PLANNING COMMISSION
SALARIES AND EXPENSES

Program and Financing (in thousands of dollars)

Identification code 31-25-0103-0-1-451	FY 75 actual	FY 76 estimate	FY TQ estimate	FY 77 estimate
Program by activities:				
Direct program				
Planning development of the National Capital	1,721	1,871	419	1,904
Reimbursable program				
Planning development of the National Capital (costs, funded)	59	.....	.....	.....
Total program costs, funded 1/	1,780	1,871	419	1,904
Change in selected resources (undelivered orders)	-69	.....	.....	.....
10 Total obligations	1,711	1,871	419	1,904
Financing:				
25 Unobligated balance lapsing	66	.....	.....	.....
Budget authority	1,777	1,871	419	1,904
Budget authority:				
40 Appropriation	1,777	1,871	419	1,904

1/ Includes capital outlay as follows: 1975, $7 thousand; 1976, $6 thousand; 19TQ, $0 thousand; 1977, $5 thousand.

GPO 1968-O-731-488

(Memo cont: 21.3) (Memo cont: 3.9) (Memo cont: 3.8) (Memo cont: 3.9) (Memo cont: 3)

Type size:
178 MAGII

STANDARD FORM 304-T
Issue 1973, Office of Management and Budget
Circular No. A-11, Revised.
304-101T

NATIONAL CAPITAL PLANNING COMMISSION
SALARIES AND EXPENSES
DIRECT OBLIGATIONS
COST BASIS

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code: 31-25-0103-0-1-451		FY 75 actual	FY 76	FY TQ estimate	FY 77 estimate
	Personnel compensation:				
11.1	Permanent positions	1,154	1,288	310	1,288
11.3	Positions other than permanent	27	59	15	59
11.5	Other personnel compensation	4	5	1	5
~~11.8~~	~~Special personal services payments~~				
	Total personnel compensation	1,185	1,352	326	1,352
	Personnel benefits:				
12.1	Civilian	102	110	25	109
~~13.0~~	~~Benefits for former personnel~~				
21.0	Travel and transportation of persons	15	18	5	13
22.0	Transportation of things	1	7	.....	.....
23.0	Rent, communications, and utilities	40	42	9	43
24.0	Printing and reproduction	67	68	1	73
25.0	Other services	275	247	49	286
26.0	Supplies and materials	23	22	3	23
31.0	Equipment	13	5	1	5
~~32.0~~	~~Lands and structures~~				
~~33.0~~	~~Investments and loans~~				
~~41.0~~	~~Grants, subsidies, and contributions~~				
~~42.0~~	~~Insurance claims and indemnities~~				
~~43.0~~	~~Interest and dividends~~				
~~44.0~~	~~Refunds~~				
	Total direct costs, funded	1,721	1,871	419	1,904
94.0	Change in selected resources	-10	.....	.....	.....
99.0	Total direct obligations	1,711	1,871	419	1,904
	(Memo (non-) 22.12)	(Memo (non-) 3.0)	(Memo (non-) 3.0)	(Memo (non-) 3.0)	(Memo (non-) 3)

Type size:
11n 10/12

STANDARD FORM 304-T
June 1970, Office of Management and Budget
Circular No. A-11, Revised.
304-103T

NATIONAL CAPITAL PLANNING COMMISSION
SALARIES AND EXPENSES
REIMBURSABLE OBLIGATIONS
COST BASIS

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 31-25-0103-0-1-451	19 75 actual	19 76	19 TQ estimate	19 77 estimate
Personnel compensation:				
11.1 - - Permanent positions				
11.3 - - Positions other than permanent				
11.5 - - Other personnel compensation				
11.8 - - Special personal services payments				
Total personnel compensation				
Personnel benefits:				
12.1 - - Civilian				
13.0 - Benefits for former personnel				
21.0 - Travel and transportation of persons				
22.0 - Transportation of things				
23.0 - Rent, communications, and utilities				
24.0 - Printing and reproduction				
25.0 Other services	59	.....		
26.0 - Supplies and materials				
31.0 - Equipment				
32.0 - Lands and structures				
33.0 - Investments and loans				
41.0 - Grants, subsidies, and contributions				
42.0 - Insurance claims and indemnities				
43.0 - Interest and dividends				
44.0 - Refunds				
94.0 Change in selected resources	-29	.....		
Total reimbursable obligations	.....	.....		
99.0 Total obligations	1,711	1,871	419	1,904
(Mono cast: 10,12)	(Mono cast: 5,5)	(Mono cast: 5,5)	(Mono cast: 5,5)	(Mono cast: 5)

Type size:
8 point 33 picas
Case 36c
Set solid/regular
Case 21c

STANDARD FORM 300-T
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

NATIONAL CAPITAL PLANNING COMMISSION
SALARIES AND EXPENSES

Identification code 31-25-0103-1-451	FY 75 actual	FY 76	FY TQ estimate	FY 77 estimate
Relation of obligations to outlays:				
71 Obligations incurred, net ...	1,709	1,871	419	1,904
72 Obligated balance, start of year	375	342	342	342
74 Obligated balance, end of year	-342	-342	-342	-342
90 Outlays	1,742	1,871	419	1,904

(More cast: 31.5) (More cast: 5.0) (More cast: 5.5) (More cast: 5.0) (More cast: 5)

9

GPO 861-0-72-489

Type size:
6 point 22 picas
Cast 180
Red underscore
Case 210

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

NATIONAL CAPITAL PLANNING COMMISSION
SALARIES AND EXPENSES

PERSONNEL SUMMARY

Identification code 31-25-0103-0-1-451	19 75 actual	1976 estimate	1977 estimate
Total number of permanent positions	64	64	64
Full-time equivalent of other positions	2	2	2
Average paid employment	61	62	62
Average GS grade	10.34	10.34	10.30
Average GS salary	$19,251	$20,127	$20,220

GPO 884-0-732-488

(Mono cast: 21.5) (Mono cast: 3) (Mono cast: 5) (Mono cast: 4.9)

Type size:
8 point 10 picas
Case 16E
Red underscore
Case 20D

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.

NATIONAL CAPITAL PLANNING COMMISSION
SALARIES AND EXPENSES

DETAIL OF PERMANENT POSITIONS

Identification code 31-25-0103-0-1-451	19 75 actual	19 76 estimate	19 77 estimate
GS-18	0	1	1
GS-17	1	0	0
GS-16	2	2	2
GS-15	10	10	10
GS-14	3	3	3
GS-13	6	9	9
GS-12	5	1	1
GS-11	8	8	8
GS-10	0	0	0
GS-9	8	8	8
GS-8	1	1	1
GS-7	5	7	7
GS-6	8	7	7
GS-5	4	4	4
GS-4	3	3	3
Total permanent positions	64	64	64
Unfilled positions, June 30 (-)	-5	.....	.....
Total permanent employment, end of year	59	64	64
	(Mono cost: 31.5)	(Mono cost: 1)	(Mono cost: 1)	(Mono cost: 4.8)

GPO 38-0-751-488

NATIONAL CAPITAL PLANNING COMMISSION

PROGRAM AND PERFORMANCE

The National Capital Planning Commission, pursuant to the National Capital Planning Act of 1952, as amended (40 U.S.C. 71-71i; D. C. Code secs. 1-1001 to 1-1010), is the central planning agency for the Federal Government in the National Capital. The Commission succeeded the National Capital Park and Planning Commission, established in 1926.

The Act has as its purpose the securing of comprehensive planning for the physical development of the National Capital. Accordingly, the Commission is "charged with the duty of preparing and adopting a comprehensive, consistent, and coordinated plan for the National Capital * * *" and with reviewing and making recommendations on plans originated by Federal and District agencies for proposed developments and projects in the National Capital Region "in preliminary and successive stages".

The Federal elements of the Comprehensive Plan prepared and adopted by the Commission and the District elements prepared by the Mayor and adopted by the Council of the District of Columbia and "with respect to which the Commission has not determined a negative impact (on the interests or functions of the Federal Establishment in the National Capital) to exist" together constitute the Comprehensive Plan for the National Capital.

Within the environs of the District of Columbia, general plans showing the location, character, extent, and intensity of use for proposed Federal and District developments are required to be reviewed by the Commission and, through the Commission, by the appropriate planning agency having jurisdiction over the affected parts of the environs. The National Capital is defined in the Act as "The District of Columbia and territory owned by the United States within the environs" (environs means "the territory surrounding the District of Columbia included within the National Capital Region"); and the National Capital Region consists of the District of Columbia, Montgomery and Prince Georges Counties in Maryland; Arlington, Fairfax, Loudoun and Prince William Counties in Virginia, and all cities in Maryland and Virginia within the outer limits of such counties.

Provisions of other laws -- especially the zoning enabling act for the District of Columbia (D.C. Code sec. 5-701 to 5-719), and the District of Columbia Redevelopment Act of 1945, as amended (D.C. Code sec. 5-413 to 5-428) -- place significant additional responsibilities upon the Commission. These include (1) making recommendations to the Zoning Commission of the District of Columbia on amendments to the text and maps of the Zoning Regulations and on large scale planned developments under section 7501 of the Regulations and to the Board of Zoning Adjustments on applications for certain uses required to be referred to the Commission under the Regulations; (2) adoption of boundaries or urban renewal areas and the preparation, adoption, and modification of urban renewal plans; (3) approval of the Permanent System of Highways Plan and amendments thereto (D.C. Code, secs. 7-108, 7-113, and 7-122); (4) recommendations on proposed street and alley closings (D.C. Code sec. 7-401); (5) "in lieu of zoning" approval of Federal public buildings in the District of Columbia (D.C. Code sec. 5-428); (6) approval of transfers of jurisdiction between Federal and District agencies over properties within the District of Columbia owned by the United States or by the District of Columbia (D.C. Code sec. 8-115); (7) approval of the sale of surplus park land under the jurisdiction of the National Park Service (D.C. Code sec. 9-304); and (8) acquisition of land for the park, parkway and playground system of the National Capital (U.S. C. 72).

Status of Pertinent Authorization

The authorization for our present account (31-25-0103-0-1-451) is contained in the National Capital Planning Act of 1952, as amended (40 U.S.C. 71-71i; D. C. Code secs. 1-1001 to 1-1010). None of the estimates herein presented will require additional authorization, nor are there any limitations or specific disallowances in the committee reports for the preceding fiscal year.

Organization of the Commission

The Commission is composed of five eminent citizens, three of whom are appointed by the President and two of whom are appointed by the Mayor of the District of Columbia; three ex-officio members from executive agencies (the Secretaries of the Interior and Defense and the Administrator of General Services); the Chairmen of the Committees on the District of Columbia of the Senate and the House of Representatives; the Mayor of the District of Columbia; and the Chairman of Council of the District of Columbia.

The Commission meets monthly throughout the year to provide policy guidance for the coordination of the development programs in the District and the Region of Federal agencies and to review and adopt, approve, or make recommendations on matters upon which Commission action is required.

Professional Staff: The Commission employs a highly trained professional staff to perform technical studies and prepare recommendations to the Commission and its committees, maintain records of its meetings, make general and special urban planning studies, prepare background information on matters which are to come before the Commission and carry out policies, instructions, and programs of the Commission.

The staff participates actively in many coordinating groups, maintains liaison with numerous official agencies and conducts an active community relations program in order to effectuate the Commission's programs. Outside experts, who have special competence on particularly important problems, are retained on occasion.

Planning and Programming Coordination: The Commission's Coordinating Committee, created under the authority of section 2(d) of the Planning Act, meets twice monthly to bring together representatives of District and Federal agencies and neighboring jurisdictions to coordinate the review, study, and comment on development plans and programs for projects within the District of Columbia.

The Chairman of the Commission is a member of the Land Use Committee of the Metropolitan Washington Council of Governments and the Commission is represented on the Board of Directors of the United Planning Organization. The Executive Director of the Commission is a member of the Transportation Planning Board of the Council of Governments. In addition, the Council of Governments and the Commission have jointly formed a Regional Planning Directors Committee to review Federal and regional proposals and projects in the Washington Metropolitan Area.

PROGRAM BY ORGANIZATION UNIT

I. Office of the Executive Director

The staff activities of the Commission are directed by professional urban planners. The Executive Director is responsible for all administrative functions not specifically reserved for the Chairman as head of the agency and for all professional work of the staff.

This office formulates policy proposals on technical matters to present to the Commission, represents the Commission in carrying out its policies and programs, and supervises, coordinates, and reviews the work of the staff.

The Office of Administration, General Counsel and Secretary, and Public Affairs are parts of the Office of the Executive Director.

A. Office of Administration

Since the Commission is an independent agency, all administrative and management functions required of a Federal agency are carried out by its own staff, including financial management and accounting, budget preparation and control, personnel management, time and leave records management, space management, property records and accountability, and general administrative functions. Payrolling is handled by the General Services Administration on its ADP equipment on a contract basis.

B. Office of General Counsel and Secretary

The General Counsel and Secretary and his staff perform the following functions for the Commission and its staff:

1. Serves as Secretary and Parliamentarian to the Commission and its committees, the Coordinating Committee, the Recreation Coordinating Subcommittee, and the Joint Committee on Landmarks of the National Capital;

2. Provides legal services on matters of agency administration;

3. Advises on the statutory powers, duties, and functions of the Commission and on legal questions in the fields of urban planning, urban renewal and housing, transportation, preservation of open space, and preservation of historic and architectural landmarks;

4. Serves as legislative counsel in review of and preparation of reports on proposed and pending legislation, in the preparation of Congressional testimony, and in statutory drafting; and

5. Provides legal services in the acquisition by the Commission of lands for the park, parkway, and playground system of the National Capital.

The Secretariat stores and maintains the official records of the Commission, including transcripts of official proceedings and the central files of the agency. Functions of Agency Records, Freedom of Information, and Privacy Act Officers are performed in the Secretariat. Paperwork management functions, including preparation for meetings, supervision of Commission correspondence, and monitoring of the controlled correspondence system are accomplished in the Secretariat.

C. Office of Public Affairs

The Office of Public Affairs performs the following activities for the Commission:

1. Assists in liaison between the Commission and District of Columbia Government, Federal agencies, and political jurisdictions and agencies in the National Capital Region;

2. Arranges meetings and presentations of Commission plans and programs with other agencies and the public;

3. Provides information on Commission policies, programs and activities to news media, the community, students, and national and foreign visitors;

4. Maintains current information on community organizations in the National Capital Region and recommends forms of community involvement to the Commission and its staff in related programs and projects;

5. Conducts the Commission publication program, coordinating, editing and writing reports;

6. Maintains the Commission Library for use by staff, other agencies, and the general public; and

7. Provides the receptionist function, greeting and orienting visitors to the Commission offices and coordinating all telephone inquiries.

II. Federal Planning

Fiscal Year 1977 Federal Planning activities will emphasize the preparation of (1) several proposed Federal elements of the Comprehensive Plan for the National Capital; (2) Commission policies relative to Federal interests in the planning and development of the National Capital Region; and (3) the Commission's recommendation for a Federal Capital Improvements Program for the National Capital Region for Fiscal Years 1978-1983.

Recent comprehensive planning activities have focused on identifying and initiating the preparation of the Federal elements of the Comprehensive Plan for the National Capital in accordance with the amendments to the Planning Act contained in the District of Columbia Self-Government and Governmental Reorganization Act which established that the Comprehensive Plan shall be made up of Federal elements and District elements.

Comprehensive Planning activities in Fiscal Year 1977 will focus on completing the preparation and adoption of the following Federal elements of the Comprehensive Plan: (1) Federal goals for the planning and development of the National Capital Region; (2) the Federal Employment Plan and Program; (3) Foreign Missions and International Agencies; (4) Federal Land Use Plan; (5) Federal Open Space Plan and Program; (6) the L'Enfant City Plan and Program; and (7) modifications to the Comprehensive Plan as necessary.

Federal policies activities will focus on completion of the long-range policy planning analysis of Federal interests in the Region, the re-evaluation of the Year 2000 Policies Plan and the preparation of Commission policies on Federal interest in the planning and development of the National Capital Region.

Capital budget and programming activities will focus on the preparation of the Commission's recommended Federal Capital Development Program that would identify and describe all proposed Federal land acquisition and development proposals within the National Capital Region for Fiscal Year 1978-1983. This work will include review of proposed Federal and District of Columbia Fiscal Year Budget Requests and Capital Improvement Programs.

In Fiscal Year 1975, the Commission reviewed the proposed capital budget requests of 13 Federal agencies and forwarded its recommendations to the sponsoring agencies and the Office of Management and Budget. The Commission also reviewed the District's proposed FY 1976-1981 Six-Year Capital Improvements Program during Fiscal Year 1975 which included 217 individual projects, with particular emphasis on aspects of the program affecting Federal interests and consistency with the Comprehensive Plan.

The research activities will focus on continuing the studies of the National Government in the Washington economy, completing the Federal employment disaggregation model and continuing work on establishing the Federal employment, space use and land use data systems - including undertaking the first such annual survey and report on annual changes in the National Capital Region.

It is anticipated that the following five studies of National Government functions in the Washington economy will be completed in Fiscal Year 1976: (1) international activities; (2) printing and allied industries; (3) news media and other communications industries; (4) suppliers of goods and services to the Federal Government; and (5) tourist, business visitor, and convention activities.

The environmental activities will continue to include the review and evaluation of actions initiated by the Commission and developments proposed by other agencies in the National Capital Region. Special emphasis will be given to an evaluation of the environmental aspects of proposed Federal elements of the Comprehensive Plan and meeting Commission responsibilities under the National Environmental Policy Act.

In Fiscal Year 1975, the Commission completed a total of 170 environmental reviews of proposed District and Federal developments in the National Capital Region. In addition, the Commission initiated a total of 13 actions requiring an environmental review and finding during the Fiscal Year.

The urban design activities will include advice, consultation and special studies for the Commission and other branches and offices. Special emphasis will be given to preparation of the urban design aspects of the Federal elements of the Comprehensive Plan - including an urban design plan for the L'Enfant City.

In Fiscal Year 1975, urban design studies were undertaken in conjunction with the Sectional Development Plan for the South Capital Street-Buzzard Point Corridor, the New York Avenue Industrial Corridor, the shoreline study and Union Station Plaza.

III. Federal Review

Fiscal 1977 staff planning activities for Federal Review functions of the Commission will cover master and project plans, special projects, zoning referrals, historic preservation and transportation. The reviews will deal with master and project plans for both Federal and District of Columbia development proposals including proposed Federal and District Government building projects, urban renewal plans, environmental statements, transportation improvements affecting the Federal interest, and park, parkway and playground proposals.

In addition, Federal interest reviews of local, state and regional plans will be required to carry out the Commission's responsibility as clearinghouse for Federal planning matters in the National Capital Region.

Other plan review activities will include street and alley closings, transfers of jurisdiction, sale of surplus District government land and any proposed changes to the permanent system of highways plan.

The major special project to be undertaken in Fiscal Year 1977 will deal with the design plan for the orderly development and refinement of the L'Enfant plan, the central Mall area, and the waterfront area.

In the area of zoning, the staff will be required to review and prepare recommendations on all referrals from the District of Columbia Zoning Commission and Board of Zoning Adjustment, including those zoning items referred pursuant to Section 492(b)(2) of the District of Columbia Self Government and Governmental Reorganization Act.

With regard to historic preservation activities, the staff will advise and assist on Federal undertakings or on landmarks listed or eligible for listing on the National Register of Historic Places pursuant to Section 106 and 107 of the National Historic Preservation Act. In addition, the one person Historic Preservation staff will support the Joint Committee on Landmarks in its responsibilities for designating landmarks and in the Committee's continuing work on preservation and landmark protection.

Work on the Federal Transportation Study will continue in Fiscal Year 1977 and will deal with current Federal employee travel and traffic assignment from earlier phases of the study and will assign Federal employee traffic to the regional highway and transit systems relative to future Federal employment distribution contained in the Federal Employment Plan. In addition, the two man Transportation

staff will continue to review plans for transportation facilities such as transit stations and highway improvements to ascertain adequacy of the proposals with respect to the Federal transportation needs.

In Fiscal Year 1975-76 the Commission through its Master and Project Plans Branch reviewed 151 Federal site and building plans, six major installation master plans, 12 projects dealing with the park, parkway and playground systems in the District of Columbia and Rock Creek Park in Montgomery County Maryland, and 29 District of Columbia site and building plans. In addition, seven master plans for District facilities were presented and reviewed by the Commission.

In regard to zoning matters submitted to the Commission, 26 District of Columbia Board of Zoning Adjustment cases were referred to the Commission for report and several Zoning Commission Applications for amendments to the regulations were testified on at public hearings by the staff on behalf of the Commission.

During Fiscal Year 1975 the Commission initiated a Federal Transportation Study. Work included a study of Federal employee work travel utilizing existing origin-destination data for the purpose of developing the characteristics of Federal employee travel to and from work related to location of work.

In the area of Historic Preservation, 12 meetings of the Joint Committee on Landmarks were held for which considerable staff preparatory work was required. In addition, two public hearings in designating Landmarks and Historic Districts took place during fiscal year 1976 and ten nominations to the National Register of Historic Places were researched, prepared and submitted to the keeper of the register.

The Cartographic Services Office prepared approximately 3900 different pieces of graphic illustrations, servicing each of the branches and Offices of the Commission during the past Fiscal Year.

IV. Services of Experts and Consultants Funded under the S&E Account

A. Fiscal Year 1975 (funds available $65,000)

Normal consultant services to support Commission staff on special projects and programs needing outside expertise. $35,000

Special technical consulting services and assistance in the development of data and information to be incorporated into Environmental Impact Statements to be prepared by the Commission. $15,000

To secure expert consulting services to establish a system for recording, monitoring and projecting Federal Employment changes in the National Capital Region. $15,000

B. Fiscal Year 1976 (funds requested $50,000)

Normal consultant services to support Commission staff on special projects, including environmental matters, and programs needing outside expertise. . . $50,000

C. Transition Quarter (July 1, 1976 - September 30, 1976)

No funds were requested for this 3-month transition period.

D. Fiscal Year 1977 (total funds requested $50,000)

Normal consultant services to support Commission staff on special projects, including environmental matters, and programs needing outside expertise. . . $50,000

AMERICAN REVOLUTION BICENTENNIAL ADMINISTRATION

FISCAL YEAR 1977

BUDGET ESTIMATES

(11 63)

HISTORICAL AND MEMORIAL AGENCIES
AMERICAN REVOLUTION BICENTENNIAL ADMINISTRATION

AGENCY'S HIGHLIGHTS

The work of the American Revolution Bicentennial Administration has been performed strictly within the mandates of Public Law 93-179. Recited below are some of the accomplishments, which in retrospect, in the judgment of the ARBA provide what the people of the United States wanted for their Bicentennial.

- Development of the Bicentennial Communities Program which now includes 8,500 designated communities, college campuses, Indian reservations, and military installations. By July of 1976, over 10,000 designations will have been made encouraging strong local involvement and participation in America's Bicentennial.

- Registration of over 35,000 Bicentennial activities to date. To fulfill the calendar responsibilities, a quarterly Comprehensive Calendar of Bicentennial Events lists nearly 11,000 events with activity on or after February 1, 1976. The register function is fulfilled through the Master Register of Bicentennial Projects, the February, 1976, edition of which lists 16,000 projects. An overall Index of Bicentennial Activities is also being prepared as a reference to total nationwide planning details, and will list the 27,000 activities by city and state. These publications will be distributed to all Bicentennial Communities, State and Territorial Commissions, and the news media, travel industry, and Bicentennial planners on a selected basis. In addition, ARBA is planning a general program book covering representative aspects of the nationwide commemoration. To be titled "200 Years: The Bicentennial of the United States of America", this attractive and reasonably priced publication will receive the widest possible nationwide and international distribution.

- Coordination of Foreign participation in the Bicentennial. Over sixty countries will take part in America's Bicentennial with efforts ranging from the French Government's sound and light spectacle at Mount Vernon to Federal Republic of Germany's contribution of University Chairs, and Japan's offer of cherry groves in Seattle, San Francisco, and Los Angeles. Innumerable works of art, exhibitions and touring groups will travel across the United States in 1976 to honor the Bicentennial. The total investment of foreign countries in these efforts has now reached over $20 Million.

- Continuance of grants-in-aid programs underwritten by appropriated as well as nonappropriated revenue funds. Over four thousand projects have received financial assistance from ARBA amounting to almost $20 Million; efforts ranging from restorations of historic sites to national forums addressing the problems and challenges of the twenty-first century.

- Continuance of State and Local coordinative assistance through a network of ten regional offices. This program provides localities with technical assistance in scheduling and launching commemorative programs and celebrations.

- Entered into numerous joint venture programs within the Federal Departments & agencies promoting excellent projects such as the Junior Committees of Correspondence, the Festival of American Folklife, the Festival of Jazz, Horizons on Display, Working Americans, and many other significant undertakings.

- Co-sponsorship of a national ethnic racial conference to elicit minority goals and aspirations for their participation in the Bicentennial commemorations.

- Co-sponsorship of a national religious leader's conference to promote their perspective and efforts in the Bicentennial.

- Production of the multi-media program, "Count Me In," for use by Schools in promoting youth awareness and involvement in the Nation's Bicentennial.

- Continuance of a very successful commemorative coins and medals program which has provided close to $15 Million in supplemental financing to programs and projects presented to the ARBA.

- Assistance with Congressional involvement in the Bicentennial by providing speech materials, community designation ceremonies, and special information materials.

- Development and production of the film "America" : A BICENTENNIAL FILM CELEBRATING OUR LAND AND PEOPLE. The film is composed of scenes from over one hundred American motion pictures depicting varied aspects of the life and character of our people. After a world premiere to take place at the John F. Kennedy Center for the Performing Arts in Washington, D.C., the film will go into general release in mid-1976.

- Initiated several public awareness campaigns through increased visability of the Bicentennial logo, public service television and radio spot announcements, and distribution of Bicentennial travel information on a regular basis to the entire media. These activities as well as continual dissemination of all types of pertinent information will continue through the end of 1976.

- Coordination and aid in the scheduling and staging of major national and regional Bicentennial Events such as Operation Sail 1976, Wagon Train, Bikecentennial '76, Parades, and many more significant celebrations.

- Production and distribution of the 3-screen show BICENTENNIAL USA, and an additional thirteen minute motion picture of the same title.

- Establishment of a special public information capability to provide the widest possible coverage to the events of the July Fourth weekend.

- Production and distribution of a wide variety of informational materials to assist Bicentennial planners, travelers, and workers. These pamphlets, papers, and books cover subjects from low cost accommodations and tourism to methods of promoting and funding small town celebrations.

- Development of "USA '76: The First Two Hundred Years." This exhibition presents a unique overview of the Bicentennial celebration through photographs, sound, films, and special computerized information center. Over three hundred thousand visitors have seen this exhibition in Chicago, Seattle, Los Angeles, and Denver. The exhibition has been selected to become the ARBA contribution to the U.S. Bicentennial Expositon on Science and Technology to be held at the Kennedy Space Center, Cape Canaveral, Florida, from May 30 through September 6, 1976.

- Publication of The Bicentennial Times, a monthly newspaper which serves as the principal informational conduit of the ARBA. Now reaching over a quarter of a million homes, businesses, embassies, and schools throughout the world, requests for subscriptions continue to come at the rate of 15,000 per month.

- Recognition of over $25 million in Bicentennial investments by the American private sector - business organizations, labor organizations and foundations - in promoting projects ranging from the restoration of the Statue of Liberty to Bicentennial youth debates to the Freedom Train.

- Financial and other resource assistance to the Nation's Capital to aid in visitor planning as well as the production of unique efforts such as Children's Island and the Salute to the States.

- Development of "The World of Franklin and Jefferson" Exhibition in cooperation with the Metropolitan Museum of Art in New York through a grant from the IBM Corporation. This unique exhibition designed by Charles and Ray Eames spanding 120 years of the early American experience and its European heritage was seen by a quarter of a million visitors in Paris, Warsaw, and London; a record attendance for an historical exhibition. In early March of 1976, the exhibition will begin its tour of the United States at the Metropolitan Museum of Art in New York City.

HISTORICAL AND MEMORIAL AGENCIES

AMERICAN REVOLUTION BICENTENNIAL ADMINISTRATION

SALARIES AND EXPENSES

For expenses to carry out the provisions of the Act of December 11, 1973 (Public Law 93-179), [$9,462,000 of which not to exceed $1,375,000 shall be for grants-in-aid as authorized by section 9(a)(1) of the Act] $1,965,000.

[For "Salaries and expenses" for the period July 1, 1976, through September 30, 1976, $1,743,000] *(Department of the Interior and Related Agencies Appropriation Act, 1976, and the period ending September 30, 1976.)*

AMERICAN REVOLUTION BICENTENNIAL ADMINISTRATION

FY-1977

Public Law 93-179 established the American Revolution Bicentennial Administration to coordinate, to facilitiate, and to aid in the scheduling of events, activities, and projects of local, State, National, and international significance sponsored by both governmental and nongovernmental entities in commemoration of the American Revolution Bicentennial. In accordance with these directives, the ARBA developed a Master Calendar of Events, conducted grants-in-aid programs utilizing both appropriated funds and nonappropriated revenue funds, established ten regional offices to provide state and local assistance in identifying and facilitating programs and projects, and carried on coordinative involvement activities at the National and International level. A Bicentennial Communities network was established and now includes over 8,000 villages, towns, cities, military installations, and college campuses: 26 Native American communities have also been designated. The ARBA continues to cosponsor, on a selective basis, programs and projects with other agencies within the Federal community and with the private sector to attempt to assure thematic activities nationally.

GENERAL ADMINISTRATION

Public Law 93-179 provides that the American Revolution Bicentennial Administration shall terminate its activities no later than June 30, 1977. In support of this directive, the agency requests funding for the first three quarters of Fiscal Year 1977. The budget presented herewith includes estimates for greatly reduced agency activities; specifically, funding to allow for an organized phasing out of functions and coordinative responsibilities.

GRANTS-IN-AID

To the extent the Administrator recommends and the ARB Board approves, the Bicentennial Administration will limit FY 1977 Grants-in-Aid to nonappropriated revenue sources during the first quarter and will also use a portion of these net revenues to supplement select agency activities such as exhibit showings and film distribution costs.

APPROPRIATED FUNDS
STATE PROJECT MATCHING GRANTS

The American Revolution Bicentennial Administration (ARBA) continues to administer the $11 million project matching grant program as established by Section 9(b) of Public Law 93-179 in the amount of $200,000 to each of the States, the District of Columbia, the Commonwealth of Puerto Rico, and territorial Bicentennial Commissions in support of Bicentennial programs and projects.

More than $6 million has already been granted to State and territorial Commissions in support of more than 1,500 projects. It is anticipated that the remaining $5 million will be applied for and granted by June 30, 1976.

It should be noted that available matching funds and in-kind services have exceeded Federal dollars by over a 3 to 1 ratio. Total Bicentennial project funding at the local level is approaching $18,000,000. With continuing ARBA assistance and financial support, over $33,000,000 in active projects will be developed by the end of this fiscal period.

AMERICAN REVOLUTION BICENTENNIAL ADMINISTRATION

Analysis by Activities

- FY - 1975 Actual
- FY - 1976 Estimate
- Transition Quarter Estimate
- FY - 1977 Estimate

(in thousands of dollars)

Activity	FY-1975 Actual	FY-1976 Estimate	Transition Quarter Est.	FY-1977 Estimate
Administrative/Management Support	$1,075	$1,220	$ 210	$ 715
Bicentennial Communities	615	460	105	35
Bicentennial Exhibits and Films	1,550	1,205	260	415
Board and Council Activities	210	255	40	25
Communications Activities	1,055	1,180	290	247
International Affairs	135	135	35	85
Master Calendar Services	740	980	258	205
Program Implementation	1,215	1,057	170	75
Regional Offices	1,205	1,045	260	118
Resource Development	505	550	115	45
State Grants (Direct)	1,375	1,375	---	---
	$9,680	$9,462	$1,743	$1,965 1/

1/ Reported estimates do not include offsetting expenses to be absorbed by Commemorative Activity Funds.

AMERICAN REVOLUTION BICENTENNIAL ADMINISTRATION

Salaries and Expenses

Public Law 93-179 provides that the American Revolution Bicentennial Administration shall terminate no later than June 30, 1977. During 1977, the agency will develop its archival program and phase out its activities.

Object Classification

(in thousands of dollars)

Identification code 31-03-1900-0-1-806		1975 Actual	1976 Est.	TQ Est.	1977 Est.
	Personnel compensation:				
11.1	Permanent positions	2,615	2,505	755	850
11.3	Positions other than permanent	70	253	12	7
11.5	Other personnel compensation	17	47	6	-------
11.8	Special personal services payments	118	42	19	5
	Total personnel compensation	2,820	2,847	792	862
12.1	Personnel benefits: Civilian	236	277	68	75
21.0	Travel and transportation of persons	432	470	150	90
22.0	Transportation of things	47	30	5	17
23.0	Rent, communications and utilities	629	594	146	246
24.0	Printing and reproduction	665	723	205	80
25.0	Other services	3,128	3,074	367	570
26.0	Supplies and materials	199	45	10	25
31.0	Equipment	133	27	-------	-------
41.0	Grants, subsidies, and contributions	5,318	9,808	-------	-------
99.0	Total obligations	13,607	17,895	1,743	1,965

Personnel Summary

Total permanent positions	173	173	-------	-------
Full-time equivalent of other positions	19	13	-------	-------
Average paid employment	140	162	-------	-------
Average GS grade	10.10	9.80	-------	-------
Average GS salary	$18,600	$19,750	-------	-------

AMERICAN REVOLUTION BICENTENNIAL ADMINISTRATION

Program and Financing

(in thousands of dollars)

Identification code 31-03-1900-0-1-806	1975 Actual	1976 Est.	TQ Est.	1977 Est.
Program by activities:				
1. General administration	6,233	8,088	1,743	1,965
2. Grants-in-aid:				
Direct	3,718	1,473	-------	-------
Matching	1,389	9,611	-------	-------
Total program costs, funded.	11,340	19,172	1,743	1,965
Change in selected resources	2,267	1,277	-------	-------
10 Total obligations.	13,607	17,895	1,743	1,965
Financing:				
21 Unobligated balance available, start of period.	-12,375	-8,433	-------	-------
24 Unobligated balance available, end of period.	8,433	-------	-------	-------
25 Unobligated balance lapsing.	22	-------	-------	-------
60 Budget authority (appropriation) (permanent)	9,686	9,462	1,743	1,965
Relation of obligations to outlays:				
71 Obligations incurred, net.	13,607	17,895	1,743	1,965
72 Obligated balance, start of period	3,783	5,284	2,000	200
74 Obligated balance, end of period	-5,284	-2,000	-200	-------
77 Adjustments in expired accounts.	-206	-------	-------	-------
90 Outlays.	11,899	21,179	3,543	2,165

HISTORICAL AND MEMORIAL AGENCIES
AMERICAN REVOLUTION BICENTENNIAL ADMINISTRATION
SALARIES AND EXPENSES

31-03-1900-0-1-806	1975 actual	1976 est.	1977 est.
Executive level III	1	1	1
Executive level IV	1	1	1
Subtotal	2	2	2
GS-18	1	1	----
GS-17	2	3	1
GS-16	1	1	1
GS-15	30	23	7
GS-14	12	11	3
GS-13	19	19	4
GS-12	9	10	4
GS-11	14	16	5
GS-10	2	1	----
GS-9	9	13	3
GS-8	1	2	----
GS-7	22	21	11
GS-6	18	23	5
GS-5	21	15	9
GS-4	8	9	10
GS-3	1	2	3
GS-2	1	1	1
Subtotal	171	171	67
Total permanent positions	173	173	69
Unfilled positions end of year	-33	-8	-69
Total permanent employment, end of year	140	165	----

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AMERICAN REVOLUTION BICENTENNIAL ADMINISTRATION

Space and Facility Cost Summary

Reimbursement for space services and facilities provided by the General Services Administration in fiscal year 1976, $406,000; anticipated fiscal year 1977, $187,000, decrease, $219,000.

COMMEMORATIVE ACTIVITIES FUND

Revenues are primarily generated for deposit into this account from the sale of medal and stamp packages, bronze and silver solo medals, the 1976 National medals series, licensing royalties, and from the distribution of special reports produced by the computerized Bicentennial Information Network as requested by subscribers outside the agency.

The Administration utilizes these funds to make grants available to the fifty-five State and territorial Bicentennial Commissions on a matching basis, to provide matching grants to non-profit corporations offering unique programs and projects, and to support special joint venture endeavors with other agencies in the Federal community, and in the private sector.

The American Revolution Bicentennial Board determines policy relative to the distribution of these funds.

AMERICAN REVOLUTION BICENTENNIAL ADMINISTRATION

Commemorative Activities Fund

Revenues are generated for deposit into this account primarily from the sale and licensing of commemorative items. The American Revolution Bicentennial Board determines policy relative to the distribution of these funds for matching grants and other purposes. Production costs of the ARBA medal series are paid from this account.

Object Classification

(in thousands of dollars)

Identification code 31-03-5077-0-2-806		1975 Actual	1976 Est.	TQ Est.	1977 Est.
21.0	Travel and transportation of persons	-------	5	2	3
22.0	Transportation of things	-------	3	-------	-------
24.0	Printing and reproduction	-------	58	350	70
25.0	Other services	3,745	5,805	1,148	1,281
26.0	Supplies and materials	1	79	-------	-------
41.0	Grants, subsidies, and contributions	2,935	7,150	1,800	-------
99.0	Total obligations	6,681	13,100	3,300	1,354

AMERICAN REVOLUTION BICENTENNIAL ADMINISTRATION

Program and Financing

(in thousands of dollars)

Identification code 31-03-5077-0-2-806	1975 Actual	1976 Est.	TQ Est.	1977 Est.
Program by activities:				
1. General administration	3,062	5,950	1,500	1,354
2. Project grants	2,444	7,150	1,800	-------
Total program costs, funded.	5,506	13,100	3,300	1,354
Change in selected resources	1,175	-------	-------	-------
10 Total obligations.	6,681	13,100	3,300	1,354
Financing:				
21 Unobligated balance available, start of period.	-4,237	-3,734	-2,034	-754
24 Unobligated balance available, end of period.	3,734	2,034	754	2,600
60 Budget authority	6,178	11,400	2,020	3,200
Relation of obligations to outlays:				
71 Obligations incurred, net.	6,681	13,100	3,300	1,354
72 Obligated balance, start of period	1,297	2,167	4,267	5,713
74 Obligated balance, end of period	-2,167	-4,267	-5,713	-3,367
90 Outlays (appropriation) (permanent, indefinite, special fund)	5,811	11,000	1,854	3,700

COMMEMORATIVE ACTIVITIES FUND

Since the American Revolution Bicentennial Commission offered the first Philatelic-Numismatic Combination (PNC) for sale to the public on July 4, 1972, over $26 million in gross revenues has been raised thru December, 1975. An approximate net revenue margin of 50% has made it possible for the ARBC/ARBA to provide supplemental financial assistance to Bicentennial programs and projects in the amount of $12 million to date. This assistance has been primarily in the form of matching grants to the State and Territorial Commissions, transfers to other agencies in the federal community for joint venture undertakings, and matching grants to non-profit corporations offering unique programmatic endeavors.

Pursuant to P.L. 93-179 and as authorized by the ARB Board, the American Revolution Bicentennial Administration began licensing firms in the private sector to produce and sell commemorative items in fiscal year 1975. Through December, 1975, an additional $850 thousand in royalties has been made available for programs and projects.

It is estimated that the ARBA will gross nearly an additional $5 million during the balance of fiscal year 1976 and the transition quarter. Plans call for the approximately $4 million in net revenues to underwrite special programmatic efforts as approved by the ARB Board and supplement appropriated funds authorized during the fiscal 1977 agency phase out.

During fiscal 1977, licensing royalties, commemorative medals sales, and other deposits will total approximately $3 million. Net proceeds from these revenue activities will be used to underwrite services rendered by the Department of Interior, General Services Administration, National Archives, and other Federal agencies during the final agency phase out period. Specific services and requirements will be identified by the assisting agencies but will include those normally associated with program termination pursuant to Federal Statute.

The following tables will identify funds distribution and usage to date:

HISTORY OF ARBC/ARBA NONAPPROPRIATED GRANTS

Fiscal Year	States Project Grants	Federal Agency Transfers	Non-profit Organizations	Totals
1974	$2,200,000	$1,000,000	$ 137,000	$ 3,337,000
1975	2,200,000	697,000	1,402,000	4,299,000
1976 1/	2,200,000	1,080,000	878,000	4,158,000
Cumulative	$6,600,000	$2,777,000	$2,417,000	$11,794,000

1/ Thru December 15, 1975

A few of the more significant programs included among the aforementioned funds distribution are:

-Festival of American Folklife (Smithsonian)	$ 950,000
-Foreign Touring Exhibits (Smithsonian)	115,000
-Horizons on Display (HUD)	350,000
-Various Tourism Impact Surveys and Reports	365,000
-American Issues Forum (NEH)	200,000
-$120,000 to every State and Territorial Bicentennial Commission in $40,000 increments over three years	6,600,000

It should be noted that during the first two years of the program, over eleven hundred different projects received financial assistance through non-appropriated grant activity. Available matching funds exceeded grant amounts by a 4 to 1 margin thus assuring local involvement and continuing interest.

AMERICAN REVOLUTION BICENTENNIAL ADMINISTRATION

Gifts and Donations

Program and Financing

(in thousands of dollars)

Identification code 31-03-8091-0-7-806	1975 Actual	1976 Est.	TQ Est.	1977 Est.
Program by activities:				
1. General administration (total costs, funded)	-------	12	-------	-------
10 Total obligations (costs, funded--object class 25.0)	-------	12	-------	-------
Financing:				
21 Unobligated balance available, start of period	-------	-5	-------	-------
24 Unobligated balance available, end of period	5	-------	-------	-------
60 Budget authority (appropriation) (permanent, indefinite)	5	7	-------	-------
Relation of obligation to outlays:				
71 Obligations incurred, net	-------	12	-------	-------
90 Outlays	-------	12	-------	-------

AMERICAN REVOLUTION BICENTENNIAL ADMINISTRATION

FY-1977

Budget Summary in Brief
(in thousand of dollars)

	FY 1975	FY 1976	Transition Quarter	FY 1977
Salaries and Benefits	3,056	3,124	860	937
Travel	432	470	150	90
Rents, Comm., Utilities	629	594	146	246
Printing - Reproduction	665	723	205	80
Supplies, Equipment, Transportation	379	102	15	42
Other Services	3,144	3,074	367	570
States Grants-In-Aid	1,375	1,375	---	---
Appropriation Total	9,680	9,462	1,743	1,965

AMERICAN REVOLUTION BICENTENNIAL ADMINISTRATION

FY-1977 Submission

Budget Justification

Salaries and Benefits

$937,000 is requested for salaries and benefits in FY-1977. These funds are required to support seventy-eight permanent positions in the first quarter of the fiscal period and thirty-seven permanent positions during the second and third quarters at which time the ARBA ceases operation. The amount requested will also provide for the lump sum annual leave payments and severance payments for personnel terminating Government service as the agency phases out its operational role. During the period from August, 1976, through June 30, 1977, the ARBA will effect a reduction in force of 173 permanent positions.

Travel

$90,000 is requested for staff and invitational travel in FY-1977. This amount will underwrite the final nine meetings of the ARB Board, the final four of the ARB Advisory Council, estimated regional support travel during the first quarter of the fiscal period, and necessary staff travel to arrange for the orderly closing of agency regional offices. Travel required for direct support of the Commemorative Medals sales program will be underwritten by non-appropriated revenue funds.

Rents, Communications, and Utilities

$246,000 is requested for the first three quarters of FY-1977. This amount will support five regional offices for the first quarter of the fiscal year, agency headquarters space through June 30, 1977, and other rental services applicable to this object classification.

Printing and Reproduction

$80,000 is requested for FY-1977. These funds are required to publish the final three issues of the Bicentennial Times, weekly news releases through December 31, 1976, the Annual Reports, and miscellaneous reproduction requirements.

Additional requirements estimated at $65,000 to support brochures and other informational data for agency Exhibition showings will be absorbed by non-appropriated revenue funds.

Supplies, Equipment, and Transportation of Things

$42,000 is requested for FY-1977. These funds will underwrite general office supplies through June 30, 1977, as well as minimal transport requirement of agency Exhibitions.

Other Services

$570,000 is requested for FY-1977. This amount will support the following activities:

1.	Photo and Film Processing	$ 10,000
2.	Postage and Fees Reimbursements	85,000
3.	U.S. Government Facilitating Services	475,000

U.S. Government Facilitating Services cover support rendered the agency by the Department of the Interior, General Services Administration, and the National Archives to effect the orderly phase out of ARBA operations. This is primarily an administrative support activity outside of agency capabilities. Other resource requirements which fall into this object classification estimated at $340,000 to support final agency Exhibition showings will be absorbed into non-appropriated revenue funds.

AGENCY RECOMMENDATIONS

Pursuant to Public Law 93-179, Section 2.h., the American Revolution Bicentennial Administration will commence transferring physical property acquired by the ARBC/ARBA to the Department of the Interior, Office of the Secretary, on September 30, 1976.

Five ARBA Regional Offices will cease operations during the period September 15 thru 29, 1976. Representatives of the Department of the Interior will arrange for temporary storage of furnishings and office equipment at on-site facilities. All rental equipment will be terminated at the end of the Transition Quarter thus reverting to respective suppliers. Regional office files and records will be forwarded to to agency headquarters for possible reference usage and/or archival disposition as determined by representatives of the Interior Department. All leases for space for the aforementioned regions will lapse on September 30, 1976. The Department of the Interior will coordinate these activities with the General Services Administration as appropriate.

The remaining five ARBA Regional Offices will remain in operation through the first quarter of Fiscal Year 1977 and will be staffed by one professional and two administrative positions to assist States in their regions in final grants processing and other necessary support areas. These offices will close during the period of December 1 thru 15, 1976. Procedures for disposition of property, equipment, space, and records will be consistent with those implemented for the other regions. During the last forty-five days of the Transition Quarter, the ARBA Headquarters personnel ceiling will be reduced from 125 to 54. This skeletal force will comprise a phase-out organizational structure of seven coordinating units through the end of the first quarter of FY 1977.

Unit responsibility will include:

1. The orderly transfer of programs and activities to other agencies in the federal community as appropriate.

2. Preparation of agency records for Archives or disposal.

3. Coordination with the Department of the Interior regarding equipment and property transfers.

4. Management of the Franklin and Jefferson Exhibition as well as the U.S.A. 200 Exhibition through June 30, 1977.

5. Preparation of the Bicentennial Information Network for Archives.

6. Preparation of agency reports for submission to the President, OMB, and the Congress.

7. Preparation of final three editions of the Bicentennial Times.

8. Continuing administrative and management support functions in the issuance of appropriated and nonappropriated grants.

During the second and third quarters of FY-1977, 37 permanent personnel will effect the closing of the Bicentennial Administration as an agency, no later than June 30, 1977. Staff on board during this six month period will have responsibility for implementing the final agency stand down. Specifically:

1. Transfer of remaining property and equipment to the Department of the Interior.

2. Preparation of final Annual Report.

3. Administrative and Management Support.

4. Final auditing and reporting of agency grants-in-aid program.

With regard to termination procedures for agency personnel during the phase out of activities, the Office of the Secretary, Department of the Interior, will provide outplacement services and counseling to those employees in the competitive and excepted service of the American Revolution Bicentennial Administration. Counseling will include procedures of seeking employment in the Federal Services. Employees will receive a written notice at least 30 days in advance informing them of their rights as a result of reduction-in-force and personal counseling will be provided to an employee upon his/her request. Every consideration must be accorded agency personnel during this unique phase out program. Variations may be expected in the activity termination schedules presented here, but the overall objectives will be realized.

Schedule For Termination of Activities

During Fiscal Years 1975 and 1976, the American Revolution Bicentennial Administration organizational structure included eleven distinct activities:

1. Administrative and Management Support
2. Bicentennial Communities Network
3. Bicentennial Exhibits and Films
4. Board and Council Activities
5. Communications and Public Affairs
6. International Affairs
7. Master Calendar Services
8. Program Implementation
9. Regional Offices
10. Resource Development
11. States Grants

The schedule for termination of these activities is as follows:

Administrative and Management Support

This activity includes the Offices of the Administrator and the Deputy Administrator, the General Counsel, the Office of Legislative Liaison, the Board and Council Support Staff, and a small general administrative coordination team. Permanent personnel assigned to these six offices total twenty-nine. positions. Staffing for this activity will remain at that level through October, 1976. During the period from mid-October through December 1, the personnel ceiling will be reduced to a staff of eighteen that will absorb and carry out all responsibilities of these offices through June 30, 1977. While the ARBA will continue to be of assistance to the States requiring it, the primary function of this administrative and management activity during the last six months of the agencies' operation will be to provide coordinative assistance to the Department of the Interior in transferring ARBA physical property and records, continue limited support for agency offices, and provide congressional liaison services and legal assistance as necessary, and to coordinate final grants auditing and reporting.

Bicentennial Communities Network

This program has the responsibility of stimulating and encouraging communities to establish viable projects and take membership in the nationwide network. The ARBA will terminate application processing for new communities on June 1, 1976 so they can be processed and awarded by July 4, 1976. Plans call for the six personnel presently assigned to this office to be reduced to two by the end of August 1976. During the last month of the FY 1976 Transition Quarter, all remaining coordinative functions of the activity will cease and remaining staff will terminate by September 30, 1976.

Bicentennial Exhibits

The two major traveling exhibitions of the agency, "The World of Franklin and Jefferson" and "USA '76 The First Two Hundred Years," are the major responsibilities of this office.

Nine personnel are presently assigned to the division and due to the exhibit touring schedules, the staffing level will remain at that level through June, 1977. Plans call for the U.S. Information Agency to provide support services for "The World of Franklin and Jefferson" during its final showing in Mexico City consistent with those previously rendered during the Exhibition's European tour and to

assume responsibility for the Exhibition when the ARBA terminates on June 30, 1977. $515 thousand dollars is requested for these activities in Fiscal Year 1977 to underwrite staff costs, travel, on-site refurbishing of hardware, and transportation and moving costs of the exhibits for three showings each. In addition, nonappropriated revenue funds in excess of $400 thousand will supplement foreign language translations and printing costs; all costs incurred by the "World of Franklin and Jefferson" during its final showing the Mexico City scheduled for early 1977.

Board and Council Activities

During Fiscal Year 1977, the ARBA Board will hold its final (9) meetings and the Council its final (4) meetings. Three agency personnel have direct responsibility for support of these two groups. By the end of the FY 1976 Transition Quarter, all personnel assigned to this activity will be terminated and residual support will be provided by the remaining administrative team. Funds requested for FY 1977 will underwrite travel costs for the final meetings and the Boards' final report to the President.

Communications and Public Affairs

Twenty-four personnel are currently assigned to this activity encompassing press and media liaison services, speakers bureau, speech writing services, special event coordination, public information services, and film services. During the period from July through September, 1976, nineteen positions will terminate from the agency leaving seven personnel to assume coordinative responsibility in the public information area through December, 1976. The final three issues of the Bicentennial Times will also be produced during this period. During the period from January through July, 1977, three personnel will handle the final public information responsibilities until the ARBA terminates all activity.

International Affairs

Three ARBA personnel are now assigned the function of International liaison. Inasmuch as this area will reach its peak of activity between March and November, 1976, the staffing will remain constant through that period. By the end of the first quarter of FY 1977, all involvement in this area will cease and personnel will terminate.

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Master Calendar Services

Input and major coordinative efforts of this activity will cease by the end of the FY 1976 Transition Quarter. At that time, eight of the eleven personnel assigned to Master Calendar Services will terminate from the agency. Three personnel will coordinate archiving of the system during the first quarter of FY 1977, and two staff members will complete the process through June 30, 1977.

Program Implementation

Twenty-eight agency personnel will be assigned to this activity through the end of FY 1976 to assure balanced programmatic efforts in the three theme areas, provide official recognition to national and international programs and projects, and act as liaison with other agencies in the Federal community engaged in joint venture project efforts with the Bicentennial Administration.

During the FY 1976 Transition Quarter, the personnel ceiling will be reduced from twenty-four to eleven. The remaining staff will engage in final coordinative activities with program sponsors through the end of that fiscal period. By October, 1976, a further reduction to five personnel will occur. During FY 1977, a program support unit will have responsibility for finalizing all necessary reports and archiving records as appropriate. Staff costs only are requested.

Regional Offices

Direct agency involvement in assisting States and local Government Commissions in planning and implementing programs will terminate by September 30, 1976. At that juncture, staff assigned this responsibility will be reduced from the current level of forty-two to twenty-five. Responsibility during that period will be to provide coordinative assistance to previously planned and scheduled events and assist in the processing of final grants applications. By the end of the Transition Quarter, the ARBA will terminate activities altogether and close five regional offices.

The five remaining regional offices will remain operational through the end of the first quarter of FY 1977 to provide for an orderly phase out of States assistance and involvement. These five offices will close prior to December 31, 1976. Three headquarters personnel will assume responsibility for any regional liaison through final agency termination no later than June, 1977.

Resource Development

ARBA efforts and involvement in providing coordinative assistance to the private sector in identifying and funding projects will terminate by August, 1976 at which time the eleven personnel assigned to this area will terminate.

A staff of nine personnel are currently involved in the Commemorative sales and licensing areas. By the end of the FY 1976 Transition Quarter, a reduction of seven personnel will occur leaving two staff members to be absorbed into an administrative unit to handle these activities through December, 1976. At that time, all activities and responsibilities in this area will terminate.

States Grants

This activity has always been absorbed into the general administrative area for support personnel. During FY 1977, the primary function will be final grants auditing and reporting.

Implementation of P.L. '93-179 Transfer Provisions

Section 7(b) of P.L. 93-179 which established the ARBA provides in part that "...the President is authorized to transfer to the Secretary of the Interior on or after January 1, 1977, such powers and functions as he shall deem necessary for a continuation of appropriate commemoration of events relating to the American Revolution until December 31, 1983. All personnel, records, property, and appropriations of the Administration as related to the transferred functions shall be transferred to the Secretary of the Interior and shall be available for carrying out such transferred functions."

ARBA is in no position to comment at this time as to what the then President will do, if anything, to implement these provisions of law. It is anticipated that the Administrator and the ARB Board may have recommendations to make to the President on this matter.

HISTORICAL AND MEMORIAL COMMISSIONS

FRANKLIN DELANO ROOSEVELT MEMORIAL COMMISSION

For necessary expenses of the Franklin Delano Roosevelt Memorial Commission, established by the Act of August 11, 1955 (69 Stat. 694), as amended by Public Law 92-332 (86 Stat. 401), $29,000, to remain available until expended.

Historical and Memorial Commissions
Franklin Delano Roosevelt Memorial Commission
Analysis by Activity

Activity	Amount Available 1976	Fiscal Year 1977 Estimated Total Available	Fiscal Year 1977 Unobligated Balance from TQ	Fiscal Year 1977 Budget Estimate	Total available 1977 compared to total available 1976
1. Franklin Delano Roosevelt Memorial Commission	$25,331	$29,000	--	$29,000	$+3,669

HISTORICAL AND MEMORIAL COMMISSIONS
FRANKLIN DELANO ROOSEVELT MEMORIAL COMMISSION

Program and Financing (in thousands of dollars)

Identification code 31-05-0700-0-1-910	1975 actual	1976 estimate	TQ estimate	1977 estimate
Program by activities:				
Franklin Delano Roosevelt Memorial Commission	14	25	6	29
Total program costs, funded	14	25	6	29
Change in selected resources (undelivered orders)	7	--	--	--
10 Total obligations	21	25	6	29
Financing:				
21 Unobligated balance available start of period	-46	-25	--	--
24 Unobligated balance available end of period	25	--	--	--
Budget authority (appropriation)	--	--	6	29
Relation of obligations to outlays:				
71 Obligations incurred, net	21	25	6	29
72 Obligated balance, start of period	1	8	9	9
74 Obligated balance, end of period	-8	-9	-9	-2
90 Outlays	14	24	6	36

HISTORICAL AND MEMORIAL COMMISSIONS
FRANKLIN DELANO ROOSEVELT MEMORIAL COMMISSION

Object Classification (in thousands of dollars)

Identification code 31-05-0700-0-1-910	1975 actual	1976 estimate	TQ estimate	1977 estimate
21.0 Travel and transportation of persons	1	1	1	6
23.0 Rent, communications, and utilities	1	1	1	2
24.0 Printing and reproduction	--	1	1	2
25.0 Other services	19	21	2	17
26.0 Supplies and materials	--	1	1	2
Total obligations	21	25	6	29

Exhibit A

TOP FOR TEST

Justification

Public Law 92-332, approved June 30, 1972, authorizes the Secretary of Interior to participate in the planning and design of a national memorial to Franklin Delano Roosevelt. It provides authorization for appropriation of such sums as may be necessary to carry out the provisions of the Joint Resolution approved August 11, 1955 (69 Stat. 694) to formulate plans for this memorial to honor the nation's 32nd President.

Three earlier FDR memorial plans have been rejected. The Commission has decided that the memorial will include a sculpture of President Roosevelt, rose plantings, and a water feature as the focal point in the design. It will be situated on about 27 acres of parkland in West Potomac Park, across the Tidal Basin from the Jefferson Memorial and south of the reflecting pool. This site was approved in 1959.

Appropriations in the amount of $29,000 are requested to continue the necessary administrative work of the Commission in completing this project.

Funds to conduct planning and design of the Memorial are appropriated to the National Park Service in accordance with Public Law 92-332.

JOINT FEDERAL-STATE LAND USE PLANNING COMMISSION FOR ALASKA BUDGET JUSTIFICATIONS, F. Y. 1977

HIGHLIGHT STATEMENT
FY 1977

The Joint Federal-State Land Use Planning Commission for Alaska was established in accordance with Section 17 of the Alaska Native Claims Settlement Act (Public Law 92-203) and by Act of the State of Alaska (AS 41.40.010). The Commission commenced its activities in June 1972 with the establishment of an office in Anchorage, Alaska. Under the original legislation the Commission would terminate on December 31, 1976. On January 2, 1976, the President signed Public Law 94-204, which among other things, extend the life of the Commission to June 30, 1979. Similar legislation is pending in Alaska. The FY 1977 budget was prepared before signing of the public law that extended the life of the Commission. The Commission plans to recommend to the President, that a budget amendment be sent to the Congress for continuing it's work.

At termination, the resource and land data complied by the Commission will be transferred to an existing Federal or State agency, most probably the Department of the Interior's Alaska Resources Library. All requests for Commission data will be referred to other agencies. Besides providing funds for termination costs, it is anticipated that the budget proposed herein, will enable the Commission to respond to about 100 requests from Native corporations for clarification of laws and regulations. Additionally, the Commission will update and reprint 3 manuals or brochures for broad dissemination intended to clarify laws and regulations.

Incorporation of some recommendations made in FY 1976 into draft legislation and regulations to be proposed to Federal and State government will be accomplished by December 31, 1976. Assistance as advisors to Federal and State land management agencies in developing management plans, coordinating mechanisms, and joint management arrangements for land use planning will also be provided.

The Commission will identify alternative regional planning models and comment on their applicability to Alaska. The Commission will also make recommendations to the Secretary of the Interior on easements across 25 Native corporation selections and on procedures for easement review and reservation after the Commission has terminated.

JOINT FEDERAL-STATE LAND USE
PLANNING COMMISSION FOR ALASKA

Summary by Appropriation and Activity

Appropriation and Activity	FY 1975 Amount Available	FY 1976 Amount Available	FY 1977 Estimate	Increase (+) or Decrease (-) 1977 Compared with 1976
A. Salaries and Expenses	$ 667,000	$ 764,000	$ 60,000	-$ 704,000
Total, Salaries and Expenses	667,000	764,000	60,000	- 704,000
B. Trust Funds	588,000 a/	711,000 b/	60,000	- 651,000
Total, Trust Funds	588,000	711,000	60,000	- 651,000
Total, Joint Federal-State Land Use Planning Commission for Alaska	$1,263,000	$1,475,000	$120,000	-$1,355,000

a/ Excludes $94,000 of "services received without charge".

b/ Excludes $53,000 of "services received without charge".

JOINT FEDERAL-STATE LAND USE
PLANNING COMMISSION FOR ALASKA

Salaries and Expenses

Appropriation, 1975	$693,000
Total Available, 1975	$693,000
Appropriation, 1976	$764,000
Total Available, 1976	$764,000

Summary of Increases and Decreases 1977

	Base for 1977	Decrease 1977	
Salaries and Expenses			
To provide for phase-down of activities in anticipation of the scheduled termination of the Commission in December 1976	$764,000	-$704,000	
Net Decrease, 1977			-$704,000
Budget Estimate, 1977			$ 60,000

Analysis by Activity

Activity	Fiscal Year 1975 Amount Available	Fiscal Year 1976 Total Appropriation	Fiscal Year 1976 Pay Cost Supplemental	Fiscal Year 1976 Amount Available
Salaries and Expenses	$667,358	$764,000	---	$764,000
Unobligated Balance Lapsing	25,642	---	---	---
Total	$693,000	$764,000	---	$764,000

Salaries and Expenses	Fiscal Year 1975 Amount Available	Fiscal Year 1976 Amount Available	Fiscal Year 1977 Estimate	Decrease (-) 1977 Compared to 1976
Salaries and Expenses....	$667,358	$764,000	$60,000	-$704,000
Unobligated Balance Lapsing.....	25,642	---	---	---
Total	$693,000	$764,000	$60,000	-$704,000

Salaries and Expenses: FY 1976, $764,000; FY 1977, $60,000; a decrease of $704,000. The decrease consists of:

Increase (+) or Decrease (-) Amount	Positions	Total Program	Total Positions	Explanation
(1) -$704,000	-10	$60,000	0	To provide for phase-down of activities in anticipation of the schedule termination of the Commission
-$704,000	-10	$60,000	0	

Major Program Changes

(1) Salaries and Expenses

Proposal: To phase-down activities in anticipation of the scheduled termination of the Commission in December 1976.

Justification. To comply with the original legislation (ANCSA) which set the Commission termination as December 31, 1976.

Cost Factors. Ten permanent positions at an average cost of $20,800,-$208,000; two temporary man-years at an average cost of $12,000,-$24,000; travel, per diem and transportation of equipment and supplies,-$50,000; space costs, communications, utilities, equipment, printing, supplies and materials,-$142,000; and contract work for Commission studies, inventories, and operation-$280,000.

Program Description

The Commission is a temporary agency created to advise Federal and State government on land use issues in Alaska. Its primary goals are to: (1) insure that the economic growth of Alaska is orderly and compatible with maintenance and enhancement of environmental values, and the economic and social well-being of the State's residents; and (2) plan for the wisest and best use of Alaska's lands, consistent with State and National interests.

Because of changes in the status of Alaska lands, the public needs addressed by the Commission are of particular importance. In anticipation of these changes, the ANCSA and corresponding State law expressly directed the Commission to respond to these needs. To date, approximately 42 million acres of Alaska lands have been or are being transferred into private ownership of Native corporations. Proposals to include over 80 million acres in the National Forest, Parks, and Fish and Wildlife Service Systems are pending before Congress. Approximately one-third of those lands (35 million acres) to which the State of Alaska is entitled under the Statehood Act have not yet been selected.

Native corporations have solicited advice and information from the Commission pertaining to their land selections, and clarification of laws and regulations. In addition to providing for termination costs, the presently proposed budget provides for responding to about 100 such requests in FY 1977.

Additionally, the Commission will update and reprint three manuals or brochures to clarify laws and regulations for broad dissemination to Alaska Natives and other involved individuals and agencies. Work on incorporating some Commission recommendations being made in the current fiscal year into draft legislation to be proposed to Federal and State governments would continue through December 31, 1976 as would identification of alternative regional planning models and assessment of their applicability to Alaska. Other continuing work in the current year, Transition Quarter and FY 1977 involves making recommendations to the Secretary of the Interior on public access easements across 25 Native corporation selections and on procedures for easement review and reservation after the Commission has terminated.

Salaries and Expenses

Program and Financing (in thousands of dollars)

Identification Code 33-11-0058-0-1-452	1975 Act.	1976 Est.	TQ Est.	1977 Est.
Program by activities:				
Direct program:				
Salaries and expenses.....	667	764	120	60
Reimbursable program:				
Salaries and expenses.....	8	---	---	---
10 Total obligations.....	675	764	120	60
Financing:				
14 Receipts and reimbursements from:				
Non-Federal sources.....	-8	---	---	---
25 Unobligated balance lapsing....	26	---	---	---
40 Budget authority (appropriation).....	693	764	120	60
Relation of obligations to outlays:				
71 Obligations incurred, net.....	667	764	120	60
72 Obligated balance, start of period.....	67	453	50	50
74 Obligated balance, end of period.....	-453	-50	-50	---
77 Adjustments in expired accounts.....	- 4	---	---	---
90 Outlays	277	1,167	120	110

Object Classification (in thousands of dollars)

Identification Code 33-11-0058-0-1-452	1975 Act.	1976 Est.	TQ Est.	1977 Est.
Direct obligations:				
Personnel compensation:				
11.1 Permanent positions.....	201	202	47	28
11.3 Positions other than permanent.....	38	61	10	2
11.5 Other personnel compensation..	1	4	---	---
Total personnel compensation	240	267	57	30
12.1 Personnel benefits: Civilian..	66	75	19	10
21.0 Travel and transportation of persons.....	12	49	11	2
22.0 Transportation of things.....	---	---	7	5
23.0 Rent, communications, and utilities.....	57	41	13	8
24.0 Printing and reproduction.....	---	43	4	---
25.0 Other services.....	288	280	7	4
26.0 Supplies and materials.....	3	8	2	1
31.0 Equipment.....	1	1	---	---
Total direct obligations...	667	764	120	60

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Identification Code 33-11-0058-0-1-452	1975 Act.	1976 Est.	TQ Est.	1977 Est.
Reimbursable obligations:				
21.0 Travel and transportation of persons	2	---	---	---
23.0 Rent, communications, and utilities	2	---	---	---
25.0 Other services	4	---	---	---
Total reimbursable obligations	8	---	---	---
99.0 Total obligations	675	764	120	60
Personnel Summary				
Total number of permanent positions	8	10	---	---
Full-time equivalent of other positions	2	3	---	---
Average paid employment	10	13	---	2
Average GS grade	10.86	10.94	---	---
Average GS salary	$20,333	$20,756	---	---

COOPERATIVE FUNDS

Section 17(a)(9)(A) of the Alaska Native Claims Settlement Act, Public Law 92-203, limits the Federal share of the expenses of the Joint Federal-State Land Use Planning Commission for Alaska to 50 percent. The State of Alaska provides for the remaining 50 percent of Commission expenses. In years prior, a portion of the State's support has been provided in-kind through assignment of State employees and lease of office space. All State support in FY 1977 will be in cash.

Cooperative Funds

Program and Financing (in thousands of dollars)

Identification Code 33-11-8061-0-7-452	1975 Act.	1976 Est.	TQ Est.	1977 Est.
Program by activities:				
Operating costs:				
Cooperative funds, Joint Federal-State Land Use Planning Commission for Alaska	663	764	120	60
Unfunded adjustments to total operating costs:				
Services received without charge.	-94	-53	-16	---
10 Total program costs, funded obligations)	569	711	104	60
Financing:				
14 Receipts and reimbursements from: Non-Federal resources	19	---	---	---
60 Budget authority (appropriation) (permanent, indefinite)	588	711	104	60
Relation of obligations to outlays:				
71 Obligations incurred, net	588	711	104	60
90 Outlays	588	711	104	60

Object Classification (in thousands of dollars)

Identification Code 33-11-8061-0-7-452	1975 Act.	1976 Est.	TQ Est.	1977 Est.
Personnel compensation:				
11.1 Permanent positions	130	176	37	28
11.3 Positions other than permanent	24	61	10	2
11.5 Other personnel compensation	---	4	---	---
Total personnel compensation	154	241	47	30
12.1 Personnel benefits: Civilian	66	75	19	11
21.0 Travel and transportation of of persons	11	49	11	2
22.0 Transportation of things	---	---	7	5
23.0 Rent, communications, and utilities	49	14	7	8
24.0 Printing and reproduction	---	43	4	---
25.0 Other services	285	280	7	3
26.0 Supplies and materials	3	8	2	1
31.0 Equipment	1	1	---	---
99.0 Total obligations	569	711	104	60

Personnel Summary

Total number of permanent positions	7	9	---	---
Full-time equivalent of other positions	1	2	---	---
Average paid employment	8	11	---	1
Average GS grade	10.86	10.94	---	---
Average GS salary	$20,333	$20,756	---	---

JOINT FEDERAL-STATE LAND USE
PLANNING COMMISSION FOR ALASKA
Consolidated Schedule of Permanent Positions Paid From
Funds Available to the Commission

	1975 Actual	1976 Estimate	1977 Estimate
Executive Level V	1	1	0
Subtotal	1	1	0
GS-15	4	4	-
GS-14	2	2	-
GS-13	4	4	-
GS-12	-	-	-
GS-9	2	2	-
GS-8	2	3	-
GS-7	1	-	-
GS-5	3	3	-
GS-4	-	-	-
Subtotal	18	18	0
Total permanent positions	19	19	0
Unfilled positions, June 30	-4	-	-
Total permanent employment, end of year	15	19	0

APPROPRIATION REQUEST FOR FY - 1977

PENNSYLVANIA AVENUE DEVELOPMENT CORPORATION

(1211)

SUMMARY OF JUSTIFICATION BY ACTIVITY

The Fiscal Year 1977 request for appropriations of the Pennsylvania Avenue Development Corporation reflects anticipation of a major change in operations. The request is predicated upon the commencement of implementation of the "Pennsylvania Avenue Plan - 1974," accepted by Congress effective May 19, 1975, after a statutory period review of 60 legislative days. Execution of the Plan to redevelop Pennsylvania Avenue and its northern environs between the Capitol and the White House will require the Corporation to change from a general planning agency to a government developer with ongoing planning and design, and associated administrative responsibilities. An immediate consequence of this larger function will be a moderate increase in the size of the permanent staff (presently numbering 20), to 27 by the end of this fiscal year and to 33 by the end of Fiscal Year 1977. Additional staff will enable the Corporation to accomplish assignments incident to implementation of the plan, by providing: increased capacity for executive guidance, legal services and administrative support; increased professional talent for continuation of planning and design, and review of private development activities; and, specialists to handle development economics, accounting, property acquisition and management. Despite the proposed increase in permanent staff, a number of support functions will have to be discharged through contracts or through reimbursable services provided by other agencies. In addition, a major new activity is included in this request for acquisition and preparation of property.

The money aggregating this request may be categorized in two parts:

1. Appropriations for operating and administrative costs (salaries and expenses). These were requested for the past fiscal year under three activities: Executive Direction, Project Planning and Development. However, as the first and third activities are both at an administrative level, and do not involve physical development of projects, this year they are consolidated under the activity denominated as Executive Direction. The other activity of this part, planning, remains the same as the last year's request. The total amount requested for the two activities in this part for Fiscal Year 1977 is $1,425,000.

2. Funds to be borrowed from the United States Treasury (loan funds). This consists of money requested for land acquisition and preparation, the costs of which are to be recovered upon re-sale or lease of the properties to developers. The total amount requested for Fiscal Year 1977 is $25,000,000.

Following is a summary explanation of the use of requested funds for each activity within the two parts shown above:

1a. Executive Direction - The appropriation requested for Fiscal Year 1977 for this activity is $697,000. The activity presently has twelve permanent employees, with four vacancies to be filled by the end of the current fiscal year. The instant request contemplates the addition of three personnel in Fiscal Year 1977, a relocation officer and two secretary/stenographers. The additional manpower for the end of this fiscal year and in the next is deemed to be necessary to handle the increasing workload of internal administration, litigation (including condemnation and regulatory writing), property management, and accounting. All these factors are a result of the transition into the development phase of the Corporation's function.

1b. Planning - $728,000 is requested to be appropriated to this activity in Fiscal Year 1977 to fund the operating and administrative expenses of the portion of the staff concerned with design, historic preservation and overview of private development. The activity presently has seven permanent employees, with four to be added toward the end of the current fiscal year. The request for Fiscal Year 1977 contemplates the addition of three professional employees, two managers of design and construction for public projects, and a scheduling technician.

2. Property Acquisition and Preparation - $25,000,000 is requested to be included in the Fiscal Year 1977 appropriation under this new activity to be borrowed from the United States Treasury. The funds are intended for the acquisition of real property in the development area for assembling of building sites, clearance of structures, and relocation of utility lines, as needed. Prepared parcels of land would then be sold or long-term leased to developers, for investment in projects in accordance with the Plan. As revenues from sales and leases come into the Corporation, the borrowings from the Treasury would be repaid.

PENNSYLVANIA AVENUE DEVELOPMENT CORPORATION

REQUEST FOR APPROPRIATIONS, FISCAL YEAR 1977

SUMMARY OF ACTIVITIES

(Sums in thousands of dollars)

	FY 75	FY 76	TQ	INCREASE OVER FY 76	FY 77
ACTIVITIES					
1. Executive Direction	824	473	124	+ 224	697
2. Planning	...	351	94	+ 377	728
3. Land Acquisition and Preparation	...	...	...	+25,000	25,000
TOTAL APPROPRIATIONS	824	824	218	+25,601	26,425
RECONCILIATION WITH OBLIGATIONS					
Unobligated balance at start of period	+33	+23	...	- 23	...
Unobligated balance at end of period	-23	...	...	...	...
Unobligated balance lapsing	- 1	...	...	...	...
TOTAL OBLIGATIONS	833	847	218	+25,573	26,425
PERMANENT POSITIONS BY ACTIVITY					
1. Executive Direction	10	16	...	+ 3	19
2. Planning	7	11	...	+ 3	14
3. Land Acquisition and Preparation	...	...	...	...	...
TOTAL PERMANENT	17	27		+ 6	33

I. APPROPRIATION JUSTIFICATION

The Pennsylvania Avenue Development Corporation was established by Public Law 92-578, (40 U.S.C. 876 et seq.), to prepare a comprehensive development plan for Pennsylvania Avenue between the Capitol and the White House, and to carry out such plan upon its final approval. The approval process in the Act was designed to require a thorough review of the plan at several levels. The Plan was formally considered by the Secretary of the Interior and the Mayor of the District of Columbia, the latter receiving comments from the National Capital Planning Commission. The views of the public were received through hearings and workshops held by the District Government, and pursuant to the environmental impact statement process. Final review was by Congress, after the plan was submitted to the Senate and the House of Representatives for consideration for 60 legislative days. The House Interior Subcommittee on National Parks and Recreation held an oversight hearing on the plan during this time. Congressional review was successfully completed on May 19, 1975, and the plan became a legally binding development program. Under the Act and the approved plan, the Corporation has the authority and obligation to review and certify any new construction proposed or being conducted in the development area.

After completion and approval of the Pennsylvania Avenue Plan, the Corporation began to prepare itself for prompt beginning of implementation upon the availability of development funds. The likelihood of changing from a general planning agency of limited duration, to a development agency with an estimated lifespan of over a decade, requires an adjustment of administrative capabilities. This past year the Corporation began to prepare to function over the long haul by promulgating certain required procedures and regulations. A new part has been designated in title 36 of the Code of Federal Regulations to contain the regulations being published by the Corporation. Regulations have been prepared in the areas of: (1) The Federal Privacy Act; (2) The Freedom of Information Act; (3) Description of Corporate Organization and Functions; and, (4) Standards of Conduct and Conflicts of Interests. Formal procedures and forms were also adopted to coordinate the Corporation's review of proposed construction work within the development area with the issuance of permits by the District of Columbia Department of Economic Development, Office of Licenses and Permits. Similar arrangements were made with the District's Department of Transportation to coordinate changes in the use of public spaces, including traffic and streets. The Corporation, with the assistance of private consultants, reviewed the requirements and programs relative to equal employment opportunity and affirmative action, as a basis for developing the Corporation's own programs for these areas. An audio-visual show was

also created to increase public awareness of the evolution and features of the Plan, and for possible use in conjunction with Bicentennial programs and exhibitions.

In preparation for implementation, the Corporation carried out additional studies related to the economics and financing of development. During the past year the Corporation's staff continuously reassessed the priorities for acquisition of key properties in response to changing expectations as to the time of availability and extent of funding. The Corporation also had to take into account the growing number of "distressed properties" in the development area -- businesses which have ceased to operate and should be acquired promptly to relieve the difficulties of their owners.1/ Although individual property appraisals have not yet been obtained, general acquisition cost analyses were upgraded for accuracy. The Corporation also prepared an extensive study of retail activity in the Pennsylvania Avenue area and of the level of activity that could be expected after redevelopment. Schematic retail design concepts were prepared for several blocks. The major proposal was for redevelopment of a multi-level retail mall between the Willard and Washington Hotels that would draw people from Pennsylvania Avenue northward into the City's downtown.

1/ A significant property in this category is the Willard Hotel, which has remained largely vacant and deteriorating since 1968. In the past year the Corporation became party to litigation regarding the preservation of the Willard, as called for in the Plan. When it appeared that the owners of the building would obtain a permit to tear down the facade, private plaintiffs brought suit in the United States District Court for the District of Columbia, citing the Corporation's enabling act and the Plan as a basis for an injunction by which they sought to prevent the owners' demolition. (Don't Tear It Down, Inc., v. Washington, 399 F. Supp. 153 (D.C.C. 1975)). Having been ordered by the Court to enter the litigation, the Corporation joined with plaintiffs in seeking the injunction. In August, 1975 the District Court ruled for plaintiffs, enjoining the defendants, owners of the Willard, from proceeding to demolish the building, absent a certification of approval by the Corporation. The certification was requested and denied. The owners have appealed the decision to the United States Court of Appeals for the District of Columbia Circuit, where the matter is pending. In October 1975, the owners of the Willard property also brought suit in the United States Court of Claims in an action for inverse condemnation, alleging the unlawful taking of their property by the United States and seeking damages of $8 million. This action is also pending.

Although the Pennsylvania Avenue Plan, as approved, proposes the general design for the area, many details remain to be filled in, particularly with respect to the public improvements to be added by the Corporation. Most of the members of the professional staff of the Corporation are planners and architects, and much of the substantive work of the past year took place in planning and design. Specific designs were created for the major public improvements scheduled in the Plan, and area-wide studies in traffic, engineering, and historic preservation were conducted. The Corporation undertook the landscape architectural design of the west end of the Avenue from Thirteenth Street to the White House grounds, and the design of the plaza areas on Indiana Avenue and Market Square, between Seventh and Ninth Streets.

An extensive redesign of the housing and mixed-use complex at Market Square (across Pennsylvania Avenue from the National Archives), was completed during this past year. This enabled the preparation of a current cost estimate for the structure, based upon typical construction costs for this area, and the drafting by the Corporation's financial staff of an income and expense projection for the development. Further study of the subsurface National Archives record storage facility was also accomplished, in conjunction with structural engineering and mechanical equipment analyses by consultants to the Corporation. The goal of the Corporation is to maintain and enhance the existing elements of the late nineteenth century commercial and residential district which at one time included most of the development area, and now exists mainly between Sixth and Ninth Streets and between Tenth and Eleventh Streets. The Corporation has researched and recorded, on a square-by-square basis, every building of historic or architectural merit, and completed its review of National Register properties, as required under the National Historic Preservation Act of 1966. This review assessed the effect of the Plan upon some 28 buildings and places with the Pennsylvania Avenue Development area, and within an adjacent impact district. The Advisory Council on Historic Preservation has concurred in the Corporation's assessment that the Plan would either not affect or would have no adverse effect upon almost all of these properties. The Council reserved judgement on two aspects of the plan pending the preparation of more detailed design analyses.

The $1,425,000 requested for FY 77 operating costs under the activities of Executive Direction and Planning is an increase of $601,000 over the sum appropriated for similar purposes in this fiscal year. The increase results largely from expanded staffing necessary to prepare for and to carry out the initial stages of implementation. The increase is based on both additional salaries, and additional costs for the greater administrative needs of a larger staff. The added personnel will be needed for: (1) architectural and design services for the public improvements to be constructed by

the Corporation; (2) continuing economic analyses of development; (3) financial and budget management; and, (4) increased administration, legal and regulatory work, and review of private development activities.

Although the Corporation is planning a moderate increase in staff size, the new level is not in contemplation of doing the entire implementation of the plan on an "in-house" basis. To do so would require an even greater staff, in view of the size of the overall proposed project. Accordingly, the staff size requested for FY 77 is sufficient to provide technical expertise and guidance for general development, as well as complete service for special aspects of the plan to be undertaken entirely by the Corporation. In lieu of additional permanent staff, the Corporation intends to rely on external contracts, reimbursable services from other agencies, and the hire of a few experts and consultants on a temporary or intermittent basis. The proposed use of funds for Executive Direction and Planning are analyzed below.

A. Executive Direction - This activity will continue to furnish guidance and supervision for all of the Corporation's programs, and assure compliance with the policies established by the Board of Directors. The legal staff will provide administrative law support, regulatory and legislative drafting and liaison, and coordination with the Department of Justice on condemnation and litigation. Legal services will also be provided for contracting, commercial transactions, and interagency services. Other support functions of this activity include: personnel administration, budget and financing, supplies and materials, and public information. The General Services Administration assists in some of these areas, on a reimbursable basis.

This activity is also responsible for the planning and use of capital development funds, property acquisition and management, real estate transactions, and relocation assistance. The relocation assistance function is to be carried out on a reimbursable basis by an appropriate Federal or District agency, but the Corporation will have to oversee and regulate the program. Similarly, operation of acquired property would be under a management contract, but supervised by the staff of this activity.

This activity currently has 12 permanent employees, but 4 additional positions may be filled before the end of the present fiscal year. The four new hires contemplated are: an attorney; an accountant; a financial analyst; and a property acquisition specialist. Three positions are included in this request for addition in FY 77. They consist of a position for a relocation assistance officer and two secretarial positions.

Estimated FY 77 costs for Executive Direction in the major object classes include:

(a) $381,000 for personnel compensation, including the private members of the Board of Directors;

(b) $42,000 for rent communications and utilities, computed at the pro rata share of the estimated total cost of this object class to the Corporation;

(c) $219,000 for other services, such as reimbursement for the mandatory (under the Government Corporation Control Act) GAO audit, payment to the General Services Administration for support services, and consultants' contracts, such as for property appraisals and economic studies; and,

(d) Other lesser object class costs, which, with the above, total an estimated $697,000 for this activity.

B. Planning - This activity will consist largely of professional staff from the fields of architecture, engineering, historic preservation and urban planning. They will be responsible for continued overall planning for the development area, detailed planning for public projects which the Corporation will carry out itself, preservation and restoration of historic structures, and review of private developers' projects to assure their conformity with the plan. The activity currently has 7 permanent employees, and four more are to be added before the end of this fiscal year (an architect, an engineer, an urban planner, and a secretary). Three additional positions would be filled in FY 77: two individuals to manage design and construction of PADC public projects; and, a scheduling technician to coordinate the flow of planning work among the staff.

Estimated FY 77 costs for Planning in the major object classes include:

(a) $361,000 for personnel compensation for permanent staff, and up to 4 experts and consultants employed temporarily or intermittently;

(b) $30,000 for the pro rata share of rent, communications, and utilities;

(c) $26,000 for printing and reproduction for technical drawings and photographic reproductions needed in this activity;

(d) $255,000 for other services. This object class incorporates the needs for contractural studies in a number of highly technical fields -- engineering, environmental impact assessment, surveying, specialized architectural design, building preservation and adaptive re-use studies;

(e) $16,000 for supplies and materials, needed primarily for drafting and design work; and

(f) other lesser object class costs, which, with the above, total an estimated $728,000 for this activity.

It should be noted that the modest increase over FY 76 costs for rent and equipment will be for the use and furnishing of an additional 3000 square feet of office space in FY 77, to accommodate the personnel added to the Corporation's staff. These costs, as detailed above, have been allocated among the three activities.

Contracts for Fiscal Year 1975 and the first half of Fiscal Year 1976 are reported in Part III of this justification.

C. Property Acquisition and Preparation - This activity involves the expenditure of public debt receipts for the acquisition and preparation of real property in the development area. A total of $25,000,000 is requested for Fiscal Year 1977 for inclusion in an appropriation act, to be borrowed from the United States Treasury pursuant to authority in the Corporation's enabling act (40 U.S.C. 875). Funds under this activity would be used to: (1) assemble building sites for development in accordance with the Plan; provide for land use changes where necessary; and provide public areas; (2) clear existing structures on acquired sites; and, relocate existing utility lines where necessary to allow for new development. (Sums in thousands of dollars)

(1)	Land Acquisition	22,688
	Land use changes	-
	Appraisals and fees	162
	in lieu property tax payments	150
(2)	Land Preparation	
	Site clearance	1,000
	Utility preparation	1,000
		25,000

(1) Land acquisition activities are planned for the first year of development. Current and anticipated future market conditions will be major factors in determining the final acquisition schedule. Developer interest in leasing particular squares scheduled for acquisition by the Corporation will also impact on the acquisition schedule. Although for analytical purposes the financial part of the Plan assumes a specific acquisition schedule, this will not constrain the Corporation

from following a different schedule based on marketing considerations. Currently, it is expected that properties in Square 225 (except for the Washington Hotel) in the west site, and Squares 406, 407, 408, and 431 in the east site will be acquired during the early years of the program.

Appraisals and fees are the project site-specific costs of land appraisals obtained from qualified professional firms, to establish values of property to be purchased or condemned. The costs of such fees and appraisals are estimated at about 2% of acquisition costs. In lieu property tax payments are mandated under Section 10(b) of Public Law 92-578 to be made to the District of Columbia Government on real property held by the Corporation.

(2) Site Clearance is the demolition of acquired structures and removal and/or salvage of material and debris. Costs have been estimated at between $1.50 and $3.00 per square foot of building, depending upon the type of building and the character of adjoining properties and uses. In addition to site clearance to prepare land for sale or lease, the relocation of underground utilities is necessary in parts of the development area to properly service new development (See Exhibit 2).

As noted above, the Corporation will acquire property within the project area primarily in two locations: 1) Square 225, the Willard Hotel; and, 2) Squares 407, 408, 431 and 432 (the area between Seventh and Ninth Streets, and Pennsylvania Avenue and Ninth Street). The Willard Hotel is among the Corporation's highest priorities because of both the importance attached to its restoration to viable hotel use, and the equitable plight of the owners of this distressed property.

The four block area in the east site is to be developed as a multi-use (residential, retail, office) superblock. Acquisition in this area during FY 77 will be of properties that are presently vacant and whose present use is incompatible with the plan - thereby preventing their owners from sale of their property. (Properties in this category include Lansburgh's and Kann's Department Stores and several smaller parcels). Site clearance will be undertaken of those structures that cannot be leased on an interim basis or which are situated so as to obstruct carrying out the plan.

Summary of FY 77 Functions - The Corporation expects that in the coming fiscal year its major functions will include: detailed property surveys, title searches, property appraisals and commencement of real property acquisition by negotiation and, if necessary, by condemnation; detailed site planning, design, and architectural conceptualization of final design specifications; analysis of underground utility networks; sub-soil and hydrostatic tests and test borings; initiation of business

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relocation activities; demolition and site clearance of property needed for first phase construction activity; letting of contracts and initiation of work on major public facilities, including the rebuilding of Pennsylvania Avenue; initiation of national program to market development parcels to the broadest possible number of potential developers; execution of appropriate agreements with District of Columbia Government concerning streets, alleys, public right-of-ways and air rights, police and fire services, zoning provisions, and traffic patterns, issuance of building permits and building inspections; and similar activities related to the initiation of a major in-city development program.

EXHIBIT 1

ESTIMATED PROPERTY ACQUISITION COST
PENNSYLVANIA AVENUE DEVELOPMENT PLAN

SQUARE	SITE AREA SQUARE FEET	ESTIMATED AVERAGE COST PER SQUARE FOOT	GROUND ACQUISITION COSTS	OTHER ACQUISITION COSTS	TOTAL ACQUISITION COSTS
225	59,881	$135.00	$ 8,080,000	-	$ 8,080,000
254	100,256	120.00	12,030,000	-	12,030,000
291	51,640	125.00	6,530,000	$ 7,000,000	13,530,000
322	36,294	110.00	3,990,000	11,000,000	14,990,000
348	88,381	110.00	9,720,000	-	9,720,000
Subtotal Western Area	336,412	120.00	$40,350,000	$18,000,000	$58,350,000
406	60,000	80.00	4,800,000	-	4,800,000
407	63,150	70.00	4,420,000	500,000	4,920,000
408	46,726	100.00	4,670,000	2,000,000	6,670,000
431	86,964	70.00	6,090,000	-	6,690,000
432	50,125	100.00	5,010,000	-	5,010,000
457	94,158	80.00	7,530,000	3,000,000	10,530,000
458	15,000	70.00	1,050,000	-	1,050,000
459&460	64,000	100.00	6,400,000	-	6,400,000
491	113,000	80.00	4,030,000	-	9,030,000
Subtotal Eastern Area	593,123	83.00	$49,000,000	$5,500,000	$54,500,000
TOTALS	929,535	96.00	$89,350,000	$23,500,000	$112,850,000

EXHIBIT 2

ESTIMATED COST OF UTILITY RELOCATION
FOR PROPOSED HOUSING*

UTILITY	AMOUNT
Water and Sewer	$135,000.00
C & P Telephone	$450,000.00
Washington Gas	$312,000.00
PEPCO	$876,000.00
TOTAL	$1,773,000.00

* Figures have been rounded to the nearest thousand dollars

II. STATUS OF AUTHORIZATIONS

From the date of establishment on October 27, 1972, the Corporation has been funded under the authorization provided in Section 17 of Public Law 92-578 (86 STAT. 1275), as amended, Public Law 93-427 (88 STAT. 1170; October 1, 1974). The original language of that section authorized to be appropriated not to exceed $1,000,000 for the preparation of the development plan. This language was amended by Public Law 93-427, supra, to include "operating and administrative expenses," allowing the Corporation to continue its work after the plan itself had been drafted and forwarded to Congress for review. The same amendment also raised the ceiling for appropriations to its current level of not to exceed $1,750,000. A total of $1,674,000 has beeen appropriated under this ceiling through fiscal year 1975.

Prior to the final approval of the Plan by Congress in May 1975, the Corporation submitted draft proposed legislation to authorize continued appropriations for salaries and expenses. The proposed legislation was introduced as H.R. 7743 and S. 1689. By the time that the bills were considered by the legislative subcommittees the plan had been approved, and the members of the subcommittees considered amending the bills to include authorization of substantive implementation funds. S. 1689 passed the Senate on December 18, 1975, with amendments to authorize the appropriation of the full public costs for development - $130 million. The House Interior Subcommittee on National Parks and Recreation reported H.R. 7743 favorably, with amendments to authorize the first two years of appropriations for public costs of development - $36 million. House Interior Committee action is presently pending, as is the transmittal of a proposed Administration bill requesting legislation to authorize full funding of the development plan.

The authorization to borrow from the United States Treasury was enacted in the original legislation, Sec. 6 of Pub. L. 92-578 (40 U.S.C. 875). That section provides for borrowings up to $50 million, in such amounts as are included in appropriation acts.

III. CONTRACTS

A. The following contracts were executed by the Corporation during Fiscal Year 1975:

1. DESIGN ETCETERA, LTD. Graphic design and technical assistance for preparation of Plan documents for transmittal to Congress.	$ 1,500.00
2. GLADSTONE ASSOCIATES, INC. Further study of economic factors regarding proposed redevelopment, financing alternatives, and analyses for final environmental impact statement.	16,500.00
3. JOSPEH PASSONEAU Base and Isometric maps of downtown Washington	2,500.00
4. ATTIC & CELLAR STUDIOS Audio Visual presentation of Plan.	10,000.00
5. STERLING MADDOX & ASSOCIATES Comprehensive survey of PADC area including, horizontal and vertical site controls, planimetrics, location of square corners, utilities and elevations.	100,000.00
6. ECONOMIC RESEARCH ASSOCIATES and LARRY DEMAREE ASSOCIATES Survey and evaluation of all retail businesses in development area.	30,500.00
7. GLADSTONE ASSOCIATES, INC. Development Programming, Economic Impact Study, Financial Testing and Development Strategies.	30,000.00
8. LAND DESIGN RESEARCH Preliminary design plans for landscape development of Pershing Square and Western Plaza; alternative development proposals for Sherman Square.	20,000.00
9. ZION & BREEN ASSOCIATES, INC. Preliminary design for Market Square Site at 8th Street and Pennsylvania Avenue.	15,500.00
10. DESIGN INTERNATIONAL DESIGN & DEVELOPMENT CONSULTANTS, LTD. Conceptual retail design and marketing study of ground floor retail activity including economic data, relocation strategy and zoning.	35,000.00

11. JEROME MICHAL & ASSOCIATES Retail study of west site, to include market support for projects, categories of retail space to achieve balanced and marketable retail mix, potential square footage of space and rent levels.	9,000.00
12. WILBUR SMITH & ASSOCIATES Traffic planning and circulation in consultation with Pennsylvania Avenue Development Corporation, Federal and local agencies, to include policy guidance, detailed traffic engineering analysis, and cost estimates.	10,000.00
13. URBAN BUSINESS EDUCATION ASSOCIATION Lansburgh's interim business relocation center/ proposed retail mall, to include relocation capabilities of potential displacees, preparation of a plan showing interior layout of mall, estimated construction costs and elements of management assistance program for displaced business.	30,000.00
14. TIPPETS-ABBETT-McCARTHY-STRATTON Expanded study of construction costs for addition to National Archives, to include cost estimates of revised program requested by GSA.	6,500.00
15. COMPUTER SCIENCE CORPORATION Under GSA contract for Data Processing Services, Documentation Training and Support Services.	5,000.00
16. THOMAS N. EICHBAUM Models of proposed building at 7th and Pennsylvania Avenue, central housing block; existing buildings: Washington and Willard Hotels, National Press, Muncie buildings; National Theatre, Loew's theater.	1,500.00
TOTAL FISCAL YEAR 1975 CONTRACTS	$323,500.00

B. The Corporation executed the following contracts in the first half of Fiscal Year 1976 (through December 31, 1975):

1. MARK BATTLE ASSOCIATES Preparation of affirmative action program for Pennsylvania Avenue Development Corporation, which meet requirements of applicable laws and regulations and expands entrepreneurial opportunities for minority individuals and businesses.	15,000.00

2. LAND DESIGN RESEARCH, INC. Alternative landscape design plans for Pershing Square to include pedestrian areas, final color renderings and model inserts.	14,000.00
3. ZION AND BREEN ASSOCIATES, INC. Phase II Landscape Planning and conceptual design of Market Square and Indiana Avenue sites, to include cost estimates.	18,500.00
4. DISTRICT OF COLUMBIA SURVEYOR Mark 69 points of property corners within project area, to include preparation of a plat indicating the points in relation to required corners.	13,000.00
TOTAL FISCAL YEAR 1976 CONTRACTS (as of Dec. 31, 1975)	$60,500.00

PENNSYLVANIA AVENUE DEVELOPMENT CORPORATION

SALARIES AND EXPENSES

For necessary expenses, as authorized by section 17 of Public Law 92-578 as amended [$824,000] $1,425,000.

The Pennsylvania Avenue Development Corporation is authorized to borrow from the Treasury of the United States $25,000,000 pursuant to the terms and conditions specified in paragraph 10, section 6, of Public Law 92-578.

[For "Salaries and expenses" for the period July 1, 1976, through September 30, 1976, $218,000.] (Department of the Interior and Related Agencies Appropriation Act, 1976, and the period ending September 30, 1976; additional authorizing legislation to be proposed.)

STANDARD FORM 300-T
June 1975, Office of Management and Budget
Circular No. A-11, Revised.

PENNSYLVANIA AVENUE DEVELOPMENT CORPORATION
SALARIES AND EXPENSES
PROGRAM AND FINANCING (in thousands of dollars)

Identification code 32-08-0100-0-1-451	19 75 actual	19 76 Estimate	T.Q. 19 76 estimate	19 77 estimate
Program by activities:				
Operating costs, funded:				
1. Executive direction	894	414	141	627
2. Planning	...	308	107	658
Total operating costs..	894	722	248	1,285
Capital outlay funded:				
3. Property acquisition and preparation	...	...	...	25,000
Total program cost, funded	894	722	248	26,285
Change in selected resources (undelivered orders)	-61	125	-30	140
10. Total obligations [1]	833	847	218	26,425
Financing:				
21.40 Unobligated balance available, start of period (appropriation)	-33	-23	...	...
24.40 Unobligated balance available, end of period (appropriation)	23	...	...	...
25.40 Unobligated balance lapsing (appropriation)...	1	...	...	...
Budget authority	824	824	218	26,425
Budget authority:				
40 Appropriation	824	824	218	1,425
47 Authority to spend public debt receipts	...	...	...	25,000
Relation of obligations to outlays:				
71 Obligations incurred net ...	833	847	218	26,425
72.40 Obligated balance, start of period (appropriation)	258	250	192	145
Obligated balance, end of period:				
74.40 Appropriation	-250	-192	-145	-374
74.47 Authority to spend public debt receipts	...	...	...	-5,000
90 Outlays	841	905	265	21,196

[1] Includes capital outlay funded as follows: 1975, $1 thousand; 1976, $17 thousand; TQ, $1 thousand; 1977, $25,014 thousand.

(Memo cost: 20.13) (Memo cost: 5.9) (Memo cost: 5.5) (Memo cost: 5.9) (Memo cost: 5)

STANDARD FORM 304-T

PENNSYLVANIA AVENUE DEVELOPMENT CORPORATION

SALARIES AND EXPENSES

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 32-08-0100-0-1-451	75 actual	76 Estimate	T.Q. 76 estimate	77 estimate
Personnel compensation:				
11.1 Permanent positions	286	430	105	615
11.3 Positions other than permanent	25	27	3	89
11.5 Other personnel compensation	2	...	...	...
11.8 Special personal services payments	...	...	...	38
Total personnel compensation	313	457	108	742
Personnel benefits:				
12.1 Civilian	26	35	9	52
13.0 Benefits for former personnel				
21.0 Travel and transportation of persons	11	22	5	23
22.0 Transportation of things	1	3	...	3
23.0 Rent, communications, and utilities	40	40	12	72
24.0 Printing and reproduction	21	45	12	43
25.0 Other services	400	215	65	450
26.0 Supplies and materials	20	22	5	26
31.0 Equipment	1	8	2	14
32.0 Lands and structures	...	...	...	25,000
33.0 Investments and loans				
41.0 Grants, subsidies, and contributions				
42.0 Insurance claims and indemnities				
43.0 Interest and dividends				
44.0 Refunds				
99.0 Total obligations	833	847	218	26,425
(Memo cost: 22.13)	(Memo cost: 5.0)	(Memo cost: 5.0)	(Memo cost: 5.0)	(Memo cost: 5)

STANDARD FORM 300-T
June 1975, Office of Management and Budget Circular No. A-11, Revised.

PENNSYLVANIA AVENUE DEVELOPMENT CORPORATION
SALARIES AND EXPENSES
PERSONNEL SUMMARY

Identification code 32-08-0100-0-1-451	19 75 actual	19 76 Estimate	T.Q. 19 76 estimate	19 77 estimate
Total number of permanent positions	17	30	...	33
Full-time equivalent of other positions	1	3	...	4
Average paid employment	15	24	...	32
Average GS grade	11.41	11.07	...	11.61
Average GS salary	$20,192	$20,360	...	$21,197

(Memo cost: 22.12) (Memo cost: 5.6) (Memo cost: 5.6) (Memo cost: 5.6) (Memo cost: 5)

STANDARD FORM 300-T
June 1025, Office of Management and Budget Circular No. A-11, Revised.

PENNSYLVANIA AVENUE DEVELOPMENT CORPORATION
SALARIES AND EXPENSES
DETAIL OF PERMANENT POSITIONS (By Grade)

Identification code 32-08-0100-0-1-451	1975 actual	1976 Estimate	T.Q.-76 estimate	1977 estimate
GS-17	1	1		1
GS-16	---	2		3
GS-15	3	2		1
GS-14	---	2		4
GS-13	4	6		7
GS-12	6	5		6
GS-11	1	2		1
GS-9	2	4		4
GS-8	0	1		1
GS-7	2	3		3
GS-4	1	2		2
Total permanent positions	20	30		33
Unfilled positions, end of year	-3	-3		---
Total permanent employment end of year	17	27		33
(Mono cost: 22.13)	(Mono cost: 1.0)	(Mono cost: 1.0)	(Mono cost: 1.3)	(Mono cost: 1)