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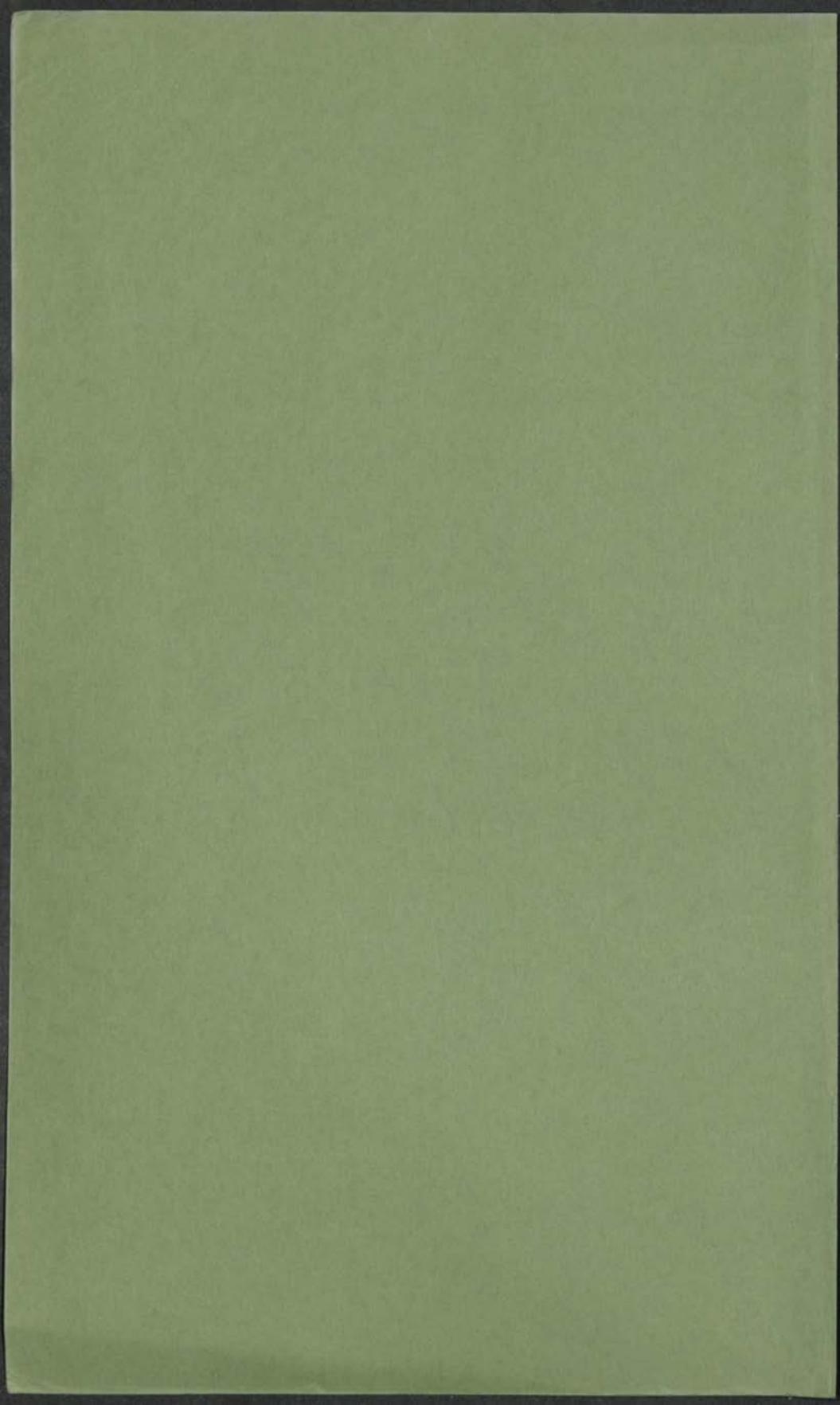
Fiscal Year 1976



94th CONGRESS, FIRST SESSION

H.R. 8773

Part 5 (Pages 2177-3017)



DEPARTMENT OF THE INTERIOR AND RELATED
AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1976

HEARINGS
BEFORE A
SUBCOMMITTEE OF THE
COMMITTEE ON APPROPRIATIONS
UNITED STATES SENATE
NINETY-FOURTH CONGRESS

FIRST SESSION

ON

H.R. 8773

AN ACT MAKING APPROPRIATIONS FOR THE DEPARTMENT OF
THE INTERIOR AND RELATED AGENCIES FOR THE FISCAL
YEAR ENDING JUNE 30, 1976, AND THE PERIOD ENDING SEP-
TEMBER 30, 1976, AND FOR OTHER PURPOSES

Printed for the use of the Committee on Appropriations

PART 5 (Pages 2177-3017)



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WASHINGTON : 1975

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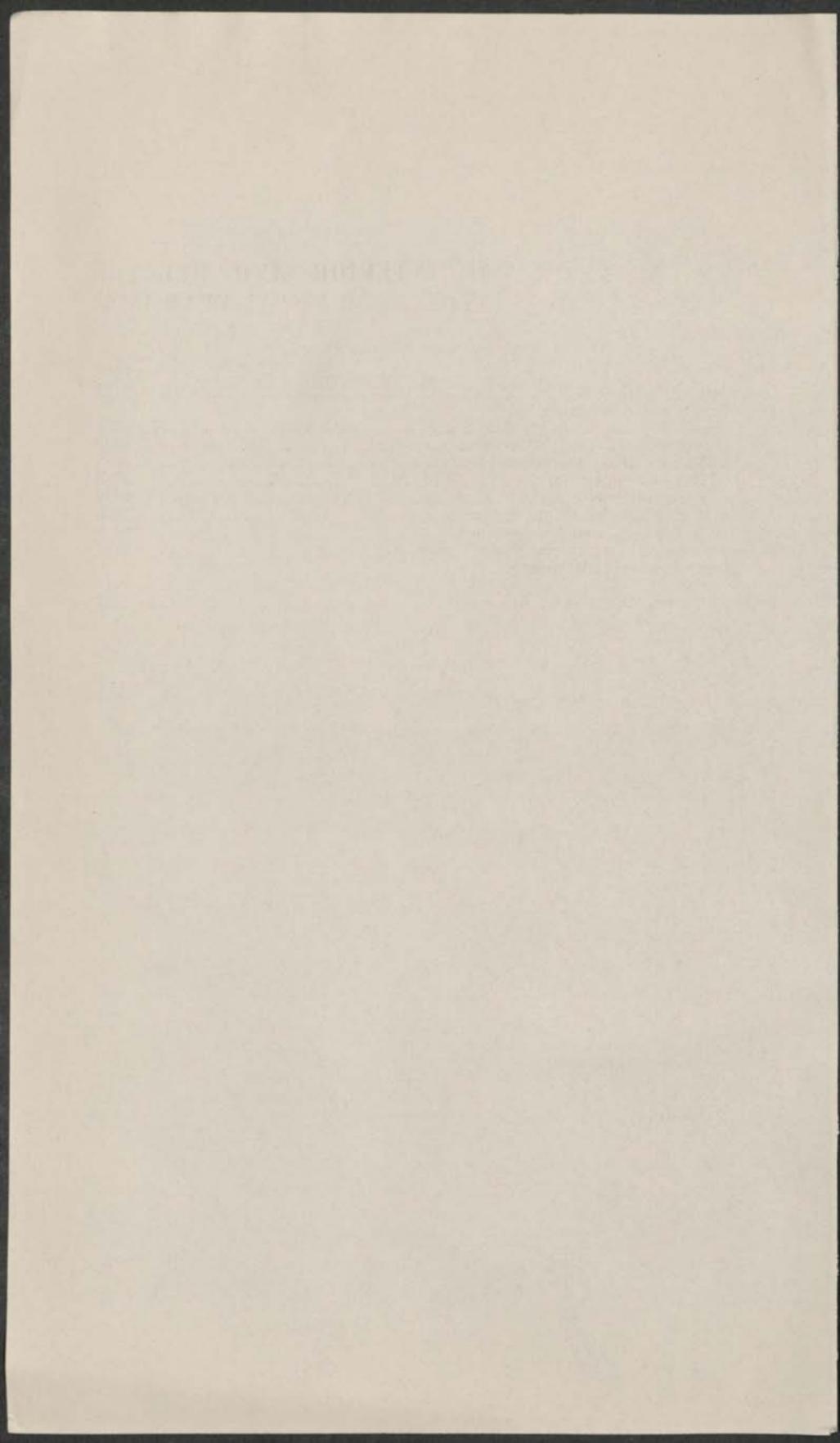
Staff Assistants, Department of the Interior and Related Agencies

CONTENTS

(Part 5—Pages 2177-3017)

	Page
Congressional witnesses.....	2177
Department of the Interior:	
Bureau of Outdoor Recreation:.....	2291
Nondepartmental Witnesses.....	2333
Land and Water Conservation Fund.....	2383
National Park Service.....	2383
Forest Service.....	2419
U.S. Fish and Wildlife Service.....	2433
Bureau of Land Management.....	2459
Energy Research and Development Administration.....	2461
Nondepartmental Witnesses:	
Coalcon.....	2611
Federal Energy Administration.....	2741

(III)



DEPARTMENT OF THE INTERIOR AND RELATED
AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1976

THURSDAY, MAY 15, 1975

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, D.C.

The subcommittee met at 10 a.m., in room 1114, Everett McKinley Dirksen Office Building, Hon. Ted Stevens presiding.

Present: Senator Stevens.

CONGRESSIONAL WITNESSES

SUBCOMMITTEE PROCEDURE

Senator STEVENS. The hearing will be in order.

Good morning. This is the day scheduled for congressional witnesses who wish to testify on matters pertaining to the appropriations bill for the Department of the Interior and related agencies.

It has been the committee's practice to take congressional witnesses on a first-come, first-serve basis. If we develop a long waiting situation the staff will try to coordinate appearances to minimize the inconvenience.

In all instances, the witnesses' statements will be printed in full in the record, and we ask that each witness summarize his statement for the committee.

Our first witness this morning is Senator Metcalf. Go ahead, Senator Metcalf.

STATEMENT OF HON. LEE METCALF, U.S. SENATOR FROM MONTANA

PREPARED STATEMENT

Senator METCALF. Mr. Chairman, I have appeared today for the purpose of presenting a rather long and detailed statement with my distinguished colleague, the majority leader, Senator Mike Mansfield, relating to the Interior Senate appropriations. Just as you in Alaska are concerned mostly with this appropriation, I spent half of my time working with Interior and the Interior Department methods. I ask consent that I have Senator Mansfield's and my statement incorporated in the record.

Senator STEVENS. We would be happy to do that.

ILLUSTRATION OF FORESTRY BENEFIT

Senator METCALF. The reason I wanted to appear in person today, Mr. Chairman, was that from time to time I have gone into the St. Regis Lumber Co. in Libby, Mont., and they have this display hanging on their outer wall.

Here is a picture of a tree that is 170 years old. A ponderosa pine in Montana. Here is a picture of a tree that is 29 years old. A ponderosa pine that has been grown under forestry practices and thinning practices. Here is a picture of a tree that is 98 years old. The first few years were just exactly under the conditions as here and then they thinned the forest. And you can see the extreme growth.

My point is that in the West we have considerable unemployment in the logging and the forestry industry. The men in the forestry industry are skilled in thinning and in practices, forest practices, that are demonstrated here. Instead of paying them unemployment compensation or putting their families on welfare, it seems to me that we should have a special appropriation for the Forest Service to get these people out and thin areas such as this. We would get our money back in 29 years with saw logs.

This is such a dramatic demonstration that I felt I should have to bring it to the committee.

Senator STEVENS. Thank you very much. That is a very interesting display. I hope you will keep it and take it on the floor when they get to this matter.

Senator METCALF. I certainly will.

Senator STEVENS. I certainly agree with you. I can show you forests in Alaska that are killing themselves literally and figuratively. The growth is stifling.

Senator METCALF. These are weed trees really, and those men who know those trees could thin it and we could come out with this kind of a growth.

Senator STEVENS. Very interesting.

Senator METCALF. I rest my case on the display. Thank you very much.

Senator STEVENS. I wish everyone were here. Thank you very much, Senator Metcalf. Your full statement for yourself and Senator Mansfield will be incorporated into the record.

[The statement follows:]

MR. CHAIRMAN, we appreciate this opportunity to present for your consideration appropriations requests of special interest to the people of Montana.

ENERGY

The urgency with which we view the energy situation is well known to this Subcommittee and to the Committee. If western states, like Montana, are going to allow development of their fossil fuel resources, development of alternatives to present coal conversion processes is of critical importance. At the present time, magnetohydrodynamics (MHD) is the coal-to-energy conversion option that best meets the needs of the West. MHD promises higher efficiency, lower air and water pollution impacts, reduced requirements on our limited water supply, with the end result that a significant part of the nation's electrical needs can be met in a manner that will be acceptable to the residents of the areas affected.

We strongly urge the Committee to appropriate the maximum amount authorized for MHD research, development, and demonstration. We strongly believe that Congress, in its search for alternative sources of energy for the nation, cannot afford to allow a system such as MHD to go by the wayside simply for lack of funding. It is incumbent on Congress to give ERDA the funds to move the MHD program at a pace consistent with the demands of existing law.

We are especially interested in the development of MHD because it will require less coal to be mined. But we attach equal importance to appropriations for research on all forms of alternative energy production. This nation must reduce its dependency on fossil and nuclear fuels and turn its attention to clean, abundant sources such as the sun, wind and the like.

FOREST SERVICE

Last year, Congress enacted PL 93-378, the Forest and Rangeland Renewable Resources Planning Act of 1974. The great contribution of this act is the requirement that the Congress and the executive branch work within both short-range and long-range plans for the improved management of our natural resources. An assessment will be made and a program developed, both will be presented to Congress, and Congress will set forth a Statement of Policy to be used as a guide to framing future budgets. The first assessment and program, due on 31 December of this year, will become the guide through 1980. The second assessment, due in 1979, will serve as guide for the years 1980 to 1990. We cannot overemphasize to the Senate and the Forest Service the importance of making a quality effort in developing the initial assessment and program this year.

We have reviewed the reaction of the Senate Agriculture and Forestry Committee to the Administration's Forest Service budget, a procedure required by the newly enacted Congressional Budget and Impoundment Control Act. The Committee recommends an increase of \$133.5 million in budget authority and \$98.4 million in budget outlays. Its proposals would increase stand improvement, reforestation, range management, forest management,

fish and wildlife, recreation and watershed work. We are especially gratified with the Committee's insistence that the forest road program be strengthened through increased U.S. Treasury outlays and decreased reliance on timber purchaser contracts.

Nevertheless, serious deficiencies remain. The basic problem is the continued insistence by the Administration on weighting the budget heavily toward timber cutting. We fully support a forest management program designed to harvest the annual sustained yield with due regard for multiple-use values. But there are other areas of management which are woefully neglected. The 16.7 million acres of national forest lands in Montana, the support research facilities, and the Regional Headquarters in Missoula are important parts of the conservation fabric of our State. These lands provide seven million recreation visits a year. They provide some of the most important game habitat on the North American continent. They likewise contain some of the continent's most important watersheds, principally the headwaters of the Missouri, Columbia and Kootenai Rivers. Yet these considerations are subordinated to a continued drive to get the timber out. We especially implore the Committee to strengthen the non-timber aspects of the budget, with emphasis on all types of research into better management techniques.

The Emergency Employment Appropriations bill now working its way through Congress contains needed funding for conservation work in the National Forests. However, it faces an uncertain reception by the White House. Whether or not it becomes law, we recommend that at least \$50 million be added in this bill in unemployment relief for badly needed Forest Service conservation work. These funds should be available between 1 July and 31 December of this year. We have a very bad employment situation in the forests and there exists a huge backlog of needs in thinning, slash removal, reforestation, campground preparation, trail work, and the like.

Two other problems face the Forest Service which are not being given the attention they deserve. One is that of purchasing privately owned lands within National Forest boundaries so as to consolidate agency control; the other is the provision of public access to the public's own lands. The Committee has received a written request from us to make available to the Forest Service funds to purchase the Mt. Haggin and Goodrich ranch properties from The Nature Conservancy. We urge that this be carried out. We likewise ask the Committee to provide the funds and direction for the Forest Service to purchase public access to its own lands. Owners of land surrounding National Forests are posting their property more and more and denying others access to public lands. The problem is very serious and is growing throughout the West. Chief John McGuire has acknowledged the problem, and has indicated a willingness to cooperate in solving it. The big requirement is funding to purchase easements; we urge the Committee to make a thorough study of the needs in this area and to make available initial funding of \$5 million.

FISH AND WILDLIFE SERVICE

In line with Administration policy, the Fish and Wildlife Service has permitted the fish hatchery in Miles City to deteriorate. That policy has apparently been reversed. A hatchery manager has been hired, and plans are being laid to remedy the neglect. An appropriation of \$41,000 is requested to rebuild water intakes and ditches, remove silt and do other needed work. As the only warm

water fish facility operated by the Federal government, with broad responsibilities to supply fish to seven state fish and game departments and several Federal agencies, it should be properly funded.

WETLANDS ACQUISITION

In 1961, Congress enacted the Wetlands Loan Act which authorized a \$105 million loan fund to be used in combination with duck stamp receipts to accelerate Federal efforts to prevent and offset serious loss of waterfowl production habitat.

It set as a goal acquisition of 2.5 million acres of high quality breeding and other waterfowl habitat. This Act expires at the end of FY 76 and \$19.1 million is still unappropriated, none of which is requested in the President's budget. Yet a shortfall exists of some 600,000 acres to complete the program.

We urge that the Senate Interior Appropriations Subcommittee increase the FY 76 Migratory Bird Conservation Commission Fund to \$10 million, thus making \$22 million (\$12 million from duck stamps) available to the Fish and Wildlife Service for acquisition of lands necessary for the waterfowl resource and the environmental health of the nation.

A loss of the \$10 million for this program now will not only postpone further the initial objectives set by Congress under the Wetlands Loan Act, but, we fear, put future land acquisition to the pressures of spiraling land prices and intense land use competition. The effect will be to greatly increase the cost to maintain our wildlife heritage.

BUREAU OF LAND MANAGEMENT

The budget format submitted for this agency gives the impression the Administration is taking a new and vigorous approach to land management issues. Appearances are deceiving. Half the "increase" in the budget is in permanent appropriations, mainly payments in lieu of taxes to 18 counties in Oregon and payments under the Mineral Leasing Act to various states. Most of the other half would go to the offshore mineral program but even this is misdirected by reliance solely on contracts to do the work. It does not enhance the Federal government's ability to manage its precious offshore resources.

Despite the so-called "increase," the BLM is hit with the largest reduction in its permanent work force of any agency in the Interior Department. Yet the Secretary has increased the agency's work load by directing it to take over management of several Western wildlife ranges, including the Charles M. Russell Range in Montana. And your Committee has commissioned a report showing that one-third of all the rangeland managed by the BLM in the United States is in a "poor" or "worse than poor" condition. We recommend that the Committee provide an additional \$10 million to the agency for an action program for soil and water management, with an additional \$2 million for wildlife management. However, we also request that the Committee direct the withholding from the agency those funds which would be used to carry out a management transfer on the Kofa, Sheldon and Charles M. Russell wildlife ranges in the West.

PREDATOR CONTROL

Failure to devise means of selective predator control has led to increased pressures on federal and state agencies to relax or circumvent current restrictions on poisons. It is absolutely essential that we have rational answers -- and have them soon -- to the questions concerning the role of the coyote in livestock losses. It has been more than three years since the President's ban on 1080 poison. We ask that the Committee be generous in its funding of the efforts of the Interior Department to achieve a greater understanding of the interaction of coyotes and their environment as well as selective control methods where killing of domestic livestock is confirmed.

BUREAU OF RECLAMATION

We wish to endorse funding of \$400,000 to launch repairs on the Buffalo Rapids Irrigation Project on the Yellowstone River, the first loan application to be made in Montana under the Small Reclamation Projects Act. The Department of the Interior has already approved an SRPA loan application for \$815,560. The money would improve the ability of the 32-year-old irrigation system to continue watering a 13,443-acre area during the low-flow months of July and August. If Congress could approve this initial funding, the project could be completed by the spring of 1977. Because many items associated with the construction, particularly the pipe involved, must be ordered nearly a year in advance with substantial cash deposits, it is important that this initial funding be provided.

BUREAU OF INDIAN AFFAIRS

Mr. Chairman, you will recall a letter which we, with Senators Jackson, Montoya, Domenici, Fannin and Goldwater, directed to you, asking for \$30 million of the \$35 million authorized for Part B, for Fiscal 1975 in P.L. 93-638 for school construction for Indian children. We asked that the appropriation be included in an early supplemental so as to permit construction during this summer and avoid the delay of another full year in areas where the construction season ends in October.

At this time, we wish to request \$35 million, the full amount authorized for Fiscal 1976. The Bureau of Indian Affairs is required to submit guidelines and regulations to implement the law by the first of November. It seems to us that it is by no means premature to appropriate the entire authorization in the pending bill to avoid delays in planning and construction that will surely occur if we defer funding.

We ask the Committee to consider very carefully an increase in appropriations for the Johnson-O'Malley programs. Senate provisions in S. 1017 authorizing expenditures for Johnson-O'Malley programs were rejected by the House, and are not included in P.L. 93-638. However, we feel that there should be additional sums, as proposed by the Senate. The suggested level was \$65 million, but in light of other strains on the budget, we are asking \$10 million more than the Administration's request, for a total of

approximately \$37 million, to assure that no existing programs are reduced and that increased enrollments are covered by increased funds.

We wish to make a special plea for adequate funding for Title IV, the Indian Education Act which was incorporated in the Higher Education amendments of 1972. We cannot overemphasize its importance to Indian communities, and the ancillary benefits that have resulted from this law. We believe that every one agrees that education is the key that opens doors. We wish that the Chairman and his colleagues could see for themselves the transformation that has taken place in Indian country as a result of education. Of the Blackfeet Tribe, there are now 300 who are attending college. Among all of our tribes and the urban population, the high school dropout rates, formerly the highest in the nation, have dropped substantially; enrollments have increased; absenteeism has dropped to averages comparable to that of non-Indians; men and women formerly on welfare are being trained for careers in education; entire communities are deeply involved in education as they have never been before.

We ask the Committee to appropriate \$100 million for Part A, in order to provide an allocation to each school district, \$35 million for Part B, the amount authorized and the full authorization for Part C, Adult Education, \$8 million.

Mr. Chairman, your Committee has heard numerous pleas in behalf of funds for the construction of health facilities, and for salaries and equipment. We would like to call your attention particularly to four worthy and urgently needed Montana projects.

The health clinic in use at the Fort Peck Reservation, accommodating over 20,000 patient visits annually, is in a dreadful state of repair and should have been razed years ago. The building is over 70 years old. The substantial sums spent annually for repair and maintenance would much better be directed to replacement of the facility. We urgently request an appropriation of \$2 million to permit the construction of a new clinic and staff housing at Poplar.

In addition, the Committee has already heard the requests of Assiniboine and Sioux leaders for needed additions to the clinic at Wolf Point. Their request was for \$897,940 for construction of a new center and housing and we strongly endorse it.

The Fort Peck Tribes have asked for an additional \$598,000 for contract care which will be required because of the four physician positions on the Fort Peck Reservation, only two will be filled after 1 July. We hope that the Committee will approve this request.

Officials of the Rocky Boy's Reservation have testified as to their need for funds to operate a new outpatient clinic to serve the members of the Chippewa Cree Tribes. The existing health center is extremely small, despite being only about 20 years old. The Tribal Council, though having the least resources of any of our tribes, has arranged to borrow the money necessary to construct a new building which will be leased by the Indian Health Service upon its completion. The Tribe has asked the Congress to appropriate sufficient money to equip the clinic, to provide staff housing and to operate the facility, a total of \$663,000. We strongly endorse their request and urge your approval.

The Indian Health Service Hospital at the Fort Belknap will lose its accreditation unless the existing facility is replaced. The IHS has assigned a very high priority and has nearly completed its planning of the replacement. We urgently request an appropriation of \$5.5 million to enable the IHS to go to contract stage and begin building in the next construction season so as to complete this sorely needed facility.

The Blackfeet Indian Tribe delegation has presented a statement in behalf of appropriations for expenditures to cover two additional dental assistants which we strongly endorse. We hope you will approve \$20,000.

We further endorse the Tribes request for \$51,600 to expand health service delivery to people living in Cut Bank, Valier and Duppuyer.

The Blackfeet Tribe has asked for an appropriation to replace its hospital at Browning. A total of \$11 million is requested, including \$440,000 for planning. We would be most grateful if the Committee would approve this amount, to permit a beginning on this important and necessary project.

The Chairman of the Crow Indian Tribe has already testified before your Committee in behalf of increased funding for the Bureau of Indian Affairs for coal studies on that Reservation. The Tribe has endorsed a two-year moratorium on coal development on Reservation lands pending a thorough study of all the problems associated with the development. The BIA has apparently agreed to fund \$500,000 for such a study beginning in fiscal year 1977. The Tribe wishes to accelerate it by one year, to fiscal year 1976, and we concur. If maximum development occurs, it would mean an influx of some 40,000 persons onto or around the Reservation, and the disruption of some 200,000 acres. Very little has been done to prepare for this onslaught. We feel the study should coincide with the moratorium imposed by the Tribe.

* * *

Thank you, MR. CHAIRMAN and members of the Subcommittee, for your patience in hearing with us through this lengthy list. We would prefer to ask for less, but the difficult times our State is facing does not permit that luxury. We are grateful for your consideration of each of our requests.

STATEMENT OF SENATOR HATFIELD

Senator STEVENS. Earlier this week Senator Hatfield, a member of the subcommittee, submitted a statement about reforestation funding. This would be a proper place in the record to place his statement, and we will print his statement at this point.

[The statement follows:]

MR CHAIRMAN, AS BUDGET HEARINGS FOR THE VARIOUS AGENCIES COVERED BY THIS SUBCOMMITTEE TURN TO PUBLIC WITNESSES, I WANT TO INDICATE MY DISPLEASURE WITH THE FUNDING LEVEL OF ONE OF THE AGENCIES WHOSE BUDGET WE REVIEW. I REFER TO THE FOREST SERVICE.

THE ADMINISTRATION HAS PRESENTED A BUDGET REQUEST FOR 1976 THAT IS MEAGER AND MISERLY, AND IS TOTALLY INADEQUATE TO MEET THE GOVERNMENT'S RESPONSIBILITY TO ACT AS A STEWARD OF THE PUBLIC LANDS. THE LOW FUNDING LEVEL THREATENS THE FUTURE OF A FOREST RESOURCE THAT HELPS MEET THE NATION'S HOUSING, RECREATION, WATERSHED, AND WILDLIFE NEEDS.

YEAR AFTER YEAR, THE ADMINISTRATION PRESENTS A BUDGET THAT IGNORES A BASIC PREMISE OF RENEWABLE RESOURCE MANAGEMENT: REFORESTATION FUNDS ARE AN INVESTMENT THAT ARE REPAID MANY TIMES OVER. CONGRESS HAS ADDED FUNDS EVERY YEAR TO ACCELERATE REFORESTATION TO INCREASE THE TIMBER SUPPLY FOR FUTURE GENERATIONS. OUR CHILDREN AND THEIR CHILDREN FACE PRESSURES FOR RECREATION USE, LUMBER SUPPLY, WILDERNESS EXPERIENCE, AND WILDLIFE PROTECTION THAT DEMAND GREATER INVESTMENT NOW SO AS NOT TO THREATEN FUTURE FOREST GROWTH.

THE ADMINISTRATION FUNDING REQUEST OF \$28.7 MILLION WOULD REFOREST A 3.3 MILLION ACRE BACKLOG OVER A 17 YEAR PERIOD, AND CONGRESS EACH YEAR HAS INCREASED REFORESTATION FUNDS TO COMPRESS THIS PERIOD TO TEN YEARS. I WILL OFFER AN AMENDMENT ADDING \$9.5 MILLION TO THE BUDGET TO RESTORE THE TEN YEAR REFORESTATION SCHEDULE. IT IS PENNY-WISE AND DOLLAR-FOOLISH NOT TO SPEND MORE MONEY IN AN AREA THAT GENERATES \$475 MILLION YEARLY INTO THE GENERAL TREASURY FROM TIMBER SALES.

STATEMENT OF HON. JAMES ABOUREZK, U.S. SENATOR FROM SOUTH DAKOTA

EROS DATA CENTER

Senator STEVENS. Now we have our good friend, Senator James Abourezk. Good morning.

Senator ABOUREZK. Good morning, Mr. Chairman. Incidentally, I want to associate myself with Lee Metcalf's presentation. I have introduced a bill that would provide as a pilot project the thinning of the Black Hills National Forest, and remove, not only what they call dog hair—that is the small weed growth that he was referring to—but to thin out the bug infestation. It is a good investment, not something we're throwing money away on that I am testifying about. And, in that regard, it is like the EROS program. I will keep my remarks brief on EROS.

This morning, Mr. Chairman, I want to emphasize as strongly as I can the need for additional support for the EROS program. In addition to presenting my statement, I would like to pass along an excellent color report on the program's uses and capabilities.

In the last 2 years I have appeared before this committee, I have requested large sums of money for the EROS program. Last year, for example, I suggested that an additional sum of \$16 million for a wide range of activities and equipment be provided to enable EROS to continue to function to its full potential.

This year, while I feel just as strongly about the need for larger sums of additional funds, I fully realize the awesome burden which has been placed upon this committee and the tremendous fiscal restraints under which it must work. Therefore, my request is conservative, yet realistic. Justifications for every dollar can be made available.

QUICK-LOOK DATA CAPABILITY

I am asking the committee to consider \$2 million for two very specific purposes in the EROS program in fiscal year 1976. The first is for \$1 million for the implementation of a quick-look data reception capability at the EROS Data Center in Sioux Falls, S. Dak. Presently, governmental agencies, private users, and even foreign countries are required to rely on Canadian facilities to obtain the quick-look EROS data which they need. Not only must we, therefore, rely on a foreign government, but the information requested takes an average of 6 to 8 weeks before receipt.

The implementation of a quick-look antenna will permit the EROS Data Center to provide quick-look hard copy data to users within 24 to 48 hours after data acquisition. With the implementation of such an antenna, vitally important new capabilities will be realized:

Direct observation of changes in snow patterns can be made in order to improve estimates of snowpack and timely prediction of runoffs in hydroelectric catchment basins. Rapid identification of an area hit by floods can be made. Rapid regional assessment of range grass conditioned to guide the release or withdrawal of grazing leases can be implemented.

We will be able to monitor surface water changes in large stock ponds, lakes, and rivers. Timely crop inventories can be made to supplement conventional crop reporting activities. Quick-look capability will enhance the capability to directly observe oil spills. Locating and classifying Arctic Sea ice will be greatly enhanced. And these are only a few capabilities which a quick-look antenna will provide.

The quick-look facility would also shorten the time required for users to obtain LANDSAT, formerly called ERTS, digital tapes and processed image products from 4 months to 1 month. This would be achieved by providing quick-look data within a few days so orders for these other products would be placed immediately.

The quick-look antenna would be similar to the system that the Canadians have been using for quite sometime, and could be operating 15 months after the final congressional approval is obtained. It would eliminate the need for this country to rely on the Canadian reception system for quick turnaround data. The installation of the quick-look reception capability at the EROS Data Center is consistent with the long-range plans for future joint cooperation that are developing between NASA and other agencies of Government. These plans call for NASA to continue research and development of space technology, and for the other agencies like the Department of the Interior to receive, process, and disseminate Earth resources data.

Mr. Chairman, the \$1 million requested here is for nothing more than the antenna and the associated equipment, necessary to provide the center with this essential capability. Anything less will not buy the antenna.

DIGITAL DATA PROCESSING

The second essential function for which an additional million dollars is requested is for the implementation of a digital data handling and processing capability to provide higher quality products. It is my understanding, Mr. Chairman, both Senator Hruska and Senator Young share a concern over this matter, and I am interested in seeing that our EROS program remains the best in the world. I hope the committee will agree, and the amount which the EROS people need is a mere \$2 million. They simply are not going to be able to continue to compete with what I think is an excellent program without this essential assistance.

I thank the Chair.

VARIED BENEFITS OF EROS

Senator STEVENS. I place this very high in priority. I don't know if you have seen the printouts that have come from my State and the new information we had by the actual location of the mineral potential. There is some indication that they may be found through satellite observation and this technology—whole new potential oil and gas basins that we had no knowledge actually existed. I think it is one of the great things.

A good friend came in just the other day to talk to me about this. He was working on a paper for the National Association of Geolo-

gists, which is working in this area. It is a fabulous breakthrough I think.

Senator ABOUREZK. You have seen this reprint from Fortune, about Alaska. I can't imagine money better spent on anything that we do.

Senator STEVENS. It will come back manifold even in terms of the savings to the forests, exploration on the ground in terms of minerals and metals, and oil and gas. I understand its application also to the agricultural countries. So it is really quite a significant breakthrough.

Senator ABOUREZK. I don't know if you know this, Mr. Chairman, but it can be determined when forests are diseased with bark beetles just by the picture, with infrared photography, whether wheat crops are diseased or not, whether there is pollution going into any part of the river or ocean, aside from the mineral detection capabilities.

Senator STEVENS. This is fabulous. I think it is something we must go ahead with. I'm happy to present your statement to the committee personally. It will be printed in the record at this point.

Senator ABOUREZK. Thank you very much.

[The statement follows:]

Thank you, Mr. Chairman, for allowing me the time to appear before this Committee today. While I will keep my remarks brief, I want to emphasize as strongly as I can the need for additional Committee support for the EROS program. In addition to presenting my statement, I would like to pass along an excellent color report on the program's uses and capabilities.

In the last two years, I have appeared before this Committee to request somewhat large sums of money for the EROS program. Last year, for example, I suggested that an additional sum of 16 million dollars for a wide range of activities and equipment be provided to enable EROS to continue to function to its full potential. This year, while I feel just as strongly about the need for larger sums of additional funds, I fully realize the awesome burden which has been placed upon this Committee and the tremendous fiscal restraints under which it must work. Therefore, my request is conservative, yet realistic. Justifications for every dollar can be made available.

I am asking the Committee to consider two million dollars for two very specific purposes in the EROS program in FY76. The first is for one million dollars for the implementation of a quick-look data reception capability at the EROS Data Center in Sioux Falls, South Dakota. Presently, governmental agencies, private users, and even foreign countries are required to rely on Canadian facilities to obtain the quick-look EROS data which they need. Not only must we therefore rely on a foreign government, but the information requested takes an average of six to eight weeks before receipt.

The implementation of a quick-look antenna will permit the EROS Data Center to provide quick-look hard copy data to users within 24-48 hours after data acquisition.

With the implementation of such an antenna, vitally important new capabilities will be realized:

- Direct observation of changes in snow patterns can be made in order to improve estimates of snowpack and timely prediction of runoffs in hydro-electric catchment basins.

- Rapid identification of an area hit by floods can be made.

- Rapid regional assessment of range grass condition to guide the release or withdrawal of grazing leases can be implemented.

- We will be able to monitor surface water changes in large stock ponds, lakes and rivers.

- Timely crop inventories can be made to supplement conventional crop reporting activities.

- Quick-look capability will enhance the capability to directly observe oil spills.

- Locating and classifying Arctic Sea Ice will be greatly enhanced.

And these are only a few capabilities which a quick-look antenna will provide.

The quick-look facility would also shorten the time required for users to obtain LANDSAT (formerly called ERTS) digital tapes and processed image products from four months to one month. This would be achieved by providing quick-look data within a few days so orders for these other products would be placed immediately.

The quick-look antenna would be similar to the system that the Canadians have been using for quite some time, and could be operating 15 months after the final Congressional approval is obtained. It would eliminate the need for this country to rely on the Canadian reception system for quick turnaround data. The installation of the quick-look reception capability at the EROS Data Center is consistent with the long range plans for future joint cooperation that are developing

between NASA and other agencies of government. These plans call for NASA to continue research and development of space technology, and for other agencies like the Department of Interior to receive, process and disseminate earth resources data.

Mr. Chairman, the one million dollars requested here is for nothing more than the antenna and the associated equipment, necessary to provide the Center with this essential capability. Anything less will not buy the antenna.

The second essential function for which an additional million dollars is requested is for the implementation of a digital data handling and processing capability to provide higher quality products. The implementation of the digital data system would allow almost a 100% increase in quality and content of earth resources information.

The installation of the digital system meshes with NASA plans to convert to delivery of LANDSAT high density tapes at the time of launch of LANDSAT C in the next 18 months. The present data handling systems have not been improved since the launch of the first ERTS satellite over three years ago. Users of this data now receive products that contain less than 50% of the information acquired by the satellite and the poor quality has led some users to switch to other sources of information.

Mr. Chairman, three years ago when this country launched its first earth resources satellite, the United States was recognized as the world leader in earth resources technology. We had a satellite and receiving stations like no other in the world. Unfortunately, this has changed. Since that time, nearly ten other countries have constructed receiving stations of their own--partly because we did not have the capability of providing them with all of the information which they needed. Now, even the United States must rely on the information collected from our satellite by Canadian receiving stations to obtain the data which people in our country need. I believe this unacceptable trend ought to stop and be turned around. The way to do this is to build a quick-look receiving station and the corresponding digital data capability that is so desperately needed.

It is my understanding that Senator Hruska and Senator Young share my concern over this matter and are as interested as I am in seeing that our EROS program remains the best in the world.

I certainly hope that the Committee will agree, Mr. Chairman. The amount which the EROS people need is a mere two million dollars and they simply cannot continue to compete without this essential assistance.

STATEMENT OF HON. ROBERT MORGAN, U.S. SENATOR FROM NORTH
CAROLINA

ACCOMPANIED BY:

RALPH HENRY, TRIBAL CHAIRMAN
FREDERICK J. BRADLEY, INDIAN HEALTH SERVICE
JOHN A. CROWE, CHIEF
BOB BLANKENSHIP, TRIBAL PLANNER
JONATHAN TAYLOR, TRIBAL VICE CHAIRMAN

CHEROKEE INDIAN HOSPITAL

Senator STEVENS. Senator Morgan, we are proceeding on a first-come, first-served basis as is usual on this day for congressional witnesses.

If anyone comes in and I don't see them, will they notify the staff they are here. I have seen our colleague who is going to follow you.

Good morning, Senator Morgan.

Senator MORGAN. Good morning.

Mr. Chairman, and gentlemen of the committee, I appreciate the opportunity of appearing before the committee on behalf of the Eastern Band of Cherokee Indians. We want to present our case to this Interior Subcommittee of the Senate Appropriations Committee for the purpose of expressing our concern about the inadequate and obsolete and inefficient 40-year-old hospital facilities that are now operated by the Indian Health Service at Cherokee, N.C., which is in the extreme western part of the State. I am pleased to be accompanied this morning by Mr. Jonathan Ed Taylor, Mr. Ralph Henry representing the tribal council of the Eastern Band of Cherokee Indians, Mr. Jack Bradley representing the Indian Health Service on the reservation, and Chief John Crowe and Bob Blankenship.

I will take, Mr. Chairman, about 2 minutes of your time, if you will, to briefly summarize our requests and then with the Chair's permission I would like to recognize Mr. Bradley for some brief remarks that any member of the subcommittee might have.

As you know, the Cherokee Indian Reservation identified by treaty as the Qualla Indian Boundary is located in the mountains of western North Carolina. The Indian population is estimated at 8,100 persons with approximately 60 percent of the families residing within the Qualla Indian Boundary. Their hospital at the town of Cherokee is a 26-bed stone building which is critically understaffed, severely limited in space and cannot effectively utilize its present equipment in an appropriate and efficient manner.

INADEQUACIES OF EXISTING HOSPITAL

In the interest of time, let me simply review in abbreviated form the problems with the present hospital. I would like, Mr. Chairman, to submit to you for the record, inclusion in the record, a copy of the evaluation made of the tribal health center by the Department of Health, Education, and Welfare.

Senator STEVENS. Thank you very much, Senator.

Senator MORGAN. But in effect, Mr. Chairman, it points out that the hospital has not been accredited, that the nursery is extremely overcrowded. There are inadequate beds, patient wards are undersized, the outpatient ward is overcrowded. The emergency room is far too small. The lab and X-ray equipment are cramped into the corner of one small room. The nurses station is overcrowded, and there is an inadequate medical library. The old stone building that is there, the one I referred to, is difficult to keep clean. It is poorly lighted. There is no central oxygen supply, and the heating and air-conditioning is defective.

In it there is inadequate storage and inadequate public address system. It is my understanding, and I think it will be revealed from this report, that the Indian Health Service fully recognizes the problem, the problems for the present facility, and acknowledges and endorses the need for new hospital facilities. Therefore, Mr. Chairman, we request that the subcommittee consider placing in its budget for fiscal year 1976 the amount of \$500,000 for planning a new hospital and the sum of \$5,960,000 for the construction of a new facility.

Thank you very much, Mr. Chairman.

I would like to recognize Mr. Bradley for whatever he may have to say. We will try to answer any questions that the committee might have.

Senator STEVENS. Thank you very much, Senator. Those of us who represent substantial native and Indian communities welcome you as another advocate for your Indian people.

Good morning, Mr. Bradley.

STATEMENT OF FREDERICK BRADLEY

Mr. BRADLEY. Mr. Chairman, I am Frederick Bradley, service unit director of the U.S. Public Health Service of the Indian Hospital, Cherokee, N.C., and also tribal consultant for the Eastern Band of the Cherokee Indians. I would like to express my appreciation and thanks to Senator Morgan and the Indian Health Service for this opportunity to appear before this committee.

The deficiencies that Senator Morgan stated are true, and as the director of the Cherokee Indian Hospital, I feel that a total new facility is the only solution. Our present facility has been inadequate for years and the problems have been compounded with such obstacles as understaffing, doubling of the outpatient workload during the past 10 years, and the need for new equipment, in order to give better comprehensive care. The spending of maintenance funds on the present facility is impractical and a waste, because these deficiencies can only be solved by a new hospital.

If you have questions, I would be happy to try to answer them.

Senator STEVENS. Thank you very much.

Senator, we will certainly take the request to the committee. There has been a tradition in the appropriations process that requires a design first concept. The reason for that is that there are several already through the design phase that are already in line for the construction money now. It is a way of building up a priority list, you might say, of design. We have a series of these throughout the United States. We

are looking at them and we will do our best whether the construction money will be there this year. But we will certainly do our best to get you the design money to get it underway.

Senator MORGAN. Of course, Mr. Chairman, we will be happy for all that we can get. We would like very much to get it budgeted if at all possible.

Senator STEVENS. How long would it take to design it? Do you have any idea, Mr. Bradley? I assume you are appearing here as sort of a—it's a difficult position for you. I don't want to get you into any trouble. Do you know how long it would take to design it?

Senator MORGAN. I have a good man on my right who can tell you something about this.

FAST TRACK SYSTEM

Mr. BRADLEY. At HEW, also the Indian Health Service, they have a system called the fast track system of construction. During this time they do the planning and construction, they do it a phase at a time and they can do both at the same time really.

Senator STEVENS. I would be happy to have you tell us how they do that. We have been trying to get a hospital in Alaska designed for 3 years. I know there is one in New Mexico that is already designed.

I think, if I heard you correctly, that it would be possible to do both at the same time, but in the past—do any of you other gentlemen have anything to contribute?

Yes, sir.

STATEMENT OF BOB BLANKENSHIP

Mr. BLANKENSHIP. Bob Blankenship, tribal planner.

This fast track system that he is talking about, HEW has told us that they can almost plan it and build it at the same time. Not only that, we desperately need decent health facilities. Appropriations at this time would be timely in that our unemployment rate is so high. It is 35 percent. It would combat two problems at the same time.

Senator MORGAN. Mr. Chairman, I will follow through with what Mr. Bradley and Mr. Blankenship told me earlier this morning about this design system. I will follow through and try to obtain what I can and submit it to the committee for its consideration.

Senator STEVENS. Thank you very much. The gentleman on your left wants to make a comment.

STATEMENT OF JONATHAN TAYLOR

Mr. TAYLOR. Mr. Chairman, I'm Jonathan Taylor, vice chairman of the Tribal Council; also, health coordinator on our reservation. We have done some studies about this hospital before and we submitted them—we submitted to Senator Morgan a copy of that study. We have done some planning on it. We are working with the Indian Health Service. They said they did have this fast track thing to go about this with. We are in desperate need of this facility. We have a lot of old people that are sickly. The facility that we have isn't adequate. We appreciate the chairman's and the committee's consideration of this.

Senator STEVENS. We will certainly look into it and appreciate any thing you can submit that is additional, Senator Morgan, concerning the question. Particularly we would like to have something to show where the \$5,960,000 was derived. That usually comes out in the design phase when we have a firm construction figure. Anything you can give us additionally we would appreciate it.

Senator MORGAN. I think this will answer some of the questions, Mr. Chairman.

Senator STEVENS. Thank you very much. Thank you, gentlemen.

Senator MORGAN. Mr. Chairman, you might like to know that I'm usually bragging about Jefferson and Jackson, but when I'm up with these folks I don't talk about Mr. Jackson very much.

PREPARED STATEMENT

Senator STEVENS. Very good. Your statement and supporting documents will be printed in the record.

[The statement and information follow:]

STATEMENT OF SENATOR ROBERT MORGAN

Mr. Chairman: On behalf of the Eastern Band of Cherokee Indians, I deeply appreciate this opportunity to appear before the Interior Subcommittee of the Senate Appropriations Committee to express my concern about the inadequate, obsolete, and inefficient forty-year-old hospital facilities operated by the Indian Health Service at Cherokee, North Carolina. I am pleased to be accompanied by Mr. Jonathan Ed Taylor and Mr. Ralph Henry, representing the Tribal Council of the Eastern Band of Cherokee Indians, and Mr. Jack Bradley, representing the Indian Health Service on the Cherokee Indian Reservation.

I will take approximately two minutes to briefly summarize our request and then recognize Mr. Bradley for brief remarks and any questions from the Members of the Subcommittee. As you know, the Cherokee Indian Reservation, identified by treaty as the Qualla Indian Boundary, is located in the mountains of Western North Carolina. The Indian population is estimated at 8,100 persons with approximately 60% of the families residing within the Qualla Indian Boundary. Their hospital at the Town of Cherokee is a 26-bed stone building which is critically understaffed, severely limited in space and cannot effectively utilize its present equipment in an appropriate and efficient manner. In the interest of time, let me simply review in abbreviated form the problems with the present hospital:

(1) hospital not accredited; (2) nursery overcrowded; (3) inadequate beds; (4) patient wards undersized; (5) outpatient ward overcrowded; (6) emergency room too small; (7) lab and x-ray equipment cramped into corner of one room; (8) nurses' station overcrowded; (9) inadequate medical library; (10) old building difficult to keep clean; (11) poor lighting; (12) no central oxygen supply; (13) heating and air conditioning defective; (14) inadequate storage space; (15) inadequate public address system.

It is my understanding that the Indian Health Service fully recognizes the problems with the present facility and acknowledges and endorses the need for a new hospital.

We hereby respectfully request that the Subcommittee consider placing in its budget for fiscal year 1976 the amount of \$500,000 for planning a new hospital and \$5,960,000 for the construction of a new facility.

Thank you, Mr. Chairman. We would welcome your questions.

STATEMENT OF FREDERICK J. BRADLEY
DIRECTOR OF THE U.S. PUBLIC HEALTH
SERVICE INDIAN HOSPITAL, CHEROKEE, N.C.

I am Frederick J. Bradley, Service Unit Director of the U.S. Public Health Service Indian Hospital, Cherokee, North Carolina, and Tribal Consultant for the Eastern Band of Cherokee Indians.

I would like to express my appreciation and thanks to Senator Morgan and Indian Health Service for this opportunity to appear before this committee.

The deficiencies that Senator Morgan stated are true, and as the Director of the Cherokee Indian Hospital, I feel that a "total" new facility is the only solution.

Our present facility has been inadequate for years and the problems have been compounded with such obstacles as understaffing, doubling of the outpatient workload during the past ten years, and the need for new equipment, in order to give better comprehensive care.

The spending of maintenance funds on the present facility is impractical and a waste, because these deficiencies can only be solved by a new hospital.

If you have questions, I would be happy to try to answer them.

LETTER FROM LEROY WAHNETAH

THE EASTERN BAND OF CHEROKEE INDIANS

QUALLA BOUNDARY / P. O. BOX 455, CHEROKEE, N. C. 28719 • PHONE (704) 497-2771, 497-4771

May 22, 1975

Senator Robert Morgan
United States Senate
Washington, D. C. 20510

Honorable Senator Morgan:

At the recent hearings before the Senate Subcommittee on the Department of Interior and Related Agencies, the topic of Fast-track Construction System was presented and discussed. We are happy to forward that information to your office.

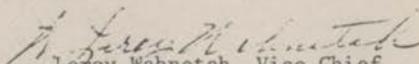
The new health facility for the Eastern Band of Cherokee Indians would provide better health care due to the reasons already given to the committee.

It was ironic that practically at the same time - day after the delegates returned from Washington we had a fire in the Pediatric Ward which was due to defective wiring and overloaded electrical circuits.

The Vassar Corporation on our reservation has ceased operation, which has been a contributing factor to our high unemployment rate (35%). The construction of a new hospital would help alleviate this problem.

I hope this information will help speed the funding of our much needed health facility.

Sincerely,


Leroy Wahnetah, Vice Chief
Eastern Band of Cherokee Indians

LETTER FROM CHARLES M. DIXON

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
REGION IV
50 7TH STREET N.E.
ATLANTA, GEORGIA 30323

May 19, 1975

Mr. John A. Crowe
Principal Chief
Eastern Band of Cherokee Indians
Post Office Box 455
Cherokee, North Carolina 28719

ATTENTION: Bob Blankenship

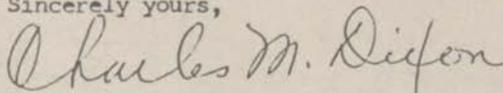
Dear Mr. Blankenship:

I am furnishing you with a capsulized discussion or statement concerning "Fast-track" or phased design and construction.

You will note that I have also enumerated several management techniques and if our Office is assigned responsibility for managing the design and construction of a health care facility for the Cherokee people we will no doubt use a Construction Manager to secure fast-tracking of the project.

If this Office can be of further assistance, please call me.

Sincerely yours,



Charles M. Dixon, P.E.
Chief, Facilities Management Division

STATEMENT OF CHARLES M. DIXON

What is Phased Design and Construction or Fast-track?

Fast-track is a generic term for a variety of management techniques that are employed in an effort to reduce the time frame, and consequently cost reduction, of architectural design and construction of a structure or facility.

It is prudent for every owner to strive for a quality structure to be delivered for occupancy and usage at the earliest possible date for the least dollar investment. Fast-track, utilization of pre-engineered or factory-built basic components, construction management, project management, or a combination of time and cost saving techniques can and should assist in securing a quality building in a shorter time and at a satisfactory or acceptable cost.

Under the conventional or normal method of design and construction the architect prepares a complete set of plans, specifications, and contract documents that describes the entire project. After these documents are prepared, bids are secured, a single construction contract is executed, then construction begins. With the fast-track process, the architect prepares his plans and specifications in the order in which construction will actually occur. The earliest required construction processes, as site preparation or foundation work could be designed, bid, and construction be in progress while the architect prepares a bid package for the structural work, and so, through the complete construction sequence.

This process of phase design and construction, Fast-track, is quite adequate if the owner is not working within a restricted budget and is not really concerned with what the final cost will be. If the ultimate cost is of prime importance, as is the case in most Federal projects, a modified application of Fast-track using one or more of several proven techniques would be recommended. A tool or process that can assist in an early determination of costs and compress design and construction time, thereby attaining the fast-track results, is known today as Construction Management, Project Management, Systems Management, Time and Cost Management or other combinations of techniques.

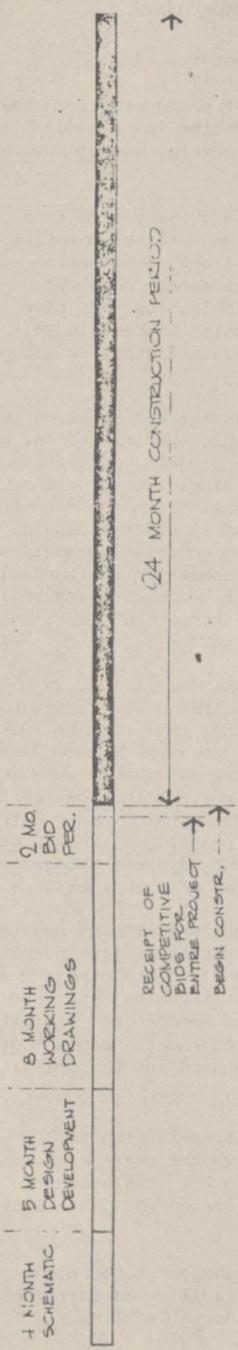
These processes employ a technique that brings a qualified construction oriented organization into the design process at its inception and utilizes this expertise as a team member along with the architect and owner. The Manager, by any name, can advise on material and labor, construction techniques, and provide a better cost estimate for the total project during a time phased sequence. As plans are being developed each component can be time phased and the dollar value of each component can be indicated.

Generally it is possible for the management organization to determine the total construction cost and give the owner a guaranteed maximum price and start construction prior to the completion of final design drawings. This type of phased design and construction is a type of Fast-track.

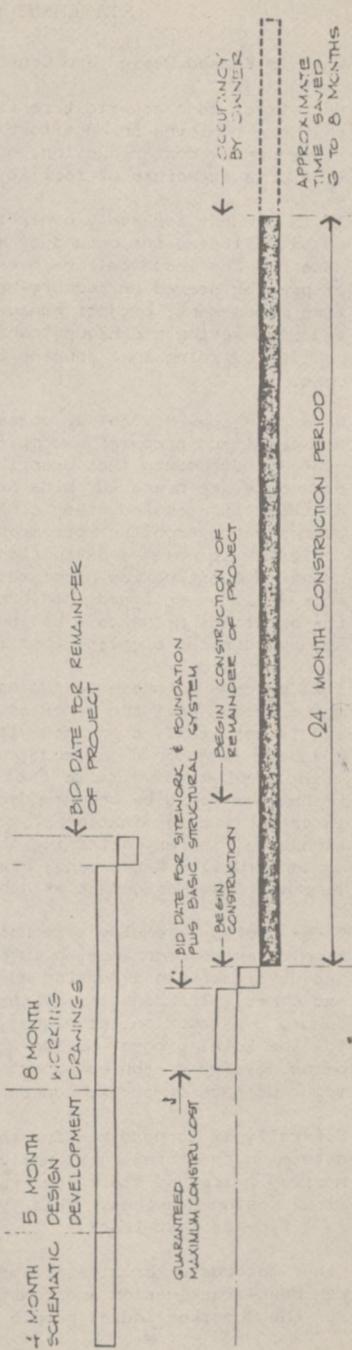
Other methods or combination of methods of management techniques can Fast-track design and construction of a facility as is requested for the Cherokee Indian people at Cherokee, North Carolina.

Attached is a chart that graphically shows how a Fast-track method can save time in design and construction. This should be typical for a health care facility and in many cases the time savings can be greater than this example shows.

CONVENTIONAL



SYSTEMS MANAGEMENT



STATEMENT OF HON. PETE V. DOMENICI, U.S. SENATOR FROM
NEW MEXICO

NEW MEXICO INDIAN HOSPITALS

Senator STEVENS. Good morning, Senator Domenici. I'm happy to have you here. I'm sure you must be talking about another hospital.

Senator DOMENICI. I'm not only talking about one, I'm talking about four, Mr. Chairman.

I have some prepared remarks. I know how busy you are, and how dedicated you are to listening to us. I think I have made the statement brief enough that I ought to read it. But let me, in addition to my prepared remarks, share some observations with the chairman.

First of all, I am concerned with the President's budget. However, I really don't use that nomenclature to indicate that the President himself is aware of this situation as I'm trying desperately to bring it to his attention. I believe that budget made a very, very serious error this year with reference to appropriations and outlays for Indian health. The chairman should know that we have in that budget absolutely no money, that is zero money, for new facilities.

That is an historic first considering the state of Indian health. The Indian Public Health hospitals around the United States are sorely inadequate, as you know, based upon HEW's reports, as well as the need for new ones in addition to those that are completely dilapidated, noncertified.

To have a zero appropriation for new facilities in this particular year appears to me to be a serious error with reference to policy of the U.S. Government versus its Indian people. So the chairman will understand that I am not leaving this burden totally with appropriations. I have personally advised the President that I think this is a mistake not to have money allocated for some hospitals this year. I have been in contact with Dr. Mars at the White House. He is the Indian adviser. I think we will soon be able to have a conference with OMB to try to cure this very serious error of no money at all in the budget.

Now I am in a little bit better posture, at least if tradition is followed, than the junior Senator from North Carolina who just appeared. I don't question his Indian people's needs at all. However, it just happens that if we follow the evaluation system heretofore established in the IPHS, the next two hospitals that would be built in the United States turn out to be New Mexico.

ACOMA-LAGUNA HOSPITAL

One is located at Laguna which is given the name Acoma-Laguna. Not only is it next in line, but it is a planned design. One million dollars was appropriated for it last year. The \$1 million did absolutely no good because we have a policy of not starting these facilities, as the chairman well knows, until you have appropriated full moneys.

So if anything is going to be spent for a new facility in the United States, a new health facility, it appears that that one which is first on the list, already designed and planned and \$1 million of its needs appropriated, should be built.

SANTA FE HOSPITAL

I am in the fortunate, or unfortunate position, depending upon how you look at it, of having in our State, another planned and ready to go facility which is on that same list as the second priority hospital. It will replace a 1929 hospital in the city of Santa Fe that serves not only Indians in Santa Fe but the northern Pueblos that surround it.

I could have brought all of the Indian leaders here, but I met recently with them in Santa Fe. They have a joint council that has evaluated this hospital and the Indian needs of that area. There is unanimous support that that facility should be replaced as recommended by HEW.

It seems to me, Mr. Chairman, that if we are going to do even minimum justice to probably the most serious Indian problems, to wit, Indian health, we have to put some substantial amount of money in the budget for construction of facilities. If we do it seems logical that we should not depart from the traditional evaluation system that we have used for a number of years. That would make Acoma-Laguna and the Santa Fe Hospital No. 1 and 2 in the Nation.

I mention in my statement two other very serious needs within the Navajo Nation. I will not elaborate upon them at this time. One is ready to go in terms of construction. One desperately needs the planning money to get going. In both instances the facts are enormous with reference to the miles that these hospitals will serve where there are no facilities at all. And literally thousands of people that will be dependent on the facilities.

SHIPROCK HOSPITAL

I am not going to read my prepared statement but I would briefly talk with the chairman about the one at Shiprock, N. Mex., in Navajo country. There is an old facility there, totally inadequate. The planning money has already been approved. It is ready to go. It has got some very long-term ramifications that we ought to consider.

I think the Senator is aware of the fact that the Indian people of this country are promoting the establishment of an American Indian medical school. Basically, in their national concept for the establishment of such an Indian school, the facility at Shiprock which I have detailed for the committee has at this point in the development of the concept been given prime consideration as the medical facility around which they would build the all-Indian medical doctor school.

We need the facility in any event. I'm sure if your staff checks into the need there is no question that that facility is also sorely needed. But I think if we fail to fund it we are perhaps giving a signal that we are going to delay for many years the planning process that is taking place headed by Dr. MacKenzie, a Navajo Indian medical doctor, the first Indian M.D. who is putting together the national coalition to support a very long-term plan. The project is supported by all of the States around the area that have medical schools to use this facility at Shiprock beginning that very difficult incremental development of an Indian medical school.

But I would say to the chairman that whether or not those plans are developed, the facility at Shiprock is a must. It will be built whether we do it or not. It will be the nucleus for something far more significant, but it must come first and will serve a primary function of caring for the Indian people in a tremendous growth area.

To acquaint the chairman with the area, you have probably heard of Navajo potential coal gasification. You have heard of the Westco project which is about to be approved for four gasification plants in that area. That would mean a migration of Indian people into the Four Corners area. This will be the only facility around, if and when that occurs. The 40-bed facility there is inadequate now. It appears to me that the three facilities are absolutely needed to keep faith and do even a minimal job of moving along with a commitment in the field of Indian health.

With that, Mr. Chairman, I will ask that my prepared remarks be made a part of the record.

Senator STEVENS. Thank you very much, Senator Domenici. We will print your remarks in full. I appreciate your comments. There is a deferral request here on the \$1 million, I'm sure you know.

Senator DOMENICI. Yes.

HOSPITAL FINANCING

Senator STEVENS. We would be happy to discuss that with you, and I'm sure you know the committee shares your feelings about financing the Indian hospitals.

Senator DOMENICI. I would also say, Mr. Chairman, that I know of your genuine and abiding interest in Native Americans, Indians. I know that we have a tough budget problem this year. I personally am not satisfied with the process they have used of constructing hospitals. I think maybe we have to have a new game plan just as we are trying to develop one for the construction of schools. I think it is rather absurd when projects are going to be spread over 3 or 4 years that we evolved our policy of not starting them unless we have all the money appropriated, then we don't use it for maybe 18, 24 months—well into the next outlay fiscal year.

On the other hand, it just happens that in this case even under that policy, New Mexico would get the next two hospitals if you put any substantial amount of money in the program at all.

I thank you for your kindness in the past and your genuine concern.

PREPARED STATEMENT

Senator STEVENS. Thank you very much, Senator. Your prepared statement will be printed in the record.

[The statement follows:]

Mr. Chairman: Thank you for this opportunity to meet with your Subcommittee to discuss a funding problem affecting health care for many Indian people in the State of New Mexico.

As you know, the FY 1976 budget proposal does not contain construction funds for Indian hospital facilities. I am sure this Subcommittee is fully aware of the appalling health conditions of the Indian communities so I will not take your time to outline specifics with regard to the diseases endemic to these people and the lack of qualified health service personnel, but rather I will address myself to the health care facilities available.

Mr. Chairman, the Indian Public Health Service has established a priority list of hospitals which should be built in the country. Four of the top five designated hospitals on this list are planned for New Mexico, a State with many thousands of Indian citizens. It is on behalf of these four facilities that I am here today. I want to emphasize the fact that this priority list was derived without any Congressional influence, but rather was the result of a survey conducted throughout the country by the Indian Public Health Service based on the needs of the Indian people.

The first and second priority facilities listed were the replacement health facility at Santa Fe, New Mexico and a new health facility for the Acoma-Laguna-Canoncito Indian communities, also in New Mexico. The 92nd Congress, recognizing the importance of these facilities, earlier supported the initiation of the planning process by appropriating sufficient design funds. Because of this action, the design phase has been completed, but both projects are presently being held in abeyance pending appropriation of the necessary construction funds. The 93rd Congress appropriated \$1,000,000 to initiate construction of the Acoma-

Laguna-Canoncito replacement facility and further urged the Department of Health, Education, and Welfare to request a supplemental budget in FY 1975 for the balance of construction funds. To my knowledge, the \$1,000,000 has not been released, nor was a supplemental request been submitted to Congress for the balance of the construction funds required.

Therefore, Mr. Chairman, I am asking for the Committee's support in approving construction funds in the amount of \$6,555,000 for the Acoma-Laguna-Canoncito project, which includes the \$1,000,000 appropriated in FY 1975 and \$9,281,000 for the Santa Fe project.

For your further information, Mr. Chairman, the proposed health facility for the Acoma-Laguna-Canoncito reservations is planned for a more isolated part of the State. The distances to even the nearest existing health facility imposes hardships upon the local Indian people when illness occurs. Individuals find it difficult or impossible to finance transportation to distant facilities. This fact frequently presents barriers to preventive medicine practices and a comprehensive program in solving the health problems of this Indian population.

The Santa Fe facility, on the other hand, is an old, inadequate hospital that was built in 1929. The Joint Commission on Accreditation of Hospitals condemned the present facility as incapable of meeting the requirement of a comprehensive health care program; thus accreditation was denied. Furthermore, the facility is considered a fire hazard by the most minimum standards set forth by the National Fire Protection Association.

I would like, at this point, to move on to the other two hospitals designated by the Indian Health Service as top priority items; the Crownpoint replacement facility and the Shiprock Hospital to be constructed on Navajo Tribal lands.

The present Crownpoint hospital, serving 13,000 people over 3,500 square miles in North Central New Mexico, was constructed in 1934 and is unable to meet the Joint Commission on Accreditation of Hospitals standards, the Federal Fire and Safety Standards, the New Mexico Fire Safety Regulations, and the Occupational Health and Safety Administration standards. It is estimated that \$10,500,000 will be necessary to enable the present hospital meet minimal standards -- approximately the same amount to begin anew with more modern design and construction materials. In view of these facts, the Indian Health Service feels a new facility is in order. There should be an end to the "bandaging" process which has developed through the years. Therefore, Mr. Chairman, I am requesting \$800,000 for FY 76 to continue planning work on this project.

The fourth, and last, project I would like to mention is the Shiprock facility in Shiprock, New Mexico. This project rates 5th on the Indian Health Priority list. The present facility services 35,000 people. Only 75 beds are presently available for the community, and the facility, at best, could only be classified as poor to fair. It is felt by the Indian Health Service that the facility should be expanded to 150 beds to adequately serve the community. Therefore, Mr. Chairman, I am requesting approximately \$19,000,000, including a previously allocated \$462,000, for the design stage.

It appears obvious to me that to successfully conduct the necessary Indian health programs, it is essential that health facilities be fully postured for effective and efficient medical treatment. I believe that by continuing our commitment to the completion of these facilities New Mexico can better serve the many Indian people living within its boundaries. Mr. Chairman, I urge the support of this Subcommittee towards the realization of that goal.

STATEMENT OF HON. HUBERT H. HUMPHREY, U.S. SENATOR FROM MINNESOTA

INDIAN HEALTH FACILITIES

Senator STEVENS. Senator Humphrey, and following Senator Humphrey, I know Senator John Glenn is here.

You are first, Senator, we will go on a first-come, first-served basis. I hope everyone understands that. The only way we can put them is set a priority when they come in the door, Senator.

Senator HUMPHREY. That is the way I like it. Thank you, Mr. Chairman.

Senator STEVENS. Good morning, sir.

Senator HUMPHREY. I'm very pleased to see you and I want to thank you as representing this Senate Appropriations Committee and the Subcommittee on the Department of Interior for giving me the opportunity to appear before you.

Mr. Chairman, I want to talk about the Indian health facilities, particularly as they relate to the State of Minnesota. I deeply regret that the administration's budget for fiscal 1976 did not include a request for funds for new start construction of Indian health facilities, even though we know that there have been a number of priority construction proposals on file, targeted on meeting urgent Indian health needs.

In the absence of such a request from the administration, Congress itself must evaluate such proposals toward providing adequate funding for the Indian health facilities.

RED LAKE CHIPPEWA FACILITIES

I am appearing this morning to request an appropriation of \$9,646,000 for a comprehensive health facility for the Red Lake Band of Chippewa Indians located in Red Lake, Minn.

Mr. Chairman, this is a project which has previously been brought to the attention of the committee in last year's appropriations hearings as deserving the highest priority for consideration of funding. Let me quickly say that I realize that the figure of \$9,646,000 is the overall figure. We are not talking about that amount to be appropriated at any one time. But it is urgent that we get underway.

I brought with me some of the statistical information that relates to this area. By the way, I am very familiar with it. I might add that I was the guest of the tribe at Red Lake there several years ago and I was christened or named Chief Leading Feather at one of the ceremonies. In all truth I am very close to the people on the reservation and take great pride in going there frequently, and indeed will be visiting the reservation very shortly.

About 2 weeks ago I was present for the dedication of our regional Indian services center in Minneapolis for our urban Indians. We have the largest population of urban Indians of any city in the United States. So we are somewhat unique in having both the reservation Indian population as well as the urban.

Just some statistical information about the Red Lake Reservation and this proposed health facility: This health facility is principally

responsible for the health care of the Indian population of the Red Lake Indian Reservation. There is a facility there now. It is obsolete, outmoded. It is in fact—it is a very costly facility because of the inadequacies of all of the structure, and to repair that facility would cost almost as much as building a new one.

NEEDS OF RED LAKE RESERVATION

The reservation consists of a solid block of tribally owned land of approximately 636,946 acres located 30 miles north of Bemidji in northern Minnesota. There is an estimated population of 4,100 on the reservation with another estimated 1,000 population of the tribe living off the reservation. It is projected that by 1985 there will be over 5,280 living on the reservation and several thousand living off but within the jurisdiction of the tribal council. The economy of this reservation is based primarily on the utilization of the vast timber holdings and the manufacture of wood products and some agriculture.

During the past several years there has been a major effort in constructing new homes, and the improvement of others. And there has been a very remarkable improvement. This has played an important role in improving the standard of living on the reservation.

The reservation has been an area of chronic unemployment. At present less than 60 percent of the employable adults are regularly employed. In other words, to put it in the negative terms the unemployment rate is about 40 percent. These are fine people. They deserve a break and a better chance.

HEALTH FACILITY PLAN

So, Mr. Chairman, in October 1974 the Red Lake Band Tribal Council received a master plan for a health facility which was completed by the Kegal Associates, architects. It outlined alternative plans to be considered in determining whether or not to remodel their existing health facility or to construct a totally new facility.

The recommendation of this study was the construction of a new facility, rather than go to the extreme expense of remodeling the inadequate health plant which is currently being used by the tribe. A followup study was conducted by the Facilities Planning and Construction Branch of the Indian Health Service to determine the feasibility of carrying out the master plan which was adopted by the Red Lake Band Tribal Council.

CORRESPONDENCE

Mr. Chairman, I am submitting for the record a copy of a letter which I received from Dr. Emery A. Johnson, M.D., assistant surgeon general, Director of the Indian Health Service, which indicates the Indian Health Service's support for the health program that I am proposing at Red Lake, Minn. The Indian Health Service further recommends the funding of the replacement of the existing health facility and staff quarters.

I ask that that letter be included at this point as part of my testimony.

Senator STEVENS. It will be, Senator.

[The letter follows:]

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
HEALTH SERVICES ADMINISTRATION
ROCKVILLE MARYLAND 20852

14 MAY 1975

Honorable Hubert H. Humphrey
United States Senate
Washington, D.C. 20510

Dear Senator Humphrey:

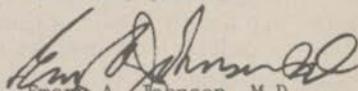
Thank you for your letter of May 9 inquiring about the Indian Health Service's support of the health program at Red Lake, Minnesota.

The Indian Health Service has reviewed the Master Planning Study for the Red Lake Band of Chippewa Indians completed by Kegel Associates and have found the health service sections to be well-executed, comprehensive plan for meeting the total health needs of the community. Indian Health Service support and recommends the funding for the replacement of the existing health facility and staff quarters. The FY 1976 costs of planning and constructing the replacement health facility is \$6,520,000 (\$450,000 for planning and \$6,070,000 for construction) excluding groups II and III equipment (portable) which would require \$816,000 in FY 1976. Staff quarters would amount to \$2,310,000 in FY 1976.

The Indian Health Service has recognized the need to improve health services in the Red Lake area and has placed heavy emphasis on this need in developing our Long Range Construction Plan. We regret that the current funded scope of the Indian Health Service construction program has precluded us from proceeding with the planning and construction of the Red Lake project.

Thank you for your interest in the Indian community at Red Lake and your support of the Indian health program.

Sincerely yours,



Emery A. Johnson, M.D.
Assistant Surgeon General
Director, Indian Health Service

JUSTIFICATION OF \$9.6 MILLION REQUEST

Senator HUMPHREY. Of the \$9,646,000 request, the Indian Health Service has indicated that \$6,520,000 can be allocated during fiscal year 1976 to carry out the planning and initial construction phase. It would allocate \$816,000 for equipment costs and \$2,310,000 for staff quarters, in fiscal year 1977.

Recognizing the many requests which this committee is currently reviewing, we would have no objection to the incremental phasing-in of these costs. It would certainly appear to me to be a most feasible approach in order to insure that the funds that are appropriated are used most wisely. I should further point out that the Indian Health Service has estimated that of the \$6,520,000 which would be allocated in fiscal year 1976, \$450,000 would be for planning and \$6,070,000 for the actual construction cost of a 30-bed inpatient complement consisting of 17 general medical, 9 pediatric, and 4 obstetrical beds.

However, I think it should be noted that this is only part of what this facility will offer. The comprehensive health service provided at the Center, if the appropriation can be forthcoming, will include dental services directed toward prevention and correction of dental disease, as well as outpatient services with full diagnostic treatment facilities, including emergency treatment and casting rooms. Specialty services such as well-baby clinics, family planning clinics, mental health clinics, alcohol and drug abuse programs, and nutrition services will be provided on an outpatient basis. May I add, as you know so well, Mr. Chairman, these services are desperately needed.

As it is currently planned, the field health program will include community health education, nutrition, and community environmental health programs which will be administered out of the central health facility.

Mr. Chairman, I cannot say enough about the work that has gone into the preparation of these comprehensive health plans by the tribe and the tribe's subsequent assistance to the Indian Health Service in the preparation of the feasibility study. Here is the study that has been made by the Red Lake Indians themselves, and here is the master plan that was made in cooperation with the tribal council. I have been on the phone with the chairman of the tribal council.

These people have just worked their hearts out to make this program a sensible, realistic program for the people in that area. It is a long ways away there, Mr. Chairman, from the health facilities of any major city. The health facilities that are there now are really shamefully obsolete and we have just got to do something or just be looked upon as having been totally unwilling to look at the human needs of some wonderful people in our State.

I am a firm supporter of investing our limited resources in Indian programs which reward such positive forward thinking and comprehensive planning as has been demonstrated by the Red Lake Tribe. I believe we in the Congress have a responsibility to assist these Indian communities who are so obviously helping themselves in these community development efforts.

I mentioned earlier the housing programs. My colleague, Senator Mondale, was very instrumental in getting some assistance there on

these housing programs. I have worked with him during the time that I was not in the Senate. He was very active in doing this. You should see this fine housing that these people are building at very minimal costs. They have cut their own lumber. They have done their own cement work. There is so much that they have done on their own. That is one of the most encouraging and exciting projects that we have had in our State.

Mr. Chairman, in closing, I would like once again to appeal to the members of this committee, through you Mr. Chairman, to give favorable consideration to an appropriation of sufficient funds to permit construction to get underway on the new health facility for the Red Lake Reservation.

Thank you again for giving me this opportunity to appear before your committee.

Senator STEVENS. Thank you very much, Chief Leading Feather. You will be interested to note that the former chairman of this committee, Senator Bible, was named by the Nevada Shoshone-Paiutes "The Man Who Brings Money."

Senator HUMPHREY. Ah, I want to say that the very compassionate, decent and honorable Senator from Alaska is also one who not only can help bring money, but help bring hope to these people.

PHASED FUNDING

Senator STEVENS. I am certainly with you. We are going to try to work out this construction problem. I don't know why some of the incremental problems can't be worked out. Certainly the cost of failure to proceed can escalate. We have to find some way of getting a confirmed program and give it incremental funding.

Senator HUMPHREY. I don't know why we can't do in the Federal Government what we are able to do in our local governments on hospitals.

We've just finished building a local hospital for the entire county and it is phased out over many, many years. Some way or other we think we have to be cash and carry in these Federal programs. If each of us had to buy our homes on that basis we would be living in thatch huts or teepees, I am afraid. We have to do something a little better than that. I know this is a major problem for the committee.

I just wanted to urge that at least we give our people a chance to believe that something is going to happen that is helpful to them.

PREPARED STATEMENT

Senator STEVENS. Thank you. And your full prepared statement will be included in the record.

Senator HUMPHREY. Thank you very much.

[The statement follows:]

Thank you, Mr. Chairman, for giving me this opportunity to appear before the Committee.

Mr. Chairman, I think it is deplorable that the Administration's Budget for Fiscal 1976 did not include a request for any funds for new-start construction of Indian Health facilities, even though we know that there have been a number of priority construction proposals on file, targetted on meeting urgent Indian health needs.

In the absence of such a request from the Administration, Congress itself must evaluate such proposals toward providing adequate funding.

I am appearing this morning to request an appropriation of \$9,646,000 for a comprehensive health facility for the Red Lake Band of Chippewa Indians located in Red Lake, Minnesota. Mr. Chairman, this is a project which has previously been brought to the attention of the Committee in last year's appropriations hearings as deserving the highest priority for consideration of funding.

In October, 1974, the Red Lake Band Tribal Council received a master plan for a Health Facility which was completed by the Kegel Associates Architects. It outlined alternative plans to be considered in determining whether or not to remodel their existing health facility or to construct a totally new facility.

The recommendation of this study was the construction of a new facility, rather than go to the extreme expense of remodeling the inadequate health plant which is currently being used by the tribe. A follow-up study was conducted by the Facilities Planning and Construction Branch of the Indian Health Service to determine the feasibility of carrying out the master plan which was adopted by the Red Lake Band Tribal Council.

Mr. Chairman, I am submitting for the Record a copy of a letter which I received from Dr. Emery A. Johnson, M.D., Assistant Surgeon General, Director of the Indian Health Service which indicates the Indian Health Service's support for the health program at Red Lake, Minnesota. The Indian Health Service further recommends the funding of the replacement of the existing health facility and staff quarters.

Of the \$9,646,000 request, the Indian Health Service has indicated that \$6,520,000 can be allocated during FY 76 to carry out the planning and initial construction phase. It would allocate \$816,000 for equipment costs and \$2,310,000 for staff quarters, in FY 77.

Recognizing the many requests which this committee is currently reviewing, we would have no objection to the incremental phasing-in of these costs. It would certainly appear to me to be a most feasible approach in order to ensure that the funds that are appropriated are used most wisely. I should further point out that the Indian Health Service has estimated that of the \$6,520,000 which would be allocated in FY 76, \$450,000 would be for planning and \$6,070,000 for the actual construction cost of a 30 bed in-patient complement consisting of 17 general medical, 9 pediatric, and 4 obstetrical beds.

The comprehensive health service provided at the center will include dental services directed toward prevention and correction of dental disease, as well as out-patient services with full diagnostic treatment facilities, including emergency treatment and casting rooms. Specialty services such as well-baby clinics, family planning clinics, mental health clinics, alcohol and drug abuse programs and

nutrition services will be provided on an out-patient basis. As it is currently planned, the field health program will include community health education, nutrition, and community environmental health programs which will be administered out of the central health facility.

Mr. Chairman, I cannot say enough about the work that has gone into the preparation of these comprehensive health plans by the tribe and the tribe's subsequent assistance to the Indian Health Service in the preparation of the feasibility study. It is an indication of the high degree of initiative and strong feeling of support by the members of the tribe for this much needed new health facility. Since the tribe has gone to such an effort on their own initiative, I would hope that the committee would see fit to recommend funding for this project in order that we can maintain the momentum which has been quite evident in the development of these plans.

I am a firm supporter of investing our limited resources in Indian programs which reward such positive forward thinking and comprehensive planning as has been demonstrated by the Red Lake Tribe. I believe we in the Congress have a responsibility to assist these Indian communities who are so obviously helping themselves in these community development efforts.

Mr. Chairman, in closing, I would like once again to appeal to the members of this Committee to give favorable consideration to an appropriation of sufficient funds to permit construction to get under way on the new health facility for the Red Lake Reservation.

Thank you again for giving me this opportunity to appear before your committee.

STATEMENT OF HON. JOHN GLENN, U.S. SENATOR FROM OHIO

CUYAHOGA NATIONAL RECREATION AREA

Senator STEVENS. Senator Glenn, then you will be followed by our colleagues from the House and Senator Taft.

Senator GLENN. Thank you. It is an honor to follow Chief Leading Feather. He has been a leading feather in Washington here as well as in his home area for many years.

Mr. Chairman, I appreciate this opportunity to speak in favor of increasing the appropriation for fiscal year 1976 and the transition quarter for the Cuyahoga Valley National Recreation Area.

The Cuyahoga Valley National Recreation Area was created in December 1974, to provide the millions of people who live in the Cleveland, Akron, Canton area of Ohio with a recreational park site for their enjoyment. The recreation area is of such great scenic beauty and historical significance which will be preserved in its present relatively unspoiled state if the lands required are purchased as quickly as possible.

LAND ACQUISITION

In order to facilitate the rapid purchase of the recreation area lands, as intended by the Cuyahoga Valley National Recreational Area Act, I am glad to join my congressional colleagues from Ohio testifying here today in urging the committee to increase the appropriation for the Cuyahoga Valley National Recreation Area to \$5 million for fiscal year 1976 and the transition quarter.

Under the provisions of the act which created the recreation area, \$35.5 million is authorized for the purchase of land for the park within a 6-year period. The administration's budget request for park land acquisition for the Cuyahoga Valley National Recreation Area calls for only \$1 million for fiscal year 1976 and the transition quarter. This amount is clearly insufficient if the land purchase program is to begin on a strong footing. To increase the funding to \$5 million would be consistent with the budget resolution adopted yesterday by the Congress and would not in my view constitute excessive spending.

For the successful formation of the Cuyahoga Valley National Recreation Area, it is imperative that increased appropriations be provided now in order that land for the park site be purchased at the lowest possible cost. Inflationary and speculative pressures will tend to only drive land values upward making acquisition more costly later. Additional funding beyond the administration's first year request is necessary to purchase land which could otherwise be utilized for commercial development incompatible with the objectives of the recreation area legislation. In order to maintain the integrity and beauty of the park site, intruding commercial development must be forestalled.

LOCAL ZONING

In order to maintain the unspoiled character of the park area, it is important that the communities involved adopt appropriate zoning restrictions. One provision of the legislation which established the Cuyahoga Valley National Recreation Area provides that the Secretary of

the Interior shall, on his own initiative or at the request of the local communities, aid in the formulation of zoning ordinances which are consistent with the objectives of the recreation area. In order to be of assistance to the local governments involved, I, and several of my Congressional colleagues from Ohio, wrote to the Secretary of the Interior. We requested that the Department of the Interior work directly with the local communities and compile information to aid those localities in their zoning deliberations.

SUPPORT PETITIONS

I might pause in the prepared statement here just to indicate that we have wanted citizen participation when such projects are put in. We want citizen involvement. Yesterday afternoon Congressman Seiberling, who will testify in a few moments here, forwarded to my office some 6,500 petition signatures in favor of swiftly proceeding with the park plan. I'm glad to submit these on behalf of all of us here from Ohio today.

The point I am making is this: The park is not something that is being forced down the people's throats. They are anxious and eager to get going on this whole project. I am interested particularly in the zoning that is so important, in not only the park itself, but the surrounding areas complementary to the park, if it is to be the true urban national park center that we foresee. This will help keep the cost down. The communities surrounding the proposed park area are most happy to get going on this. They want to cooperate and we want to see this eagerness on their part put into operation. That is what these funds would help provide. I think we are asking for a very modest amount, but it is crucial if we are to permit this type of zoning and planning that is so essential to go ahead this year.

Substantial first year funding and careful zoning are required if the Cuyahoga Valley National Recreation Area is to maintain its natural character and evolve into the recreation area originally envisioned.

In conclusion, Mr. Chairman, I hope that the committee will support the request for an increase in the fiscal year 1976 appropriation for the Cuyahoga Valley National Recreation Area. The concept of natural recreation areas located in or near our urban centers is one which I fully endorse and one which I hope the Congress will support with adequate funding in the coming fiscal year.

This concept is particularly valuable I think. We are quite accustomed to national parks being some 1,500 miles away in the beautiful areas of the West or the seashore areas. This would be the first for Ohio. The people are eager for this.

I think it is a modest increase we have asked for this year and we certainly hope the committee can see fit to support this. I submit the petitions here. Thank you Mr. Chairman.

Senator STEVENS. Thank you. The petitions will be adopted by reference.

I think over half of the acreage in the national parks is in my State. I will be happy to help provide you with a few acres.

Senator GLENN. We just want a tiny little bit of sharing some of that.

Senator STEVENS. Congressman, did you wish to submit a statement, too?

Congressman SEIBERLING. Yes, Mr. Chairman, but Senator Taft has another committee meeting and I would like to yield to him with your permission.

Senator STEVENS. That is gracious. We were running on the basis of first-come first-served, Senator.

Senator TAFT. I appreciate very much the Congressman yielding.

STATEMENT OF HON. ROBERT TAFT, JR., U.S. SENATOR FROM OHIO

CUYAHOGA VALLEY NRA

Senator TAFT. Senator Glenn, I want to congratulate you on a very fine statement and say I want to endorse everything you have said. I, too, appreciate the committee giving us an opportunity to speak today on behalf of the Cuyahoga Valley National Recreation Area.

As you will recall, last December President Ford signed the legislation establishing the national recreation area, making it the first national park in the State of Ohio. The area will serve over 4 million people who live within one-half hour's drive, and many more who are from outlying areas.

In this time of inflation and the energy shortage, it is important for people to have inexpensive and convenient places to relax and vacation close to their hometowns. The Cuyahoga Valley National Recreation Area will fill this need well. However, if we don't have funding to purchase land for the park, incompatible development may gobble up key parcels of land. The thousands of Ohioans who cheered the legislation last December are now making their summer vacation plans and are anxious to see the park a reality.

BUDGET INCREASE FOR LAND PURCHASES

The budget for fiscal year 1976 provides for only \$500,000 for Cuyahoga and an additional \$500,000 for the transition period. This money will be sufficient to purchase only 219 acres out of 17,000 acres of land, since most of it will be used to defray administrative expenses in setting up the park offices. If the park is to be completed within 6 years, it makes sense to spend at least \$5 million each year. Therefore, I am asking that the appropriation be increased to \$5 million for fiscal year 1976.

The State of Ohio has donated its park holdings within the proposed area, and many citizens have inquired about land donations. The proposed park, which would contain about 29,000 acres, now has 12,000 acres protected. However, the Federal assistance is needed to acquire the additional 17,000 acres, and 219 in 1 year is not a very good start.

We must help to keep the momentum and enthusiasm up for this project, if we are to fulfill the dream of many Ohioans and citizens of neighboring Midwestern States. In addition to the fear of development surrounding the park area, if time is lost in purchasing the land, it seems clear that it will cost even more than it does now, and less land will be available for the money.

President Ford has expressed his reluctance to approve any additional spending programs this year, except for energy programs. I share his desire to cut Federal spending and to conserve energy. How-

ever, the funds we are discussing will help to create a vacation area within close driving distance of many Americans. In addition, the management planning group for the park has indicated its intention to provide rail and mass transit access to the park area. I personally feel that funds spent to acquire land for this national recreation area would be harmonious with the administration's spending goals. Although \$5 million will still be far short of the \$34.5 million authorized by Public Law 93-555 which establishes the park, this money would assure enough funds to protect the most critical areas and to prevent unnecessary delays in opening the park to the public.

UNAPPROPRIATED FUNDS AVAILABLE

I strongly urge the subcommittee to draw on some of the backlog of \$262 million in the Land and Water Conservation Fund that has been authorized in previous years and never appropriated. The increased funding of \$5 million for fiscal 1976 for the Cuyahoga Valley National Recreation Area will be money well spent for the benefit of many Americans.

National park visitation rates are increasing by significant rates each year, and yet personnel ceilings at the Department of Interior and lack of funding may force unfortunate delays in establishing new recreation areas. Some parks may even have to close this summer. The Cuyahoga National Recreation Area is fortunate that both the Army Corps of Engineers and the Nature Conservancy have offered personnel assistance. This underlines the fact that money, not manpower, is the basic problem in the case of the Cuyahoga Park.

Mr. Chairman, I thank you again for the opportunity to appear here. I would be glad to answer any questions. I have to leave the floor for another conference.

Senator STEVENS. I'm sure you and your colleagues realize under the spending limitation that has been applied to this area it is going to be difficult for these amounts. But we are certainly impressed with the united position of the Ohio delegation, and we will give it great attention.

INCREASING COSTS

Senator TAFT. We appreciate the problem but we do feel that if we are going to go ahead with this thing there is a degree of urgency and there are things to be accomplished by speeding up the expenditure of funds. I'm afraid we are going to find ourselves with an increased cost situation if we don't do it because the area is still developing. There are a number of developments around that have just recently come on the scene. A new coliseum a few miles away, and the music center is a part of the park area. There is some tendency for commercial development to grow up around that area with the large number of people coming into it, during the summer months particularly. There is a real danger here that makes it something of a crisis. I hope the committee will be able to take it under consideration.

Senator STEVENS. Thank you very much, Senator.

STATEMENT OF HON. RALPH S. REGULA, U.S. REPRESENTATIVE
FROM OHIO

SUPPORT FOR CUYAHOGA VALLEY NRA

Senator STEVENS. Gentlemen, I'm happy to have you here, colleagues from the House.

Congressman SEIBERLING. Mr. Chairman, again with your permission I will yield to Congressman Regula who has a meeting of conflict.

Senator STEVENS. Congressman Regula, we are pleased to have you here.

Congressman REGULA. Thank you, John.

Mr. Chairman, the statements submitted by the members from Ohio I think outlines very well our position. The district I represent is adjacent to the Cuyahoga Valley National Park Area, and we strongly support the development of this program because it will be a beautiful example of a park that would serve people on an immediate basis. There would be a wilderness area that would be available on a short drive to people in the sixth district and I as my colleagues have so well pointed out in the long term it will save the Government a great deal of money to move immediately because of the impending development around this area. So it would be—money invested now would save us tenfold down the road, and also create a recreation area that is desperately needed in the urban area with a large number of people looking for recreational opportunities.

Senator, thank you.

Senator STEVENS. I appreciate your taking this time to discuss the item, Congressman.

STATEMENT OF HON. JOHN J. SEIBERLING, U.S. REPRESENTATIVE
FROM OHIO

JOINT STATEMENT

Congressman SEIBERLING. Thank you, Mr. Chairman.

I have submitted several copies of a statement that was signed by 15 members of the Ohio House delegation: Mr. Seiberling, Mr. Vanik and Mr. Regula on behalf of Mr. Hays, Mr. Whalen, Mr. Ashley, Mr. Mottl, Mr. Mosher, Mr. Stokes, Mr. James V. Stanton, Mr. J. William Stanton, Mr. Clarence Brown, Mr. Guyer, Mr. Gradison, and Mr. Clarence Miller. With your permission I would like to offer that for the record and then add some extemporaneous remarks of my own.

Senator STEVENS. We will print that statement in full in the record with the cosigners.

Congressman SEIBERLING. Thank you.

[The statement follows:]

Mr. Chairman, we are joining together to urge your distinguished Subcommittee to increase the appropriation for land acquisition in the Cuyahoga Valley National Recreation Area to \$5 million for Fiscal Year 1976.

Enacted on December 27, 1974, the Cuyahoga Valley National Recreation Area Act was born from the enthusiasm and hard work of thousands of people from all over Ohio-- and, indeed, from all over the United States-- with a groundswell of support from the local residents almost unprecedented in national park legislation. The last major undeveloped, and by far the most scenic, area between the highly industrialized cities of Akron and Cleveland, the Cuyahoga Valley will fill a major recreational void in the populous Midwest.

But this park that Congress authorized will not be realized without adequate and timely funding. The Act authorizes \$34.5 million for land acquisition, to be completed within six years of the bill's enactment. The Administration has requested only \$500,000 for Fiscal Year 1976 and \$500,000 for the FY 1976 transition period, ending September 30, 1976.

The National Park Service indicates that the amount it has requested for the 15-month period will be sufficient to purchase only 219 acres of land, with the bulk of the money going to planning and administrative costs. By the end of this period, the park will be almost two years old, with most of the Federal portion of the land-- nearly 17,000 acres-- still to be acquired.

The National Park Service's five year acquisition plan, dated February 3, 1975, proposed the following for the Cuyahoga Valley National Recreation Area:

FY 1976	\$1 million
FY 1977	\$8 million
FY 1978	\$15 million
FY 1979	\$10.5 million.

We feel that a \$5 million appropriation for the Cuyahoga Valley in FY 1976 would be a more realistic first step toward accomplishing the total acquisition program. Then, future funding could be more evenly divided over the remaining three fiscal years, at an average of less than \$10 million a year. Although still small in relation to what is needed, the \$5 million for FY 1976 would assure enough funds to protect the threatened areas and to prevent unnecessary delays in opening the park to the public.

From an economic standpoint, it makes more sense to buy the land now, while the prices are still relatively low. Delay will only increase the ultimate cost and, in the meantime, many key parcels could be lost to incompatible development.

We are aware that the National Park Service has been faced with personnel cuts imposed on it by the Office of Management and Budget and that these cuts have taken their toll on NPS programs and activities. When first asked whether NPS could obligate the additional acquisition funds for Cuyahoga in Fiscal Year 1976, Director Gary Everhardt wrote on February 26, 1975, that "without recruitment of additional manpower from outside the Service, there is no way that we could realistically accommodate the additional funds."

Since then, however, the Army Corps of Engineers, which for several years has been conducting studies of the Cuyahoga River basin, has agreed to provide five positions from its ranks to handle the Cuyahoga Valley acquisition program. Although we regret the cuts that have been made in Park Service personnel, we are delighted that Director Everhardt has in this instance found an innovative way to overcome a very serious problem.

In addition, The Nature Conservancy has offered the assistance of its staff to purchase lands in the Cuyahoga Valley. Thus money, not manpower, is the basic problem.

Mr. Chairman, several weeks ago Assistant Secretary of the Interior Nathaniel P. Reed met with several of us and pledged his "enthusiastic support" for the Cuyahoga Valley National Recreation Area. He stated that \$5 million for acquisition in the first year was realistic if the Land and Water Conservation Fund were increased. While we hope such an increase will be considered this year, we doubt that it could be enacted in time for the FY 1976 budget.

Instead, we suggest that your Subcommittee use part of the backlog of \$262 million in the Fund that has been authorized in previous years but never appropriated. This would assure that the Cuyahoga Valley starts out on the right foot and that this urgently needed park will become a reality.

NEED FOR CUYAHOGA VALLEY NRA

Congressman SEIBERLING. Thank you. As the Senators have pointed out, Ohio—this is the sixth most populated State in the country—has no national parks or national recreation area. The new park that has been authorized, the new national recreation area in the Cuyahoga Valley, would be in the most populous section of the State and, in fact, lies between Cleveland, the largest city in the State, and Akron, one of the largest cities in the State, and is the last unspoiled open space between those two cities.

The act authorizes \$34.5 million for this acquisition to be completed within 6 years, but that will only cover the cost of acquiring half, roughly half of the total, almost 30,000 acres that are covered in the park boundaries. The other half is already in public or quasi-public use: the Metropolitan Parks System of Cleveland and Akron, Girl Scout camps, Boy Scout camps, and the like. In fact, the Metropolitan Parks Board plans, once this Federal acquisition program is completed, to offer large segments of their properties to the National Park Service so that we will have a park really almost twice the size of the park that the Federal Government itself would acquire.

DEVELOPMENT PRESSURES

Now, the problem with the Park Service's proposed acquisition plan which envisions spending \$1 million in the 15-month 1976 fiscal period, is that there are certain areas of this park that are already very seriously threatened. I have a map of the park here. I would just like to point out the northernmost portion of this valley which is near Cleveland is zoned industrial. It is the floor of the valley, the flood plain. The owners are anxious to either get out from under or else proceed with their industrial development.

The coliseum that Senator Taft referred to is down here near this center of the proposed park but outside the boundaries. Because of the large attraction of people that it draws, there is a threat of development by motels and so forth in the part right next to it.

Interestingly enough, the owners of several hundred acres of very beautiful lands in the park just to the east of that park are willing to donate scenic easements on their property to prevent them from ever being further developed, providing the Park Service can move fast enough to prevent the construction of a motel within the park boundaries immediately to the west. There are some other areas that are near the edges of the park but within the boundaries where the owners have owned the land for 10 years and have development plans and have put in some of the facilities such as storm sewers, and they are anxious to either recoup their investment or proceed to develop their investment.

ACQUISITION CAPABILITY

The provision of \$1 million of which only half a million would be for acquisition in this near future, is simply inadequate to deal with these critical situations. Of course, if the owners proceed to put in street paving and sewers and that sort of thing in some of these areas that I

have referred to, then the costs of later acquiring them will be far, far greater. So that is the urgency of this.

As Senator Taft pointed out, the Army Corps of Engineers has agreed to provide five positions on a loan basis to the Park Service to handle the acquisition program. The Nature Conservancy has agreed to do likewise. So we don't have a manpower program, but we do have a funding problem. I realize that there are constraints on the authorization that can be made. But \$262 million of the Land and Water Conservation Fund money available to the National Park Service have been authorized in previous years but never appropriated. I suggest that it would be not inappropriate to dip into that to meet some of these critical needs.

EXHIBITS

Mr. Chairman, I have some other exhibits which I would like to offer the committee: the map of the park that I referred to; the original National Park Service estimate of land acquisition costs, which I might say I think is high on fee acquisition and low on the scenic easement acquisition because a great deal of this land as envisioned in the act could be and should be simply covered by scenic easements until such time in the future that the National Park Service might wish to use it for actual recreation rather than scenic purposes. I would also like to offer the Ohio Department of Natural Resources factsheet showing the present state of acquisition or status as of the time the bill was enacted, because they have been acquiring land in the valley which they are about to turn over to the Park Service. Also, the National Park Service 5-year land acquisition program for the entire Park Service system. Then the Corps of Engineers' agreement with the Park Service; memorandum of understanding, it is called. And the letter from Nature Conservancy offering their services.

Senator STEVENS. Thank you very much. We will include those in the record by reference.

Congressman SEIBERLING. For your files, I thought you would like to have them.

LAND DONATIONS

Senator STEVENS. Thank you very much. We certainly appreciate your strong support. I'm sure that you and your colleagues know that we have some \$118 million in this budget already with regard to Federal acquisition, and there is a \$775 million backlog. It is a serious problem to the committee, but I think you have made a good case. You and your colleagues perhaps believe that accelerating the land acquisition might spur some of these donations of the other lands. That is our primary concern.

Congressman SEIBERLING. No question about it. The donors were already set to donate to the State when the act was passed. So the State said, "Well, they are now going to defer to the Park Service." So we are in a position where we are a little behind schedule as a result. I might say that the State and the local park boards are truly enthusiastic about this and are prepared to donate all of their holdings to the extent the Park Service wants it. All is not correct because they have

not officially committed all of them, but I wish that this were like the great State of Alaska where the Federal Government is still free to move on some of these things without putting out actual dollars.

Senator STEVENS. We think they are a little bit too free.

Congressman SEIBERLING. I'm going up there with the Subcommittee on National Parks and Recreation in August, and I'm looking forward greatly to going through some of these potential areas, and of course, we will give great deference to the views of you and Senator Gravel before coming to any final conclusion.

Senator STEVENS. Thank you very much. I appreciate your courtesy in coming over.

ADDITIONAL STATEMENT

We have a statement here from Senator Buckley which we would like to place in the record for him. Senators Curtis, Mondale, and Packwood were unable to be here because of conflicts. Their statements will be included in full in the record, as well as any other statement or letter that is received for the record from a Member of Congress.

[The statements and letters follow:]

LETTER FROM SENATOR JAMES L. BUCKLEY

United States Senate

COMMITTEE ON THE BUDGET
WASHINGTON, D.C. 20510

May 15, 1975

The Honorable Ted Stevens
Ranking Minority Member
Subcommittee on Interior
Appropriations Committee
1235 D.S.O.B.
Washington, D.C. 20510

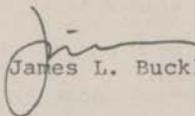
Dear Ted:

I would consider it a great favor if you would submit the enclosed testimony on behalf of the Seneca Nation of Indians' Indian Health Service Proposal as part of the hearing record before the Appropriations Committee's Interior Subcommittee.

As I stated to you in my letter of April 10, the proposal has my wholehearted endorsement. Since that time, several crucial factors have come to light. Most importantly, as I see it, is the fact that at present, the only federally recognized reservation tribes not receiving federal funds through the Indian Health Service, reside in New York State. The Seneca Nation of Indians are among these few tribes.

With best regards.

Sincerely,


James L. Buckley

STATEMENT OF SENATOR JAMES L. BUCKLEY

I wish to thank my distinguished colleagues on the Appropriations Committee for enabling me to present testimony on behalf of the Seneca Nation of Indians.

The Seneca Nation of Indians is composed of slightly over 5,000 people, who live primarily within Cattaraugus and Erie counties in New York. Their health status is grim, as those familiar with the Seneca Nation of Indians' Indian Health Services Proposal can attest.

In putting together their proposal, the Senecas themselves interviewed 95% of the Reservation families. The results were shocking. Of the children, 72.4% had one or more upper respiratory tract infection during 1974, 10% had chronic inflammation of the middle ear, and 14% had impetigo.

If one asked what precautions were taken to detect and hopefully prevent these and other infirmities, the answers were equally discouraging. While diphtheria, pertussis (whooping cough) and tetanus, diseases with serious mortality rates, can be prevented by simple vaccinations known as DPT, the survey showed that 45% of the children were not adequately immunized for DPT. 65% were behind in polio vaccinations, and of all Seneca children from 6 months to 12 years of age, 66% had never been tested for anemia. There is suggestive evidence that even a mild iron deficiency can reduce resistance to infections, reduce a child's attentiveness and ability to learn or in the case of adolescent girls, increase rates of abnormality in pregnancy.

The adults fared no better. The incidence of hypertension, a contributing factor in heart attacks, strokes, heart failure and kidney failure, was 5% higher than the national average. Diabetes among the Senecas was between four and seven times as great as that of the total U.S. population. Tuberculosis and alcoholism also loomed as major health problems.

The Senecas do not have an adequate health care system. Since the 1880's, responsibility for the health needs of the Seneca Nation has vacillated between the federal government and the State of New York, with the result that health care has been administered on a piecemeal, episodic basis which, quite obviously, has not worked.

Now the Seneca Nation has developed a proposal of its own. To my mind, it is a modest, technically sound and viable method of alleviating the chronic medical and related sociological problems which have plagued the Seneca Nation. It places great emphasis on preventative and primary care services. It incorporates a computerized update of the recently developed health statistics, thereby providing the means for continuous evaluation. Importantly, it was structured to utilize the model set up by the Indian Health Service. I strongly urge your favorable consideration of an appropriation for the \$808,360 which the Seneca Nation requests, and which is to be supported by an appropriation request of \$106,500 from the State of New York.

There is no legal impediment. The Snyder Act (42 Stat. 208) clearly establishes that health services may be provided to all Indians throughout the United States. The sole barrier

lies in the extent to which the Congressional appropriation process determines the authorization is to be carried out.

The Indian Health Service has never been authorized to provide health services to the Seneca Nation and yet, Indian Health Service officials have informed me that at present, the only federally recognized reservation tribes not receiving federal funds through IHS reside in New York. The Seneca number among these few, and are suffering for it.

As Dr. Emery Johnson stated in his recent testimony before the House Appropriations Interior Subcommittee, "In the absence of a defined program targeted to that population group, they are simply not going to make it."

The health of the Seneca Nation of Indians depends upon what you decide. For the elderly who are revered and the young who are the future, I hope you will look favorably upon this request.

Thank you.

STATEMENT OF SENATOR CARL T. CURTIS

The Problem of Health Needs of Urban Indians in the State of Nebraska

Mr. Chairman, I thank you for the opportunity to address the problem of health needs of urban Indians in the State of Nebraska. I am sure that you and the members of this Committee are well aware of the documented backlog of Indian health needs on a national basis. Fortunately, in the case of the Indians in Nebraska, there is no need to make another contribution to the monumental rhetoric of Indian woes. Their needs, and the gaps in the system to meet them, are graphically presented in a series of articles by David Tishendorf which appeared in the Omaha World-Herald beginning on January 19 of this year. Incidentally, Mr. Tishendorf is a former Administrative Assistant to Senator Hruska. Mr. Chairman, I respectfully request that this series, a highly commendable product of investigative reporting, be incorporated in the record of these hearings.

On January 28 another article appeared in the World-Herald, in which the impact of the above articles upon the present Indian Health Services system was assessed as "zilch". ("Indian Series Lauded, But Effects Uncertain"). I would also like that article to be incorporated in the Record.

Mr. Chairman, there is simply no reason to accept the assessment of zero results and abdicate to a situation in which different jurisdictions and institutions appear to be passing responsibilities around. Moreover, this is not a situation in which Indians, under difficult circumstances and with limited resources, are doing nothing to help themselves. The Tishendorf series describes the operation of the Indian-Chicano Clinic in Omaha. Service is provided on a limited basis--treatment is offered several evenings a week--and is heavily dependent upon the volunteer efforts of community medics and Indians trained in medical professions. This is an excellent start, but falls far short of what is required.

Mr. Chairman, based on my correspondence with the United Indians of Nebraska and my personal knowledge of the health problems of the Nebraska Indians, I feel the urgent need for expanded health resources in Nebraska. I am here today on behalf of myself and the United Indians of Nebraska to

request that the Indian Health Service be mandated to assist Nebraska Indians in addressing their health problems more adequately. Specifically, I suggest a line item appropriation of \$40,000 to support that mandate, and that these funds be used to support existing health services in the Omaha area and the development of health programs in the western area of Nebraska, where a large portion of urban Indians reside. As demonstrated in the report of the Senate Interior Committee on S. 2938, the Indian Health Care Improvement Act, health programs of this nature have been implemented successfully in a number of other urban areas. Title V of S. 2938 provides the best opportunity for the acquisition of health services funds for urban Indians. With funds appropriated under Title V provisions, the United Indians of Nebraska, with the assistance of the Indian Health Service and Nebraska's public health services, can successfully establish and maintain effective Indian health care facilities for the Nebraska urban Indian population. Allow me to quote from the report on S. 2938, concerning Title V, "Health Services for Urban Indians:"

Building on the experience of previous Congressionally-approved urban Indian health projects and the new provisions of Title V, urban Indians should be able to begin exercising maximum self-determination and local control in establishing their own health programs. The Committee believes that contracts negotiated between urban Indian organizations and the Secretary of Health, Education and Welfare hold greater promise for success than the extension of the Indian Health Service's jurisdiction to serve the urban Indian population. The former arrangement will afford an opportunity to urban Indian organizations to provide primary health services to their own members and to strengthen outreach and referral services to facilitate greater use of community health resources by Indians. As the various programs authorized under Title V progress, the Committee believes they will yield more accurate information on the population and basic health problems of urban Indians. The Indian Health Service can serve as the administrative mechanism to analyze that information, channel Title V's funds, provide technical assistance, and monitor and evaluate specific programs and activities.

In closing, I respectfully request that the May 13 letter of Ms. Jan Searcey, Executive Director of the United Indians of Nebraska, be included in the record.

Again, Mr. Chairman, I thank you for the opportunity to bring this request before the Committee.

UNITED INDIANS of NEBRASKA

May 13, 1975

Senator Carl T. Curtis
2213 Dirksen Senate Office Building
Washington, D. C. 20510

Dear Senator Curtis:

United Indians of Nebraska is a coalition of the tribal, urban and rural Indian organizations of Nebraska. U.I.N. is a state-wide Indian organization and has an all-Indian Board and identity. Since we are very close to the Indian community, we feel that we are in a better position to recommend the areas of service which need special attention and cooperation for our people.

There is a desperate need for health services, to assist Indian people in the Omaha metropolitan area and the western part of Nebraska, where their need is critical.

The Indian-Chicano Health Clinic is reaching the people in the community; however, their resources fall very short, thereby curtailing their most needed and wanted services.

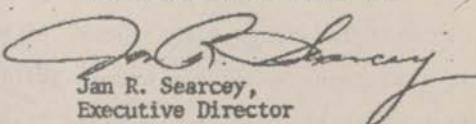
The Alliance, Scottsbluff, Gordon and Chadron area has Indian people who need health services and programs. I am proposing that such services and programs can be developed in this target area.

I suggest a line item appropriation of \$40,000 to support existing health services in the Omaha area and the development of health programs in the Western area of Nebraska.

Thank you for your help and consideration.

Sincerely,

UNITED INDIANS OF NEBRASKA


Jan R. Searcey,
Executive Director

STATEMENT OF SENATOR WALTER F. MONDALE

Mr. Chairman:

I appreciate this opportunity to present to the Subcommittee a matter which is of great concern and importance to the State of Minnesota.

Adequate inventory information on the forest resources in the State of Minnesota is essential for competent decision-making in the areas of land use planning, economic development, and environmental evaluation. Decisions directly affecting nearly 40% of the land area in Minnesota are subject to the accuracy of this information. While the federal government has taken leadership for surveys of our forest resources through the North Central Forest Experiment Station, in recent years the level of funding has been inadequate to provide the frequency of inventory necessary to assist government and industry in the planning and development of our forest resources. Major forest industry expansion has been severely restricted because of the lack of good, current resource data. Technical changes in harvesting and processing of timber are also rapidly altering the timber supply and demand outlook. To plan for the optimum use of our remaining forest resources in the face of rapid social and economic change, it is imperative that we conduct more frequent timber surveys.

The North Central Forest Experiment Station in St. Paul is responsible for making periodic inventories on a state by state basis for the North Central Region of the United States. The most recent survey of Minnesota was finished in 1962, and the report became available in 1965. The data from which the report was based is now nearly 15 years old. While the original intent was to have re-evaluations of requirements and inventory information on approximately a 10-year

interval, we now find that information and analysis for states such as Minnesota are approaching 15-year cycles. Because of the nature of informational needs today, this is about three times too long for data usefulness and credibility. Such intervals no longer serve the needs of local and other users of survey results, for the rapidly changing impact of social and economic pressures on forest resources causes even the old 10-year cycles to be inadequate. To obtain the information that is essential to meet their needs, a reassessment of our forest resources is needed every five years.

I therefore strongly support and request the Subcommittee's favorable consideration of an additional appropriation of \$950,000 per year to the Forest Service for forest resources evaluation by the North Central Forest Experiment Station at St. Paul, Minnesota. Funding at this level would enable a 5-year forest survey cycle in the North Central Region.

Included in this region are Michigan, Minnesota, Wisconsin, and Missouri as well as Illinois, Indiana, Iowa, Kansas, Nebraska, North Dakota, and South Dakota.

The additional funds would be used to add field personnel and their expenses, some supporting office staff, computing services, and needed equipment and supplies to conduct this periodic survey.

I am attaching for your interest and information copies of letters from Commissioner Robert L. Herbst of the Minnesota Department of Natural Resources, Commissioner James R. Heltzer of the Minnesota Department of Economic Development, Dean Richard A. Skok of the University of Minnesota's College of Forestry, and several others who ably express the great need for additional funding at this time.

Mr. Chairman, it was the intent of Congress to provide adequate inventories of our forest resources. These inventories are absolutely necessary for competent planning and development, but we now find that the interval between inventories is about three times too long for the data to be useful to today's planning needs. Inadequate funding is the principal reason for these lengthy intervals. I sincerely hope that the Subcommittee will give favorable consideration to the request for \$950,000 of additional forest survey funds each year for the North Central Forest Experiment Station to carry out their responsibility of assessing our forest resources.

LETTER FROM SENATOR WARREN G. MAGNUSON

United States SenateCOMMITTEE ON COMMERCE
WASHINGTON, D.C. 20510

March 13, 1975

Honorable Robert C. Byrd
Chairman
Interior Appropriations Subcommittee
U. S. Senate Committee on Appropriations
Washington, D. C.

Dear Mr. Chairman:

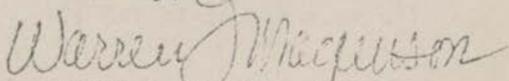
The enclosed is correspondence I've received from the Secretary-Manager of the Lake Chelan Reclamation District in Washington State regarding the U. S. Forest Service Forest Hydrology Laboratory at Wenatchee, Washington.

The fact that the Administration has not requested funding for this facility in FY 1976 is of considerable concern to me. Enclosed is a copy of a letter I have written to the Chief of the Forest Service on this matter.

I would very much appreciate it if the Subcommittee would explore this matter with appropriate Administration witnesses during your hearings on the Fiscal 1976 Interior Appropriations Bill. Please make this correspondence part of the hearing record.

Best personal regards.

Sincerely,



WARREN G. MAGNUSON, U.S.S.

LETTER FROM EDWARD J. ARMBRUSTER

Lake Chelan Reclamation District

POST OFFICE BOX J
MANSON, WASHINGTON 98831

March 4, 1975

Senator Warren G. Magnuson
Senate Office Building
Washington, D.C. 20510

Dear Senator Magnuson:

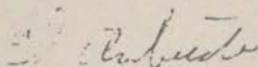
\$300,000.00 was appropriated for the Forest Hydrology Laboratory in Wenatchee, Washington during fiscal year 1975 for research in soil, water and forest regeneration.

These research funds have been used the last few years to assist in management of the lands hit hard by the 1972 fires in this area.

Results from their studies will be used in other government and private sectors. For example, we will use their advice on plantings around our tanks and along pipelines to reduce erosion and improve the areas aesthetically.

I understand the \$300,000.00 is not in the President's budget for fiscal year 1976. I would urge you to consider adding this amount to the 1976 budget.

Yours very truly,



Edward J. Armbruster
Secretary-Manager

LETTER FROM SENATOR WARREN G. MAGNUSON

United States Senate

COMMITTEE ON COMMERCE

WASHINGTON, D.C. 20510

March 13, 1975

Honorable John R. McGuire
Chief
U. S. Forest Service
Department of Agriculture
Washington, D. C. 20250

Dear Chief McGuire:

I understand the President's Fiscal 1976 Budget does not contain funds for the Forest Hydrology Laborator in Wenatchee, Washington.

Please advise me in the near future as to the effect discontinuation of funding for this facility will have. Also, please advise me as to the funds that would be required in Fiscal 1976 to continue the Laboratory's activities.

Best personal regards.

Sincerely,

WARREN G. MAGNUSON, U.S.S.

LETTER FROM SENATOR WARREN G. MAGNUSON

United States Senate

COMMITTEE ON COMMERCE

WASHINGTON, D.C. 20510

March 26, 1975

Honorable Robert C. Byrd
Chairman
Senate Interior Appropriations Subcommittee
Senate Committee on Appropriations
Washington, D. C.

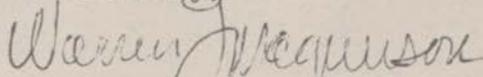
Dear Mr. Chairman:

The enclosed letter from Mr. R. L. DeLong of the St. Regis Paper Company urges Fiscal 1976 appropriations to the Forest Service to continue wildlife habitat research at the Service's Olympia (Washington) Research Laboratory. Mr. DeLong also urges that Congress provide an additional \$1.2 million to the Service for resource inventory work in the West.

I have written (enclosed) to the Chief of the Forest Service requesting information on these matters. However, I would very much appreciate your pursuing these subjects with the Forest Service witnesses when they appear to testify. Please make this letter and the attachments part of the hearing record.

Best personal regards.

Sincerely,



WARREN G. MAGNUSON, U.S.S.

LETTER FROM SENATOR WARREN G. MAGNUSON

United States Senate

COMMITTEE ON COMMERCE
WASHINGTON, D.C. 20510

March 26, 1975

Mr. John R. McGuire
Chief
U. S. Forest Service
Department of Agriculture
Washington, D. C.

Dear Chief McGuire:

The enclosed is self-explanatory correspondence I have received from Mr. R. L. DeLong with the St. Regis Paper Company in Tacoma, Washington.

I am quite concerned that the President's FY 1976 Budget does not request funds for continuing wildlife habitat research at your Olympia Research Laboratory.

Please provide me with a brief description of the research, its significance, and your FY 1976 funding requirements if this work is to continue next year.

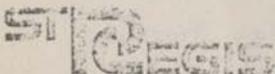
I will also appreciate your comments on the second issue raised in Mr. DeLong's letter.

Best regards.

Sincerely,

WARREN G. MAGNUSON, U.S.S.

LETTER FROM R. L. DeLONG



PAPER COMPANY 1019 Pacific Avenue, Tacoma, Washington 98402

March 14, 1975

Senator Warren G. Magnuson
127 Old Senate Office Building
Washington, D. C. 20510

Dear Senator Magnuson:

The St. Regis Paper Company, among others, last year encouraged Congress to begin a wildlife habitat research at the Olympia Research Laboratory of Forest Service. This research, located in some of the most productive timber land in the world, is intended to develop forestry practices that will protect and manage wildlife concurrently with the production of timber.

We were pleased when Congress last year appropriated \$100,000 to start this research. We also were most disappointed to learn that these funds were withdrawn from the budget now under consideration by the Congress. It is not prudent to have programs that start and stop on such short intervals. I hope that you will restore the funds for this important research.

We would like to call to your attention a second activity that merits your consideration. Increasingly, questions are being asked about timber supply of the Northwest. The Forest Service has conducted several such studies over the past several years. The Department of Natural Resources is conducting an independent study on the same question. All of these analyses are dependent in part or full on data gathered by the Forest Survey, a Forest Service program charged by law with gathering local, regional and national statistics concerning forest resources. The Forest Survey simply has not been able to keep up with the job of compiling and analyzing this information. Some of the data are now more than 10 years old and not in sufficient detail to permit an adequate analysis. Now that the Forest Service is charged with additional inventory work under the Humphrey-Rarick Act, the data gathering job will fall still further behind unless funding is increased.

The forest resources of the Pacific Coast States are in a period of rapid change. Forest Service plans call for a budget increase in the West of \$1,200,000. We hope you will support that increase.

Sincerely,

R. L. DeLong

Regional Government Affairs Manager

LETTER FROM SENATOR EDMUND S. MUSKIE

United States Senate

WASHINGTON, D.C. 20510

March 31, 1975

The Honorable Robert C. Byrd
Chairman, Subcommittee on Interior
Appropriations Committee
United States Senate
Washington, D.C. 20510

Dear Bob:

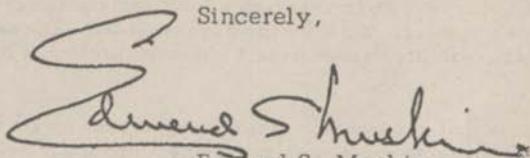
I am forwarding several letters from knowledgeable and concerned Maine officials and businessmen in support of an expanded program of research to deal with the dramatically increasing problem presented by the Spruce Budworm infestation.

These individuals have asked that I bring these letters to the attention of your Committee that they might be included in the record of your proceeding at the appropriate time.

I share the concerns expressed in these letters and encourage you to provide funding for research into this devastating infestation which is so little understood.

With best wishes.

Sincerely,



Edmund S. Muskie
United States Senator

LETTER FROM ROBERT MILLER

THRESHOLD TO MAINE D/C & D PROJECT

Sponsored by:

Greater Portland Council of Governments
 Southern Maine Regional Planning Commission
 Androscoggin Valley Regional Planning Commission
 Cumberland, Oxford & York County Boards of Commissioners
 Cumberland, Oxford & York County Soil & Water Conservation Districts

Federal Building, 151 Forest Avenue, Portland, Maine 04101
 Telephone: 775-3131, Ext. 554

March 11, 1975

Senator Edmund Muskie
 Federal Building
 151 Forest Avenue
 Portland, Maine 04101

Dear Senator Muskie:

We know you are aware of the serious spruce budworm infestation that has devastated large areas of our valuable timber lands. We are sure that you share our deep concern for the impact this can and is having on one of Maine's most important natural resources.

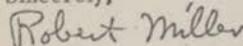
Though the Threshold to Maine area has not yet experienced any losses, there are strong indications that Northern Oxford County may well be in the path as the infestation spreads to the south and western portions of our state.

It is essential that a greatly accelerated research program be funded immediately. This expanded research program should address itself to all aspects of biological, silvicultural and chemical control measures and/or improved practices.

The U.S. Forest Service maintains a research facility in Orono, Maine and the major focus of their research efforts deals principally with the spruce and fir species. This facility at present lacks the necessary staff and financial capability to undertake a research project of this scope and magnitude.

We would urge that you introduce and/or support the increased appropriations for the U.S. Forest Service so this extremely important research work can get underway this year.

Sincerely,



ROBERT MILLER
 Chairman

LETTER FROM HOWARD R. NEVILLE

UNIVERSITY OF MAINE *at Orono*

Office of the President

March 11, 1975

The Honorable Edmund S. Muskie
Room 115, Senate Office Building
Washington, D. C. 20510

Dear Senator Muskie:

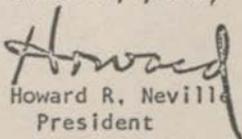
You may be aware of our interest in a concerted research effort on the spruce-budworm epidemic now plaguing the State of Maine. I am writing this to request your support for a proposal by the U. S. Forest Service that would cover a vital phase of this research in cooperation with the University of Maine. This research, which would be located here in Orono, would investigate the control of the budworm by silvicultural, biological and chemical means.

The U. S. Forest Service is not presently funded for budworm research, and in fact no Federal Agency is involved in budworm research in the East. The Forest Service would require \$450,000 to begin the research at a meaningful level.

I heartily endorse this proposal and sincerely hope we can count on your support as well. I would also appreciate your placing this letter in the record of the public hearing for the Senate Subcommittee on Appropriations for the Department of the Interior and related agencies, if you deem it advisable.

Thank you very much,

Sincerely yours,



Howard R. Neville
President

LETTER FROM FRED B. KNIGHT

UNIVERSITY OF MAINE *at Orono*

School of Forest Resources

March 10, 1975

The Honorable Edmund S. Muskie
Room 115, Senate Office Building
Washington, D.C. 20510

Dear Senator Muskie,

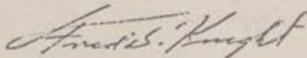
I am requesting your support and that of your colleagues for a Forest Service proposal to begin research on the control of the spruce-budworm in the Northeastern United States. The proposed program will initially require an appropriation of \$450,000, not now in the Forest Service budget. This research would be located in Orono, Maine.

Spruce-budworm has already defoliated 5.3 million acres of commercial spruce-fir forest in Maine, affecting over half of this vital resource. Serious outbreaks have also occurred in the lake States. The wood products industry, its dependent economics and markets, as well as wildlife and recreation opportunities will be adversely affected for a number of years if the budworm remains unchecked.

Your concern and that of many of your fellow Senators with maintaining the quality and productivity of the nation's natural resources have been much appreciated and I am confident that the spruce-budworm threat to our Northern forests will command your thoughtful attention and help.

I have asked Senator Hathaway to place a copy of the enclosed statement in the Senate Subcommittee hearing record. I would appreciate it if this letter were inserted also. Thank you very much.

Sincerely,



Fred B. Knight
Director

STATEMENT OF FRED KNIGHT

Mr. Chairman and members of the Senate Subcommittee on Appropriations for the Department of Interior and Related Agencies. My name is Dr. Fred B. Knight. I am Director of the School of Forest Resources, University of Maine. My research speciality is forest insects. In these capacities and as a citizen I want to urge your support for a Forest Service proposal to initiate research at Orono, Maine to develop techniques and methods to control and regulate populations of spruce-budworm, and to minimize mortality and growth losses in spruce-fir forests.

The spruce-budworm is not a worm but a moth whose larvae feed on the needles of balsam fir and spruce causing partial to near complete defoliation of the upper crown of the infested tree. The immediate effect, of course, is a marked reduction in growth. Repeated defoliation will cause the tree to die.

Currently 5.4 million acres in Maine are infested, there are 350,000 infested acres in the Lake States, and in Eastern Canada, perhaps as much as 60-70 million acres. These acreage figures are very large and the economic and social consequences of budworm defoliation, very grave, but the potential losses, if the spruce-budworm is not checked, are far greater, because spruce-fir forests extend in a continuous belt from the Northeastern edge of the continent to its Northwestern borders.

Unlike many of our most serious forest insect pests, spruce-budworm was not introduced. It is a native. Major outbreaks have been recorded since 1700. The period between outbreaks is roughly 30-40 years. The outbreaks seem to have increased in severity with the passage of time, and there also seems to be some evidence that the time intervals between outbreaks have become less.

Past research and control methodology have favored silvicultural techniques to reduce the amount of balsam fir, the preferred host species, in the forest, and direct chemical control of budworm populations in severely infested areas. Neither of these strategies checked the epidemic and it is doubtful that they had any lasting effect on budworm populations in treated areas. The current strategy is to attempt to reduce tree mortality in certain designated areas by means of chemical control with safe chemicals. Even this limited objective, which does not address the problem at all, is in jeopardy because of a shortage of useful, safe insecticides.

The Forest Service has proposed a research program which will (1) develop forest management techniques based on growth and physiology of host species and subsequently the size and age classes of stands in the path of the budworm, (2) develop direct biological and chemical control and application methods, and (3) to combine the two research approaches into flexible forest pest management strategies which effectively regulate spruce-budworm populations with a tolerable expenditure of control funds. This proposed research program will cost \$450,000, and the necessary funds are not in the regular Forest Service budget.

I believe this will be a biologically and environmentally sound approach to the problem. Its effect should be to check the spread of the current epidemic, perhaps even hasten its collapse, but, more importantly, it is designed to break the chain of ever-more destructive cycles of budworm epidemics. Consequently, I urge your support for the Forest Service Spruce-Budworm research proposal.

LETTER FROM GEORGE D. CARLISLE

PRENTISS
& CARLISLE COMPANY, INC.
TIMBERLAND SERVICE

107 COURT STREET - BANGOR, MAINE 04401 - TELEPHONE 207 942-8295

March 12, 1975

The Honorable Edmund S. Muskie
U. S. Senate
Room 115 Old Senate Building
Washington, D. C. 20510

Dear Senator Muskie:

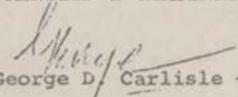
I am writing in regard to the very real threat the Spruce Budworm poses to the timber resources in Maine. I believe that a strong research effort on the Spruce Budworm is needed and respectfully request your support in obtaining an additional appropriation of \$450,000.00 needed for the Forest Service to initiate this research in Orono, Maine.

Such research would primarily involve control techniques utilizing silvicultural, chemical, and biological methods leading to an integrated pest management system. Both long and short term benefits would likely accrue.

I have requested the support of the other members of the Maine Delegation and feel sure I can count on your support. Would you please insert my letter into the Senate Hearings record?

Yours truly,

PRENTISS & CARLISLE CO., INC.


George D. Carlisle - President

2247

LETTER FROM JOHN T. MAINES

March 12, 1975
Route #1 Box 178
Brewer, Maine 04412

The Honorable Edmund S. Muskie.
U. S. Senate
Room 115 Old Senate Building
Washington, D. C. 20510

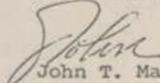
Dear Ed:

I'm sure you are aware of the Spruce Budworm situation in the northeastern United States. The U. S. Forest Service requires an additional appropriation of \$450,000.00 to initiate a meaningful research effort on the Spruce Budworm, centered in Orono, Maine. This effort would include research in silvicultural, chemical, and biotic control methods, leading to an integrated insect management system.

The Forest Service is not carrying on Budworm research in the northeast at the present time. I strongly feel that this research effort on the Budworm is essential for the protection of Maine's vital timber resources in the future. Details are set forth in the enclosed statement.

I have requested Senator Hathaway's support and also asked him to put the statement in the Senate Hearing Record. May I count on your support also, and would you please insert my letter to you in the Record?

Sincerely,


John T. Maines

STATEMENT OF JOHN T. MAINES

Mr. Chairman and members of the Senate Sub-Committee on appropriations for the Department of Interior and Related Agencies, the Spruce Budworm is a most serious threat to the spruce-fir forests of Maine and adjacent states. This moth has been in an epidemic, or near epidemic, state since the mid 1940's. Currently, almost 5,000,000 acres approximately half of the commercial spruce-fir forestland in Maine, is infested. Control efforts have only served to check moth populations and reduce tree mortality in severely infested areas. The supply of safe chemicals is in extremely short supply and is likely to remain so for some time, so that even the modest and highly localized reduction in mortality achieved in the past may not be possible in the near future; and, I want to emphasize, that these control efforts in no way limited the spread of the moth or checked the epidemic. New research and new initiative are urgently needed.

The pulp and paper industry is the largest manufacturing industry in Maine. One of every four people employed by industry in Maine is employed in work related to the production of wood and wood products. In 1970, approximately 250 million cubic feet of softwood timber products were produced in Maine. It is the softwood forests, primarily spruce and fir in Maine, that the Spruce Budworm defoliates. Tree mortality increases every year as formerly defoliated areas are attacked again, and again, and again, and the epidemic spreads and spreads. That has been the pattern for almost 20 years.

The U. S. Forest Service proposes to start a research program to develop new techniques and approaches to control and regulate Spruce Budworm populations at acceptable levels. Their intention is: to develop silvicultural and harvesting techniques which minimize population spread; to develop and test safe chemicals and methods of application in order to initially reduce populations in heavily infested areas; and finally to develop regional forest pest control and timber harvesting methods based on new research approaches. To start this program will cost \$450,000.00, and this sum is not now in the Forest Service budget.

Mr. Chairman and Sub-Committee members, I respectfully request your support for Spruce Budworm research. The investment is modest; the potential returns, not only in terms of wood but in reduced fire protection costs and forest recreation opportunities spared, are great.

March 12, 1975
Route #1 Box 178
Brewer, Maine 04412

LETTER FROM RALPH W. CURRIER

March 17, 1975

The Honorable Edmund S. Muskie
Room 115, Senate Office Building
Washington, D.C. 20510

Dear Senator Muskie:

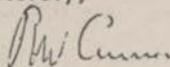
We urgently need a research effort in the State of Maine to provide us with information on controlling the spruce budworm. To initiate this, the U.S. Forest Service would require an additional appropriation of \$450,000.

The needed research would embrace silvicultural, chemical, and biological control methods leading toward a comprehensive pest management package that would minimize budworm damage in this and future outbreaks. The research would be centered at Orono, Maine, but would benefit spruce/fir forests throughout the Northeast.

I hope I can count on your support in this matter, and also that of the other members of the Maine delegation. Also, would you please have this letter placed in the Senate Hearing Record.

Thank you very much.

Sincerely,



Ralph W. Currier
Manager of Woodlands

LETTER FROM FRED E. HOLT

STATE OF MAINE
DEPARTMENT OF CONSERVATION
STATE OFFICE BUILDING
AUGUSTA, MAINE 04330

March 7, 1975

The Honorable Edmund S. Muskie
The United States Senate
Washington, D.C. 20510

Attn: James Case

Dear Senator Muskie:

I appreciate your interest in getting the Forest Incentives Program funded for the current year.

In 1974 we had a late start, were allocated \$50,000. for the first round and ended up by assigning \$129,723 for work completed. This was broken down to \$68,275 for planting (1897 acres), primarily in Aroostook County, and \$61,448 (3055 acres) for timber stand improvement work. We had a back log of requests for planting in Aroostook and to get some of the initial funds committed early we allocated effort to this work. From here out, if we can get consistent funding and thereby line up crews so that we could keep them employed full time we would emphasize timber stand improvement.

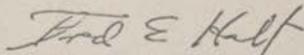
This direction is for the reason that we rely heavily on natural regeneration and planting as practiced in the south. We have tremendous acreages that need timber stand improvement. Best estimate of the latter need is sapling and pole timber size stands is 5½ million acres.

Crews to be employed in timber stand improvement work could be semi-skilled persons with on-the-job training by a forester until someone in the crew demonstrates leadership ability.

We believe the FIP program has good long-term justification for public investment and can help with current unemployment problems.

Whatever level of funding finally prevails, I certainly hope we can get some emphasis on the need for a continuing program so that we can build some efficiency into doing the work with trained crews and in larger blocks. We can get good forest production rates in Maine but it needs public investment on the small size ownership which produce 50% of the current annual harvest.

Sincerely,

Fred E. Holt
DIRECTOR

2251

LETTER FROM FRED E. HOLT

STATE OF MAINE
DEPARTMENT OF CONSERVATION
STATE OFFICE BUILDING
AUGUSTA, MAINE 04330

March 12, 1975

The Honorable Edmund S. Muskie
Room 115, Senate Office Building
Washington, D. C. 20510

Dear Senator Muskie:

From our previous correspondence, you are aware that we have over five million acres of spruce-fir forest in northern Maine heavily infested by the spruce budworm. The economic and environmental consequences are all too apparent to you, I am sure.

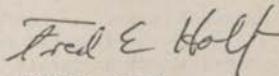
The U. S. Forest Service research effort on the budworm has been confined to some pilot testing of chemicals, but nothing in the area of research pointed at preventing epidemics or meeting other long-term goals.

I now learn that the Forest Service has brought forward a meaningful research program which would require an additional appropriation of \$450,000. Enclosed is a copy of a statement outlining the details of this research to be centered at Orono, Maine.

I have requested the support of Senator Hathaway and asked him to have the enclosed statement inserted in the Senate Subcommittee hearing record. Your support is needed so that we hopefully would have some answers to avoid the high costs of another epidemic in the future.

I would appreciate it if you would have a copy of my letter inserted in the hearing record.

Very truly yours,



FRED E. HOLT
Director

STATEMENT OF FRED E. HOLT

Mr. Chairman, Members of the Subcommittee:

I am Fred Holt, Director of the Bureau of Forestry, Department of Conservation, in Maine. My area of concern and responsibility is that of management and protection of forest resources in Maine. Protection from fire and insects is the area of greatest activity in the Maine Forest Service, covering 17 million acres of forest land.

Eight million acres of that forest land in Maine are in the spruce-fir type. Spruce-fir forests are especially vulnerable to defoliation by the spruce budworm and there has been a long history of spruce budworm epidemics. In every case the outbreaks collapsed only after extensive damage. The 1910-20 epidemic, for example, caused an estimated loss of 28,000,000 cords of wood. Figures are not yet available for wood or any other forest output losses from the current epidemic, but we do know this - the acreage infested is larger than in any previous outbreak.

Since the epidemic started, the State has been active in spray programs to reduce tree mortality and improve salvage opportunities without adversely affecting the forest environment. Until now, the State has, to a large extent, been able to achieve these objectives. How much longer it will be able to do so is questionable, because the number of safe chemicals and their supply is limited and program costs have increased enormously. But it apparently is not possible to realistically regulate spruce budworm populations under present epidemic conditions. And that is the core of the problem. The necessary research is not available. Our own control efforts have been aided and guided by a modest research effort at the University of Maine which has top-notch research forest entomologists and by extensive research by Canadian Forest Environment. Able technical assistance has been provided by the State and Private Forestry Division of the U. S. Forest Service. But properly financed, well targeted research designed to control spruce budworm never existed as far as the northeastern United States is concerned. There is now a Forest Service proposal to start such a research program and I strongly urge its support.

The benefits from spruce budworm research on regulation of budworm populations, prevention of outbreaks and reduction in tree mortality and growth losses, are really just the tip of the iceberg. Extensive areas of dead trees, killed by spruce budworm, constitute a fire hazard of the utmost gravity. Not many residents of Maine and adjacent States will soon forget 1947 when severe fire storms swept the State. Since fire protection is also one of my responsibilities, the extreme fire hazard which the spruce budworm is creating is never far from my mind nor the difficulties of fire control in the sparsely roaded spruce-fir forests in the northern half of my State. So fire and its effects on the forests, and on residents and nonresidents who enjoy and use these forests, are all part of the budworm problem.

The proposed Forest Service Program at Orono, Maine, will cost \$450,000 and it is not in their regular budget. The program proposes a three-pronged attack on spruce budworm populations: 1. Silvicultural and management techniques to prevent build-ups of spruce budworm populations. 2. New application techniques for environmentally safe insecticides and environmental evaluations of new formulations. 3. Development, evaluation and application of biological control methods. The proposed program will interface with on-going and new University research by means of grants and cooperative arrangements.

In my judgment, the Forest Service proposal is a thoughtful and imaginative one which will get the job done, and I hope this Subcommittee will seriously consider funding it at the amount requested.

LETTER FROM SENATOR JAMES ABOUREZK

United States Senate

COMMITTEE ON
INTERIOR AND INSULAR AFFAIRS
WASHINGTON, D.C. 20510

May 15, 1975

The Honorable Robert Byrd
Chairman, Senate Interior Appropriations
Subcommittee
United States Senate
Washington, D.C. 20510

Dear Bob:

This is a request for approval for additional appropriations for the St. Francis Indian School, St. Francis, South Dakota.

Three years ago the St. Francis Indian School was operated as a Catholic mission. In the interest of furthering Indian self-determination, and at the behest of the Bureau Of Indian Affairs (BIA), the church turned the school's operation over to an Indian school board. The BIA endorsed the school's original budget request of \$524,000 for FY 1973.

Since then, the school has never been funded at the approved level. The Indian parent school board is requesting \$99,615 to be added to the BIA's proposed budget for FY 1976. This increase would give the St. Francis School approximately 2/3 of its originally estimated needs.

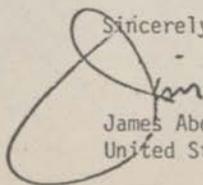
This seems to me to be a reasonable request. Adding all their monies together, their budget would average out to \$774 per student for 484 Indian students. This compares with \$880.00 (\$106 higher) per student in South Dakota and \$1,000.00 (\$200 higher) per student within the Bureau of Indian Affairs. They tell me that the reason their costs are lower is that they have 19 volunteer teachers.

For the first time within the history of the school, the superintendent, the grade school principal, and the high school principal will all be of Indian descent. Indians teaching Indians could, with half a chance and the proper funding, produce better educated Indian children. I respectfully urge you to grant this request.

Please make this letter part of the appropriations record.

Thanking you in advance for your consideration, with best regards, I am,

Sincerely,



James Abourezk
United States Senate

LETTER FROM SENATOR LEE METCALF

United States SenateCOMMITTEE ON
INTERIOR AND INSULAR AFFAIRS
WASHINGTON, D.C. 20510

14 May 1975

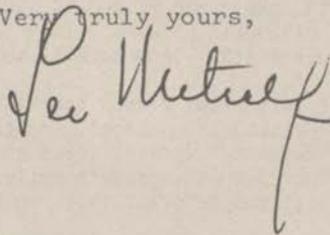
Honorable Robert C. Byrd
Chairman, Subcommittee on Interior
Appropriations
Senate Appropriations Committee
Washington, D. C. 20510

Dear Mr. Chairman:

I have already written to you relative to the need for appropriations for Forest Service research activities in Montana.

The enclosed letter supplements the request. The writer, Mr. Daniel P. Lambros, President of the Missoula Chamber of Commerce, asks that it be entered into the official hearing record for outside witnesses. I hope it is not too late for this.

Very truly yours,



LETTER FROM DANIEL P. LAMBROS

May 3, 1975

The Honorable Lee Metcalf
United States Senate
Senate Building
Washington, D.C. 20515

Dear Senator Metcalf:

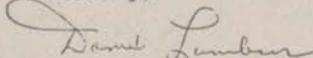
The Forest Service Research branch is a valuable asset to Missoula. They have two laboratories here: the Forestry Sciences Laboratory on the University of Montana Campus and the Northern Forest Fire Laboratory at the airport. Forty-eight scientists and 47 support personnel are employed at these locations. Total expenditures exceed 2½ million dollars.

Scientists at the Laboratories have gained international reputations for their scientific accomplishments in fire, wilderness management, ecology and economics. Now, lack of space and specialized laboratory facilities are beginning to impair their productivity. Hopefully, this problem can be corrected by your support.

Please enter my statement into the official record of the Appropriations Subcommittee for Interior and Related Affairs, U.S. Senate, when Outside Witnesses are heard. Mr. Robert C. Byrd is Chairman of this Subcommittee. The statement is enclosed.

Thank you for your help on this important project.

Sincerely,



Daniel P. Lambros
President
Missoula Area Chamber of Commerce

STATEMENT OF DANIEL LAMBROS

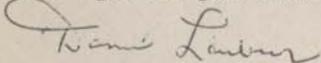
Mr. Chairman, I am Daniel Lambros, President of the Missoula Chamber of Commerce which represents over 850 business and professional people in the Greater Missoula Metropolitan Area.

The Northern Forest Fire Laboratory in Missoula has produced major breakthroughs in the field of fire research over the years. It has gained an international reputation for application of new knowledge to land management problems. Yet, the fire problem in America still continues to be an expensive one in terms of losses of lives, property, and resources--as well as the cost of control. In addition, new requirements for protecting the environment are increasing the complexity and difficulty of managing fire. Moreover, as man harmonizes his goals with natural forces, he must understand that fire plays a natural role in the perpetuation of certain ecosystems.

Phase I of the Forest Service's Northern Forest Fire Laboratory was completed in September 1960. Now, lack of space and specialized laboratory facilities are beginning to impair the productivity of the scientists and technicians housed in the Laboratory. It is very urgent that the second stage be built. New technology requires new kinds of laboratory facilities. Specialized scientists require specialized equipment and space. Some examples are computer rooms with controlled temperature, humidity, and noise levels; large wet laboratories for testing of chemical retardants; facilities to train users how to apply new fire management technology; shop facilities to service and fabricate delicate electronic and other research instruments; and highly flexible modular type laboratories that can be changed to meet constantly shifting research technological needs.

We respectfully request that you give the highest priority to the Forest Service Research budget. In addition, \$100,000 is needed for architectural and engineering design for the Forest Service Fire Laboratory in Missoula, Montana.

Thank you for your consideration of this request.



Daniel Lambros
President
Missoula Area Chamber of Commerce

LETTER FROM SENATOR JOHN V. TUNNEY

May 15, 1975

Dear Senator Byrd:

I would like to offer the following comments on the Bureau of Indian Affairs budget request for fiscal year 1976.

First, California with over 91,000 native Americans residing everywhere from heavily populated urban "pocket" areas such as Los Angeles and San Francisco to vastly isolated and scattered reservations and Rancherias in the rugged backcountry of the state, was almost totally lacking in any kind of health care services for over 15 years of the California State Department of Public Health's inability to provide needed assistance. Today, a rapidly increasing California Indian population vastly complicates the problem of identification and adds to the difficulty of extending health delivery to these people.

In the case of urban Indians, most are relocatees from other states who have come to the cities to find employment. Some are successful, many are not, and thus drift from city to city or return to their tribal reservations totally without hope. Understandably, these Indians are bewildered upon arrival in the city. Even though health services may be available, most Indians are not aware of them, many don't have the money to pay for care and oftentimes are unable to reach help because of the lack of transportation. Physical, financial and cultural isolation are all problems which work against the urban Indian in California in his efforts to obtain health care for himself and his family.

With regard to rural Indians, close to 35,000 are now residing on reservations and Rancherias and many more are living in outlying areas with little access to health care. Tragically, due to poor housing, sanitation and geographic isolation, the health status of California's rural Indians is in even more critical condition than that of their urban counterparts.

The statistics for both groups nationwide are staggering. For example, cirrhosis of the liver is 4 times more frequent among Native Americans, influenza and pneumonia are twice as likely to strike down an Indian, and congenital malformations occur 1.7 times more often among these people as the rest of the population. Diabetes runs rampant, alcoholism and drug usage is, in some areas, completely out of control, and of special concern to me is the fact that Native American infant mortality still leads the nation. These figures are absolutely outrageous and the lack of progress when compared to the medical achievements elsewhere in the past few years, clearly indicates an urgent need for Congress to appropriate more funds for Indian health care.

Although the health status of California Indians is extremely poor, there has been some progress over the last two years, mainly as a result of two unique health programs initiated by the Indians themselves.

The California Rural Indian Health Board, and the California Urban Indian Health Council are self-governing statewide programs designed to improve and expand health care by increasing the avail-

ability of that care. These two programs currently receive the bulk of their meager funding from the U.S. Indian Health Service.

Funding was initially sought in 1970 by the California Rural Indian Health Board and when approved this marked the first time the federal government has contracted with an all-Indian program to administer its own health delivery system. Three years later, the urban program was established in the same manner.

Of the 9 urban health projects, all are in different stages of development. The clinics operate with local support and contributions and have some full time health professionals and a number of part-time paid and voluntary workers.

The 16 rural health projects are providing similar services but are further handicapped because of their isolation from existing support personnel and agencies. Twenty-one dental clinics are in operation in rural areas and almost all of the 16 projects offer direct medical care. Some of the clinics have been built from the ground up, or in some instances, because of a shortage of funds, older structures have been improved. All projects work in cooperation with the surrounding communities, and all have obtained some funding from the State Health Department, Regional Medical Programs, the National Health Service Corps and private foundations.

With regard to federal assistance, the record is not as encouraging. The average per capita expenditure by the U.S. Indian Health Service nationally is \$288.00, but for California Indians it is only \$68.00 even though California has close to 1/5 the total Indian population in the nation. Of the \$184,283,000 allocated to IHS in past years, less than \$3 million was contracted to California Indians. This is just not sufficient to meet the demands of a growing population.

For fiscal year 1976, C.U.I.H.C. is in need of \$1.8 million to continue and improve its health services to urban Indians. This request represents a significant increase over last year's level of \$300,000 and will permit the Council to employ fulltime doctors and dentists to operate out of its 9 health centers in the State.

C.R.I.H.B. is presently operating with \$2.7 million for fiscal year 1974-1975. An additional \$3.8 million increase is desperately needed to expand the existing 16 projects, to construct out-patient health clinics, and to contract for full time direct medical and dental services. This money is urgently needed and can be utilized almost immediately.

Finally, it should be emphasized that over 90% of these health programs are staffed by Indians. They need a substantial increase in their budget to catch up with other Indian tribes as well as non-Indian communities. I, therefore, strongly urge the Committee to approve funds to assist the BIA and the IHS in bringing the level of health care services for California Indians up to acceptable levels.

Secondly, the housing situation in California is deplorable. Although innumerable treaties and agreements were made over the course of several decades which provided compensation for the taking of Indian

lands, in almost every instance, upon relocating Indians on reservations, the United States left them uneducated, unemployed, homeless and completely dependent.

I think it is absolutely outrageous at this point in our history that many of our rural and reservation Indians are living in see-through wooden shacks, many of which have no running water or electricity. On some of our reservations, families of four or more are living in one room pre-fab dwellings which were provided by the government and have been standing since 1903. At the time these houses were shipped across country to California, the families themselves, including women and children had to reconstruct them while living in tents.

In a recent survey of a cluster of 14 reservations in Southern California, 9% of the homes were above standard, 28% average or standard and 63% were substandard. This is simply unacceptable and as long as the BIA Housing Improvement Program remains insufficiently funded, these living conditions can never be improved.

It has been conservatively estimated that the needs in California alone exceed \$12 million. Yet last year, a mere \$508,000 was spent by HIP and very little of this money was used for total home construction. Most of this expenditure was for housing improvement and the rest was spent on assistance for down payments on used trailer houses.

One of the few bright spots in the area of housing for Native Americans in California is the development of Housing Authorities, initiated by the Indians themselves. These authorities have been formed to organize and identify housing needs on the reservations through a "self-study" program. Once the needs have been determined, they then request block grant funding for home construction from the Department of Housing and Urban Development.

While this type of organization clearly demonstrates the Indians' willingness to help themselves by seeking funds from other agencies, it does not lessen in any way the responsibilities of the BIA to fulfill its obligation to provide adequate housing and I hope the Committee will approve a substantial increase in this area.

And lastly, I would like to address a matter that I have been protesting for years. That of course, is the gross inequity of funding for California Indian education under the Johnson-O'Malley Act. This Committee surely must be aware of the long history of injustice California has suffered at the hands of the BIA and I think the time has come to correct this problem.

The Johnson-O'Malley program started in California and was intended primarily for "those states in which the Indian tribal life is largely broken up and in which Indians are to a considerable extent mixed with the general population." Under the program, California received a fair proportion of funds until 1953 when the United States embarked on its policy of terminating reservation Indians.

Today, California, with over half of its Indian population living in urban areas, receives only a small fraction of monies to which it has always been entitled. In 1974, only \$350,000 was allocated out of a total appropriation of \$28.3 million. Which means that only 1,446 Indian children out of 22,237 enrolled in grades K-12 were reached by Johnson-O'Malley funds.

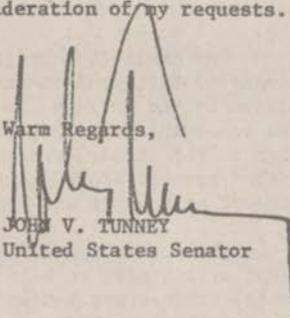
At the present time, close to 70% of the Indian students in California terminate their education prior to graduation from secondary school and only 7.6% of the Indian male population 14 years of age and older have completed one or more years of college. These figures represent the lowest percentage of any ethnic group in the state.

Some of the most pressing problems I feel the Bureau should be addressing itself to include developing more extensive programs to help alleviate the language and reading difficulties of these children, providing immediate replacements for textbooks and materials which are obviously biased and uninformed about Indian culture and actively seeking Native American teachers knowledgeable of Indian history.

With these problems still to be dealt with, I strongly urge your Committee to restore California to the position it once had as a major recipient of Johnson-O'Malley funds. I recommend that California be given an allocation of at least \$3 million in the coming fiscal year.

I appreciate the Committee's consideration of my requests.

Warm Regards,



JOHN V. TUNNEY
United States Senator

LETTER FROM SENATOR THOMAS J. MCINTYRE

May 21, 1975

Dear Mr. Chairman:

In years past the Interior Sub-committee has been most supportive of the research efforts conducted at the U.S. Forest Service Lab in Durham, New Hampshire. This Lab is uniquely situated in close proximity to one of the most heavily used National Forests in the country. The White Mountain National Forest is within a day's drive of over 65 million people and enjoys heavy recreational use as well as serving as a provider of timber and water.

New Hampshire presently has two designated Wilderness areas and four more study areas are proposed. These areas, as well as much of the forested area of New Hampshire, is fragile back country, used by hikers, campers, snowmobilers, trail hikers and cross-country skiers.

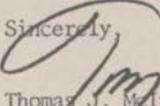
The Forest Service Lab has started a modest program to study the impact of this heavy recreational use on the fragile back country terrain. Funding support was offered in fiscal year 1973 and 1974. However, the FY '76 budget does not include an appropriation.

In order that the research work already started will not be wasted, but will be carried to fruition, I am asking that a \$200,000 appropriation be authorized for this much needed program. It is my understanding that this is the only program of its type in the country. Information and recommendations resulting from this work will not only benefit New England but can be used by all back country managers throughout the United States.

I'm enclosing copies of correspondence I have received in support of this appropriation. Please make these letters, as well as my own, a part of the permanent hearing record.

Mr. Chairman, I want to thank the Subcommittee for the support they have offered in the past. I know you will give my request your full consideration.

Sincerely,


Thomas J. McIntyre
United States Senator

LETTER FROM DAVID P. OLSON
UNIVERSITY OF NEW HAMPSHIRE
DURHAM, NEW HAMPSHIRE 03824

March 13, 1975

Honorable Thomas J. McIntyre
Senate Office Building
Washington, D. C. 20510

Dear Senator McIntyre:

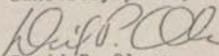
A rather disturbing process is taking place in our remote trail areas on the mountains of New Hampshire and the rest of the Northeast. These areas are beginning to show wear and tear to soils, vegetation and wildlife as a result of many, many people - yet, they continue to attract more people each year. They are readily accessible and inexpensive outdoor recreational experiences for many people, especially the young.

We need research to develop ways to handle this recreational load yet preserve the beauty and naturalness in these areas. The U. S. Forest Service Laboratory at Durham has initiated a research project on this problem but does not have the necessary funding to carry it out in the budget. I urge your support for this additional funding. It will require about \$200,000. Our staff at the Institute of Natural and Environmental Resources at the University will be cooperating and assisting in this project whenever we can.

In these times of crisis, inflation, energy shortages and international emergencies, the care and maintenance of our natural heritage may seem like an item of secondary importance. However, somehow I feel that if we take care of our natural resources and the things we value at home, we will have a stronger citizenry to handle the bigger issues.

Please do what you can to assist in this effort.

Sincerely yours,


David P. Olson
Director

LETTER FROM THEODORE NATTI

STATE OF NEW HAMPSHIRE
DEPARTMENT of RESOURCES and ECONOMIC DEVELOPMENT

DIVISION OF RESOURCES DEVELOPMENT

P. O. BOX 856...STATE HOUSE ANNEX...CONCORD, NEW HAMPSHIRE...03301

March 14, 1975

The Honorable Thomas J. McIntyre
United States Senate
405 Old Senate Office Building
Washington, D. C. 20510

Dear Senator McIntyre:

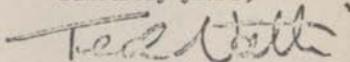
Use of many of our fragile back country areas in the east by hikers, campers, snowmobilers, trail bikers, and cross-country skiers are causing problems of environmental degradation. These problems are increasing as people from urban centers turn to the woods for their leisure time activities.

New Hampshire's back country provides opportunity for high quality and varied recreation experiences. However, heavy use is accompanied by damage to the very qualities which attract the public. The U. S. Forest Service started a modest research program at the Northeastern Forest Experiment Station, at Durham, New Hampshire, to study such recreation problems. Congress supported the program by providing funding in fiscal years 1973 and 1974. Unfortunately, the funds were not included in the regular Forest Service budget in 1975 nor are they in the regular Forest Service budget for fiscal year 1976.

It is my understanding that this Forest Service back country research program at Durham requires \$200,000 in additional funds to maintain its progress. The problem is a real one and too important to sidestep. Also, the research work that has been done will essentially be wasted if not carried to completion. I, therefore, give this continuing program my full support and hope that you will give the matter your serious consideration.

Please arrange to have this letter entered into the record of the public hearings of the Senate Subcommittee on Appropriations for the Department of Interior and Related Agencies.

Sincerely yours,

Theodore Natti
Director

LETTER FROM GEORGE T. HAMILTON
STATE OF NEW HAMPSHIRE
DEPARTMENT OF RESOURCES and ECONOMIC DEVELOPMENT
DIVISION OF PARKS

STATE HOUSE ANNEX . . . CONCORD, NEW HAMPSHIRE
TELEPHONE
Director of Parks 603-271-3254
Parks Operations 603-271-3556

March 20, 1975

Senator Thomas J. McIntyre
Senate Office Building
Washington, D. C. 20510

Dear Senator McIntyre:

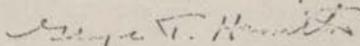
For the last two years the United States Forest Service here on the White Mountain National Forest in New Hampshire has undertaken a back-country research program in cooperation with the Appalachian Mountain Club. With the heavy recreational use in the so-called backcountry of recent years, and with the resultant environmental impact on foot trails, camp sites, above tree line areas, etc., it is important to continue this research in order to evaluate the extent of this impact and to address means of dealing with it.

Here in the Division of Parks we can also benefit from this research, since we have no resources at our command to delve into this matter ourselves. We are very interested in this project since we anticipate developing back-country trail systems and camping facilities at some of our larger state parks in the years ahead.

The purpose of this letter, therefore, is to ask for your continued support in the United States Forest Service's request before the Congress for sufficient funds to continue this research program in the next fiscal year.

Thanks ever so much for any help you can render.

Sincerely yours,



George T. Hamilton
Director of Parks

LETTER FROM SENATOR NUNN

May 21, 1975

Honorable Robert C. Byrd, Chairman
Subcommittee on Interior
Committee on Appropriations
United States Senate
Washington, D.C.

Dear Mr. Chairman:

I strongly urge you and the Appropriations Subcommittee on Public Works to increase the appropriations for conservation research and development programs of the Energy Research and Development Administration (ERDA) over that requested in the President's budget.

Recently I chaired oversight hearings on energy conservation in the Committee on Government Operations. The testimony and materials which those hearings produced demonstrated that more emphasis must be placed on energy conservation in the short term if we are to deal effectively with our energy problems. Likewise, increased conservation research and development is essential if we are to eliminate waste in our use of energy.

While we must undertake research and development of nuclear and solar energy, the conversion of coal to petroleum, the increased use of geothermal energy, and other new sources of energy, the payoff for these efforts is many years down the road. On the other hand, the payoff for conservation is immediate, and we must not neglect these very important short-term efforts.

In my estimation, the ERDA budget request of \$35.8 million for conservation-related programs, out of a total request of approximately \$2 billion, is inadequate.

During our hearings I asked Dr. James Kane, the Acting Deputy Assistant Administrator for Conservation at ERDA, to submit to our Committee revised estimates of how much money a realistic conservation research and development program would require. Based on Dr. Kane's response, I urge you and your Subcommittee to approve an appropriation of \$147.8 million for ERDA's conservation and research activities during fiscal year 1976. I am attaching copies of Dr. Kane's response, which indicates the increases in each program and explains how the additional funds can be used.

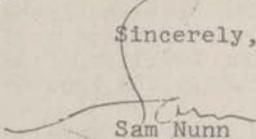
I do not advocate an increase in the overall ERDA budget. Rather, I suggest that the additional amounts that I propose for conservation research and development activities be made available from those requested for other ERDA programs. An appropriation of \$147.8 million for these purposes represents an increase of about \$112 million

for these programs -- or about 5 per cent of the total ERDA request. In other words, no other program would be required to suffer extraordinarily in order to place more emphasis on conservation research and development.

We must have strong leadership in energy conservation, and Congress can provide some of that leadership by adequately funding the energy conservation efforts of the Government.

I would appreciate your making this letter and Dr. Kane's submissions a part of the record of your Subcommittee's hearings on the ERDA appropriations request, and I would also appreciate a chance to testify in the event that you should reopen your hearings on this matter.

Sincerely,



Sam Nunn
Chairman

Conservation Research and Development
 FY 1976 PROGRAM SUMMARY
 (In Thousands of Dollars)

	President's FY 1976 Budget		Revised Estimates	
	<u>Obligations</u>	<u>Costs</u>	<u>Obligations</u>	<u>Costs</u>
<u>OPERATING:</u>				
Electric Power Transmission.....	12,130	11,830	22,000	18,000
Energy Storage Systems.....	10,100	9,100	29,500	23,000
Advanced Transportation Power Systems....	9,440	8,240	55,700	35,000
End Use - Buildings.....	2,000	1,200	13,700	12,000
Industry.....	2,000	1,200	13,600	12,000
Cross-Sectoral.....	1,000	600	18,900	18,900
Subtotal End Use.....	<u>5,000</u>	<u>3,000</u>	<u>46,200</u>	<u>42,900</u>
Improved Conversion Efficiency.....	1,750	1,750	30,000	15,000
TOTAL OPERATING.....	38,420	33,920	183,400	133,900
CAPITAL EQUIPMENT (Supports Operating)...	2,450	1,886	14,800	13,900
TOTAL CONSERVATION R&D PROGRAM.....	<u>40,870</u>	<u>35,806</u>	<u>198,200</u>	<u>147,800</u>

ELECTRIC POWER TRANSMISSION

(In Thousands of Dollars)

	President's FY 1976 Budget		Revised Estimates	
	<u>Obs.</u>	<u>Costs</u>	<u>Obs.</u>	<u>Costs</u>
	Operating	12,130	11,830	22,000	18,000

Limitations of \$11.8 Million Level of Effort

The \$11.8 million level of effort will not permit the initiation of new efforts in electric power transmission which would reduce the time required for commercialization of this technology.

Basis for an Increase in the FY 1976 Level of Effort

Increased funds would be used for initiating new efforts and accelerating current transmission activities in distribution and use management, systems development, and control and transmission. The additional funds will not alter the program objective or strategy, but will permit the program to accelerate the achievement of high-priority national energy conservation goals in a more timely fashion.

It is estimated that transmission and distribution losses can be reduced by 25 percent through concerted R&D with an annual savings of approximately one-quarter billion barrels of oil resulting by the year 2000.

ENERGY STORAGE SYSTEMS

(In Thousands of Dollars)

	President's FY 1976 Budget		Revised Estimates	
	<u>Obs.</u>	<u>Costs</u>	<u>Obs.</u>	<u>Costs</u>
	Operating	10,100	9,100	29,500	23,000

Limitations of \$9.1 Million Level of Effort

FY 1976 operating costs of \$9.1 million would permit hardware development of the lithium-sulfur (Li/S) battery and design of the battery energy storage test (BEST) facility. Other efforts will be limited primarily to smaller scale laboratory research and feasibility studies. The \$9.1 million level of effort will result in very limited possibilities for pursuing research and development of new energy storage concepts.

Basis for an Increase in the FY 1976 Level of Effort

With increased funding, the energy storage program can accelerate development of promising technical approaches, including component and materials development, permit exploration of new concepts, and will provide for more complete understanding of the impacts of storage technology on our energy systems.

ADVANCED TRANSPORTATION POWER SYSTEMS

(In Thousands of Dollars)

	President's		Revised Estimates	
	FY 1976 Budget			
	<u>Obs.</u>	<u>Costs</u>	<u>Obs.</u>	<u>Costs</u>
Operating	9,440	8,240	55,700	35,000

Limitations of \$8.2 Million Level of Effort

The Advanced Automotive Power System (AAPS) program was developed by EPA and subsequently transferred to ERDA. The \$8.2 million funding level reflects a very narrow scope and relatively low level of research and development consistent with the EPA mission. The \$8.2 million program planned to have Stirling engine demonstrations in compact autos in 1980, evaluation of only a single light-weight diesel design, and would not include effort in areas such as application of bottoming cycles to auto or regenerative braking development of conventional engine systems.

Basis for Increased Funds in FY 1976 Level of Effort

The broader and more far reaching mission of ERDA required a complete reassessment of the AAPS program including its purpose, objectives, and content. This reassessment clearly indicated significant changes were necessary consistent with ERDA responsibilities to develop new fuel saving technologies, to demonstrate these technologies, and to transfer the technologies to industry so that commercialization will be accomplished at the earliest possible time. The more comprehensive program which resulted from this reassessment includes additional research and development to augment the advanced auto program. It also includes research and development efforts to eliminate the dependence on petroleum as the energy source for all elements of the transportation sector such as trucks, buses, and rail. The increase will accelerate and expand activities such as the Stirling engine, the light-weight diesel engine, waste heat utilization, advanced materials alternative fuels work related to hydrogen storage and utilization for trucks and buses.

END USE ENERGY CONSERVATION

(In Thousands of Dollars)

	President's		Revised Estimates	
	FY 1976 Budget			
	<u>Obs.</u>	<u>Costs</u>	<u>Obs.</u>	<u>Costs</u>
Operating	5,000	3,000	46,200	42,900

Limitations of \$3.0 Million Level of Effort

FY 1976 operating costs of \$3.0 million will limit the program to identifying opportunities and initiating feasibility studies in the most promising research and development areas related to the end use sectors of buildings, industry, and cross-sectoral.

Basis for Increase in FY 1976 Funding Level

The proposed increase will accelerate and expand the end use program in two broad problem areas associated with conservation--technology development and its implementation, both of which must be developed in an integrated manner. Technology development refers to the research and development needed to make available new or improved technologies, devices, and use practices to the consumer and to industry. Implementation refers to the utilization of existing and new mechanisms and institutions to achieve workable, cost-effective conservation measures. More specifically, the increase will allow concerted efforts including research and development in the end use sectors of buildings, industry, and cross-sectoral.

IMPROVED CONVERSION EFFICIENCY

(In Thousands of Dollars)

	President's FY 1976 Budget		Revised Estimates	
	<u>Obs.</u>	<u>Costs</u>	<u>Obs.</u>	<u>Costs</u>
Operating	1,750	1,750	30,000	15,000

Limitations of \$1.8 Million Level of Effort

Included in the FY 1976 budget is a very low-level effort limited to hybrid power cycles including bottoming and topping cycle concepts and low-BTU and high-temperature gas turbine systems.

Basis for an Increase in the FY 1976 Level of Effort

The proposed increase will expand the program to include research and development of alternative systems for waste heat utilization, examination of solid waste utilization, and would permit additional efforts on the alkali metal topping cycle to establish an expanded data base. Also, the increase will allow major expansion of fuel cell research and development with the objective of reducing consumption of electricity.

CAPITAL EQUIPMENT

(In Thousands of Dollars)

	President's FY 1976 Budget		Revised Estimates	
	<u>Obs.</u>	<u>Costs</u>	<u>Obs.</u>	<u>Costs</u>
	2,450	1,886	14,800	13,900

The increased funding for capital equipment provides for addition, modification, and improvement to research and development equipment at various experimental facilities. The increased funds are necessary to maintain and improve the reliability and efficiency of the operating programs and to provide new experimental capabilities for planned research and development programs.

In view of the rapidly changing requirements of the conservation programs, no determination has been made concerning the allocation of the capital equipment funds among the programs. As a general guide, however, experience has shown that approximately 10 percent of the total operating program is needed for capital equipment.

LETTER FROM SENATOR MARK O. HATFIELD

June 3, 1975

The Honorable Robert C. Byrd
Chairman
Subcommittee on Interior
and Related Agencies
Committee on Appropriations
United States Senate
Washington, D. C.

Dear Mr. Chairman:

Attached is a chronology of events pertaining to the proposed relocation of the Bureau of Land Management's office in Medford, Oregon. This was supplied to me by Mr. Ray Dahl of the Medford City Council, and I believe it will be useful to the Subcommittee as it considers appropriations for the BLM. This is one of the matters about which I questioned the BLM.

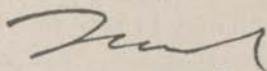
Also enclosed is a copy of the statement submitted to the House Appropriations Committee by Mr. Olney Patt, Sr., a member of the Advisory Board for Chemawa Indian School. Mr. Patt did not have the opportunity to appear before our Subcommittee, but I believe his testimony is relevant and ought to be considered by the Subcommittee.

Finally, I am enclosing several letters I have received from constituents relating to the Forest Service budget for your consideration. Could you please have this material included in the hearing record?

Your consideration of the views represented in these enclosures is greatly appreciated.

Warmest personal regards.

Sincerely,



Mark O. Hatfield
United States Senate

LETTER FROM RAY W. DAHL

CITY OF MEDFORD

MEDFORD, OREGON 97501

April 4, 1975

Dear Senator Hatfield:

Attached you will find a summary of activities conducted by the City of Medford relating to the south interchange property within the City. This information has been compiled to provide a history of activity and to express the continued interest of the City of Medford in pursuing the consolidation of the property which, by necessity, requires the relocation of BLM.

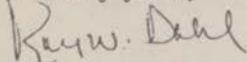
The City has pursued this objective since 1972 and considerable progress has been made to date. The present circumstances require that sufficient revenues be made available to BLM (approximately \$4 million) so that they might have the opportunity to relocate and reconstruct their much needed facilities in Medford. BLM has also been actively seeking the construction of adequate office and other facilities to conduct their affairs in the Medford area.

The City of Medford supports the needs of BLM and urges that adequate appropriations be made available so these facilities can become a reality. The City would ask that any appropriations for this purpose be conditioned so that the funds can only be expended by BLM if they relocate to an alternate site.

The discussions with BLM thus far have indicated an interest and willingness to relocate to a site proposed by the City in October 1974. With the completion of the evaluation by BLM, a decision should be forthcoming which would set into motion the accomplishment of the relocation of BLM and the consolidation of property at the south interchange. Also, the construction of much needed facilities for BLM in Medford would be accomplished.

Your assistance is vital to the culmination of the efforts of the City of Medford. We would be most appreciative of any help after several years of fighting alone what appeared to be an uphill battle. The cooperation of all governmental agencies and elected officials would certainly assist in the accomplishment of the goals set forth by the City. The benefit to this area is adequately described in the proposal made to BLM.

Sincerely yours,



Ray W. Dahl
Councilman Ward 4

RWD:cd
Attachment

The following is a succinct chronology of events which have been stimulated by the City of Medford in seeking the relocation of BLM from their present site at the south interchange in the City of Medford to an acceptable location. The motivation for this action is to consolidate the property at the south interchange and provide for a more economic land use. The events will be listed in order of their occurrence and, where appropriate, identification will be made to attachments as part of this report.

1. June 20, 1972. A letter was forwarded to Senator Hatfield from Archie Craft, State Director of BLM, Portland, indicating the willingness of BLM to consider relocation (Exhibit 1 attached).
2. October 5, 1972. Medford Mayor requested the Jackson County Board of Commissioners to seek a resolution of the south interchange property and to establish appropriate land use within the area.
3. April 12, 1973. Don Schofield, District Manager of BLM, Medford, wrote the Mayor of Medford asking advice as to the feasibility of construction at the present BLM site at the south interchange. This was the beginning of the present position of the City of Medford to effectively evaluate and make recommendations concerning the relocation of the BLM facility and the construction of the BLM office buildings.
4. May 3, 1973. Medford City Council adopted a resolution seeking the relocation of BLM and the consolidation of the property at the south interchange (Exhibit 2 attached).
5. February 15, 1973. Land use plan for the City of Medford was reviewed by the Medford Planning Commission and City Council and modified to reflect the development potential of the south interchange area, calling for a more economic utilization of the land and permitting commercial or light industrial land use categories to be applied.
6. May 23, 1973. Jackson County Board of Commissioners and the City Council of Medford met to discuss the south interchange property and begin a dialogue for the potential economic development of this area.
7. June 12, 1973. Medford Chamber of Commerce supported the City of Medford with respect to its attempts to consolidate the south interchange property and recommended that BLM relocate (Exhibit 3 attached).
8. June 29, 1973. Jackson County Board of Commissioners supported the BLM proposal to construct an office building at the present location.
9. July 10, 1973. Council committee met with John Oberdorf of Senator Hatfield's office in Salem, Oregon, to discuss the

relocation proposal submitted by the City of Medford to BLM. Considerations at that time indicated that a relocation was reasonable and should be pursued.

10. July 12, 1973. Medford City Council reaffirmed its resolution requesting BLM to relocate.
11. July 24, 1973. Jackson County Board of Commissioners, Medford City Council, and representatives of BLM met to discuss a proposed relocation of the BLM facilities. Minutes of this discussion and pertinent information contained in the discussion are contained in Exhibit 4, attached.
12. August 17, 1973. City Council and Jackson County Board of Commissioners toured the existing BLM facilities at the south interchange. This tour took place after a code review by the Department of Community Development, City of Medford, indicated that the majority of the structures at the present site did not meet present day UBC codes.
13. October 1973. The City Manager met in Senator Hatfield's office with representatives of the Oregon congressional delegation and representatives of BLM to discuss a proposed relocation of BLM from the present site to the most southerly public ownership at the south interchange along Belnap Road and South Pacific Highway. The discussions were hostile and BLM appeared to be very reluctant to participate in the relocation process and was committed to construction of an office building at the present location.
14. October 1973. Relocation proposal submitted by the City of Medford was rejected formally by BLM. The rejection was based upon the contention that the City had not supplied a specific plan for the relocation of the BLM facilities (see Exhibit 5 attached). At this point, it became necessary for the City of Medford to reevaluate its position and to determine what the specific needs of BLM were and, if appropriate, establish a specific relocation plan as requested by BLM in their letter of rejection in October 1973.
15. February 13, 1974. Jackson County Board of Commissioners authorized the City of Medford to proceed with a relocation proposal with the understanding that any costs incurred would be the responsibility of the City of Medford.
16. October 28, 1974. Jackson County Board of Commissioners acknowledged a willingness to enter into negotiations for the sale of their property to the City of Medford for development purposes. Further, the Jackson County Board of Commissioners encouraged BLM to consider alternative locations if a site, or sites, favorable to the Bureau were offered.
17. November 20, 1974. A relocation proposal was presented to BLM Portland Area Office, Mr. Archie Craft and his staff. This the relocation proposal which has been submitted to the Oregon

congressional delegation and the BLM office in Washington, D. C. following the presentation to Mr. Craft. Indications by Archie Craft at the presentation in his office was one of a favorable inclination, and he instructed his staff to proceed with an evaluation.

18. November 29, 1974. Rodman & Associates were hired to provide appraisals of the two subject properties. The present ownership of BLM at the south interchange and the proposed relocation site on Biddle Road near the airport were to be appraised. Mr. Rodman was selected by the Medford BLM office, and appraisals are to be paid for by the City of Medford. The appraisals were one of several requirements established by BLM to effectively evaluate the proposed relocation site.
19. December 3, 1974. Soil analysis ordered by the City at the request of BLM. This was a second item required by BLM to effectively analyze the potential relocation site on Biddle Road. The soils analyses have been delayed as a result of BLM requesting to designate the spots to be tested. These locations were not provided to the City until January 1975. The soils analysis will be paid for by the City of Medford.
20. December 5, 1974. Topographic maps prepared by the Public Works Department of the City of Medford were forwarded to the state BLM office in Portland. Topographic maps were required by BLM for evaluation of the proposed relocation site at Biddle Road.
21. December 9, 1974. City Councilman Ray Dahl, City Manager Richard Stevens, and Cathie Davis met with Mr. Holmer of Senator Packwood's office, Congressman Dellenback, and Senator Hatfield to discuss the proposed relocation program provided by the City of Medford.
22. December 10, 1974. The Medford delegation met with BLM representatives in Washington, D. C. to discuss the proposal for relocation of the BLM facilities in Medford. Discussions were amiable and positive, and BLM indicated that they would pursue the evaluation of the proposed relocation as it appeared to meet all their site requirements as outlined in previous discussions.
23. January 1, 1975. Representatives of the City of Medford met, at the request of BLM, with BLM staff in the Portland office. City of Medford representatives and BLM staff reviewed the relocation proposal, and the City responded to specific questions raised as a part of the evaluation process. The City Public Works Department provided a drainage plan and drainage evaluation for the site and generalized area for further evaluation by BLM. Other questions were responded to and adequately answered.

24. February 3, 1975. Councilman Ray Dahl visited the Washington, D. C. BLM offices to follow-up previous conversations with these individuals. The response remained positive as a forward-looking opportunity to participate with the City in the relocation proposal.
25. February 11, 1975. Appraisals were forwarded to BLM offices in Portland and Washington, D. C. for review and analysis. The soils analysis has not yet been received.
26. The City was advised by the Washington, D. C. BLM office that the appropriation for construction of the BLM facilities in the Medford was not included in the 1975-1976 fiscal year budget. Further discussions have taken place between the City of Medford, the Oregon congressional delegation, and BLM for the purpose of including adequate appropriations in the Federal fiscal year budget to make the proposed relocation a reality. We have been assured by BLM that they are continuing to evaluate the proposal and, upon completion of the soils analysis, a positive decision should be imminent.

This chronology is intended to provide information for the long-term project in which the City of Medford has diligently pursued the relocation of the BLM facilities and the consolidation of the south interchange land within the City of Medford. It is apparent from all the study and the work that the City has put forth on this proposal that all agencies involved would benefit, including the City of Medford, Jackson County, BLM, and the general public.

Thus far the responsibility for this project has rested with the City of Medford. We have, through a great deal of patience and effort, been able to achieve substantial success with respect to the proposed consolidation and relocation. It would be most gratifying to the City to have this project become a reality, and with the assistance of appropriate Federal agencies and elected officials this program can be achieved.

LETTER FROM OLNEY PATT, SR.

Mr. Chairman, Members of the Sub-Committee, I'm Olney Patt, Sr., Member of the Chemawa Advisory School Board, Salem, Oregon. I'm here today to request construction funds for a new Chemawa School and Health Facility.

The present school and health facilities are worn out and obsolete. The expense of rennovating and remodeling such an old plant can no longer be justified. Over it's 95 year history, Chemawa School has served educational need of over 37,000 Indian students. This year we have served 525 high school students from Oregon, Washington, and Idaho. Future population projections show potential student pool of approximately 670 students per year. If HR 2525 relating to re-establishment of education and health services for terminated tribes should pass, a minimum of 105 additional high school age students would become eligible to attend Chemawa. This figure does not include states other than Oregon.

The Chemawa health program provides comprehensive preventive, curative, and rehabilitative health services for the students and federally recognized Indian people of Western Oregon. The School Board values these services and urgently requests their continuance.

It is the position of the Advisory School Board that ultimately the new Chemawa School will require a capacity for 1000 students. At this point in time planning and construction are geared to a 600 student high school. With the accomplishment of this phase it is our intention to begin planning for a post-high school, vocational-technical junior college phase. This

will be in addition to the high school and will accommodate approximately 400 students with dependents. The School Board and Indian Tribes of the Pacific Northwest are working to improve conditions in Indian Communities and schools serving Indian Youth. We feel that this effort will take a number of years. Eventually we see more and more high school educational needs being met locally. As this occurs, the post-high school phase of Chemawa would come to dominate. Future projections are that Chemawa will become a regional learning center for Indian Tribes. As you are aware, the President's 1970 Indian Message outlined a course of "Self Determination", we view such a facility as essential to develop our human resources. With this program functioning successfully, we foresee a large student and student dependent population.

Congress has already appropriated \$750,000.00 for planning and design for replacement of the obsolete facilities now being used at Chemawa. There has been an additional \$100,000.00 appropriation for design of a school health center to be constructed by the Indian Health Service. The architect's plan for Chemawa will be completed this summer and the project will then be ready for construction.

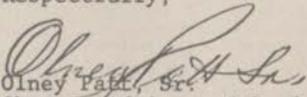
We are requesting a \$15,580,000.00 Congressional Add-on for the construction of a new Chemawa School. We are also requesting a \$1,415,000.00 add-on for construction of a new school health facility.

The Indian people appreciate Congress's Support for Chemawa School over the past 95 years. The School Board has sought and received broad acceptance for the new Chemawa among the Indian Tribes and groups of the northwest.

If "Indian Self-Determination" is to mean anything, it should be understood that the Indian Tribes of the Pacific Northwest have universally requested the continued operation and improvement of Chemawa School. They want it to be their school and do not want their children sent to distant locations for special educational needs.

Thank you for the opportunity to present this statement and hearing our request.

Respectfully,



Olney Patt, Sr.
Chemawa Advisory School Board

Attachments:

- Justification for Funds for Construction of a new school plant at Chemawa Indian School, Salem, Oregon.
 - New School Construction Cost Projection.
 - Justification for Funds for Construction of a New School Health Facility at Chemawa Indian School, Salem, Oregon.
 - New School Health Facility Construction Cost Projection.
 - Projected Enrollment for the New Chemawa Indian School.
 - Oregon State DEQ Noise Study.
 - Letter of Support from Salem Area Chamber of Commerce.
-

LETTER FROM RAY E. DOERNER

BOARD OF COMMISSIONERS

RAY E. DOERNER

L. W. MICHAELS

JOHN T. TRUETT

COURTHOUSE

ROSEBURG, OR 97470

503/672-3311

March 13, 1975

Honorable James Weaver
Room 1723
Longworth Building
Washington, D. C. 20510

Dear Jim:

You are aware that the Forest Range and Experiment Station are responsible for the periodic inventory of the national timber resource (public and private). As we discussed with you a few days ago in your office, the relationship between the public and private forest resource is extremely critical at this time. The public forest lands in Oregon are pretty well inventoried as to potential productivity, but the private forest lands inventory is not so complete or publicly available.

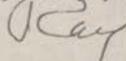
If counties such as mine (Douglas) are to plan for our future timber (and non-timber) economy, more accurate data is urgently needed. Historically, the Forest Ranger and Experiment Station is grossly under financed in this research area. Until now, it has not seemed too important. Today, however, more comprehensive and accurate data is needed if counties, such as Douglas, are to proceed with proposed county forestry incentive programs.

The enclosed statement developed in consultation with knowledgeable people adequately describes the need for additional appropriations to carry out the necessary more detailed analysis. Whatever support you can give will be appreciated by Douglas County.

We are currently funding a county study and exploring an incentive program whereby county funds (O&C) might be applied on a contractual repayment forest incentive program for the smaller private forest land owners. Good statistical data is sorely needed.

Best regards.

Very truly yours,



Ray E. Doerner, Commissioner
BOARD OF COUNTY COMMISSIONERS
OF DOUGLAS COUNTY, OREGON

There is reason to suspect that timber harvest in Southwest Oregon will decline during the next three decades as old growth timber supplies on private lands diminish. The probable timing and intensity of such a falldown are being debated. Adequate answers to these urgent questions require comprehensive data and sophisticated analyses. The Pacific Northwest Forest and Range Experiment Station has federal responsibility for such studies. It is the only organization collecting uniform data about current timber supplies and potential growth on lands of all ownership in Oregon.

The data base from which timber supply projections are made involves on-the-ground samples made at three to four mile intervals, remeasured approximately every fifteen years. Detailed information about the rate at which the old growth resource is being used and the speed with which young growth forest may emerge into commercial prominence require acceleration of the inventory cycle to not more than ten years, and of field observations two to four times as intensive.

Additional responsibilities for Forest Resources Evaluation are placed on the Experiment Station by the Renewable Resources Planning Act of 1974. Congress recognized that sound resource decisions depend on knowledge of the status and outlook for the full range of forest resources--water, forage, recreation, wild life habitat, as well as timber. This charge will require a new generation of resource sampling and analytic efforts of unprecedented complexity. The product will be extremely useful in displaying the trade-offs among resources and portraying opportunities for joint production of forest outputs. In Southwest Oregon, for example, the relative potentials of forest and grass lands will be analyzed on a common basis.

It is estimated that these activities--improving the estimates of the timber situation and multiple-resource analyses--will require

a budget increase for the Experiment Station of \$1,200,000. This increase is essential if the quality of forest resource information for Western Oregon is to be kept on a par with that for other parts of the country.

LETTER FROM BERT L. COLE

February 27, 1975

The Honorable Mark O. Hatfield
United States Senator
463 Old Senate Office Building
Washington, D.C. 20510

Dear Senator Hatfield:

In past years I have written you about Forest Service research programs of benefit to the State of Washington. The Congress has been most helpful, although the Administration has often been less than cooperative. This year I would again like to call to your attention important forestry research needs for the State.

Last year the Congress appropriated \$100,000 to begin Wildlife Habitat Research at the Olympia Laboratory of the Forest Service. These funds were used to start research on the relationship between intensive forest management and wildlife--including big game such as elk and deer. Also included in this research are studies of forest birds and other non-game wildlife, about which people are increasingly concerned. These funds, appropriated last year, are not included in this year's budget. I hope you will have them restored. These studies must continue, if we are to protect wildlife values even as we intensively manage forests for timber.

A second item is the need to accelerate forest inventories of the West Coast States, including Washington. Important questions of public policy hinge on our assessments of timber supply, the land base on which the timber grows, and on how forests will respond to intensive management. The Forest Survey units of the Forest Service conduct inventories of forest resources. These inventories include not only timber, but now include all of the renewable resources, as required by the recently passed Humphrey-Rarick Bill.

The Department of Natural Resources is currently conducting a study of timber supply in Washington, using some of the Forest Survey information. However, the Forest Service last conducted on-the-ground field measurements in western Washington about a

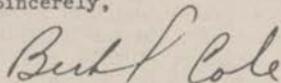
decade ago, and at the present rate will not be able to re-measure the timber and other resources until late in the 1970's. This is much too slow.

We urge you to accelerate funding for this work in the West by \$1,200,000. This increase in funding will permit a considerable acceleration in speed of reinventory, and will also permit us to gain much greater detail about the resources--all important for analyses of public choices.

Lastly, I want to call to your attention the need for acceleration of research and development for control of spruce budworm. The Department of Natural Resources recently reviewed a draft program for accelerated research for control of spruce budworm. We see in this proposed program an opportunity to develop detection and control methods in a short time, similar to the Douglas-fir tussock moth R&D program started last year. The time is short; western spruce budworm shows signs of becoming the next major forest insect to affect the Pacific Northwest.

The Forest Service is proposing a five-year R&D program to give us better control methods for spruce budworm. I urge you to inquire of the Forest Service about the program and to support it as best you can.

Sincerely,



BERT L. COLE

Commissioner of Public Lands

LETTER FROM EARLE C. MISENER

County Court of Union County
La Grande, Oregon 97850

Attn: Mr. Ted Schlapfer

Dear Mr. Schlapfer

We in Oregon and particular in Union County are growing more and more alarmed at the rate of infringement of noxious weeds upon our farm land and the high cost of subduing the rate of infestation. The following data has been compiled by members of our agricultural community who are considered experts in the problem of noxious weeds:

"Overall weed control costs in the State of Oregon, based on official cost studies made in the State in 1974, indicates that a minimum of 20 percent of the crop production operating costs are due to the major thrust in annual weed control practices. This figure may be 30 percent or more where perennial noxious weeds are involved.

There are approximately 62,067,840 acres of total lands in the State of Oregon. The Oregon State University Crops Department, in the January 1973 Survey of Oregon Perennial Weed Infestations, estimates that there are 5,606,000 acres, minimum, of the three major noxious weeds in Oregon, namely, canadian thistle, bindweed, and tansy ragwort. This indicates the seriousness of the problem when a minimum of 12 percent of the entire area of the state is infested with perennial noxious weeds. These figures do not include the additional thousands of acres infested with the "so-called" lesser noxious weeds as starr thistle, white top, halogeton, quackgrass, horsetail rush, St. Johswort, toadflax, puncture vine, mediterranean sage, sandbur, just to name a few of the ninety one weeds inventoried.

Fifty one percent of the total land area in Oregon is in public ownership, mainly Federal, and State. This points out the fact that the major problem in the control of weeds is not entirely the responsibility of the private land owner. Much of the unending source of infestation exists in these generally higher elevation areas of water sheds, or range and timbered sites. The contamination of irrigation and flood waters is a constant new sources of infestation to the agricultural lands. Where there is no control, wind is a big factor in the dissemination of seed within and from these areas.

Without the control of weeds on the wilderness area, and the resorts, our public environment is seriously effected in health and recreation.

The seriousness of the tremendous impact that weeds have upon this nations greatest resource; agricultural lands, as the demand for the increased production of food and fibre exists cannot be lightly dismissed.

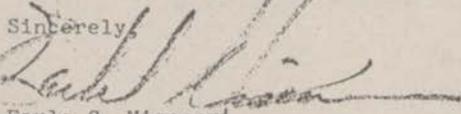
In, Weeds and Human Affairs summary of losses due to weeds, states that as early as 1938, "a conservative estimate of 3 billion dollars has been given as the annual loss in the United States because of weeds. An accurate estimate is impossible." On August 8, 1972, Oregon Governor Tom McCall, appoin-

ted a task force to mobilize the state's resources for tansy ragwort control. In a statement to the taskforce, he said, that at least 4 million acres in Oregon were infested with tansy ragwort, with annual losses in forage and livestock of more than twenty million dollars.

These facts presented indicate the necessity of the stringent enforcement of noxious weed control practices on public as well as private lands in a given area."

You are requested to make every effort humanly and fiscally possible to assist the agricultural community of Oregon to reduce this costly hazzard to a minimum.

Sincerely,



Earle C. Misener

LETTER FROM PHILIP A. BRIEGLER

April 21, 1975

Honorable Mark O. Hatfield
United States Senate
Washington, D. C. 20510

Dear Mark:

As the Congress considers appropriations for Forest Service research, I commend again your long interest in and vigorous support of such activities so important to the Northwest and to the Nation.

In result, for example, the research facilities at Corvallis and Bend have been greatly enlarged and modernized, and the output of useful research findings accelerated. The increasingly important programs of timber growing and of timber and environmental protection have been stimulated and made more efficient thereby.

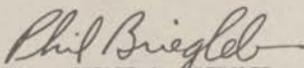
In studying next year's Forest Service high-priority research plans for Oregon, I find two programs in particular urgently need strengthening now.

Forest Resources Evaluation Research for the Pacific Coast is headquartered in Portland, Oregon. In years past this program concentrated on the timber resource. But Public Law 93-378 wisely passed by the Congress last year requires the Forest Service to determine the extent, condition and use of all renewable resources on forest and rangelands, including timber, forage, water, wildlife and recreation. The potential of all these resources under various types of management for meeting future demands must be determined, and plans to manage these resources to produce the desired goods and services must be formulated and recommended. To operate realistically, this new assignment of responsibility will require an appropriation increase to the Pacific Northwest Forest and Range Experiment Station of \$1,200,000.

Part of a new program of Range Rehabilitation, including Research Support, is proposed for central and eastern Oregon. Its purpose is to intensify the management of these lands so that they can make a greater contribution to the rapidly increasing demands for red meat. The research support part of this program would be provided by the Forest Service Range and Wildlife Habitat Laboratory at La Grande. Activation of this urgently needed program would require a budget increase of \$2,300,000 to cover both the rehabilitation and research support phases.

If you can find ways to increase the funds available for the above work, I am sure your efforts will be greatly and widely appreciated. Will you please include a copy of my letter in the record of the Hearings.

Sincerely,


 PHILIP A. BRIEGLER
 Consulting Forester

LETTER FROM H. C. MASON

March 6, 1975

Honorable Mark O. Hatfield
 United States Senate
 Washington 25, D.C.

Dear Senator Hatfield:

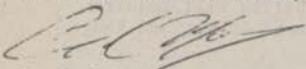
Efficient use of wood grown and harvested in American forests has a beneficial effect on economic, environmental and energy circumstances in our nation. Recent times have seen great strides in the improvement of this efficiency; however, much more remains to be done to bring the level of wood use efficiency equal with other materials consumed in our country.

The Forest Products Laboratory of the Forest Service, USDA, Madison, Wisconsin, has been modestly funded for project STRETCH in past years and through this has demonstrated that significant improvement can be attained in wood utilization through application of existing technology. Clearly there are great opportunities to implement modern electronic sensors, computers and control mechanisms in the wood conversion industry.

I strongly endorse the proposed budget increase for project STRETCH as a means of accelerating this implementation.

Sincerely,

H. C. MASON & ASSOCIATES, INC.


 H. Carl Mason
 President

LETTER FROM D. C. GUNVALDSON



GLADSTONE, OREGON 97027

March 6, 1975

Honorable Mark O. Hatfield
 United States Senator
 Russell Senate Office Building
 Room 463
 Washington, D. C. 20510

Dear Senator Hatfield:

For a number of years IWA has been interested in the work of the Pacific Northwest Forest and Range Experiment Station. Their scientists, in 5 Oregon communities, have made major contributions to forestry progress. Recent examples are their work on the Douglas-fir tussock moth, reforestation problems in Southern Oregon, and economic studies of log exports.

This letter is to ask you for support of a \$1,200,000 budget increase for the Station to undertake a major program of forest resources evaluation research. Two recent developments underscore this need.

First, the Renewable Resources Planning Act passed by the last Congress (PL 93-378) gives the Station responsibility for assessing the status and outlook for all renewable natural resources on the Pacific Coast. The importance of a firm fix on natural resources is certainly made apparent by our current uncertainties about energy and minerals. This will be a most ambitious project, involving new schemes for inventorying land resources, groups of experts visiting lands of every ownership, and the complex job of compiling the results.

Second, recent studies by the Station have raised questions about the continuity of timber supplies in Western Oregon. There is a strong possibility of a hiatus between the time the remaining old-growth timber is removed from private lands, within a few years, and the time when young growth will emerge as a significant economic resource. It is not clear how deep nor how long the hiatus might be. Adequate answers to these urgent questions require detailed information to be gathered by the Station about the present status of the young growth resource and the potential productivity of those lands.

I strongly urge your consideration of and support for this budget proposal.

Sincerely,

D. C. Gunvaldson
 D. C. Gunvaldson
 President

LETTER FROM I. E. SCHROEDER

March 3, 1975

Dear Mark:

You have been most helpful in supporting forestry programs in Oregon. We appreciate your efforts last year to secure funds for forestry incentives and reforestation, for the Douglas-fir tussock moth program, and for the Forestry Sciences Laboratory at Corvallis. We hope that Congress is successful in overriding the proposed rescission or deferral of several of those funding increases.

I would like to call your attention to two matters for consideration in the fiscal year 1976 budget hearings. Both concern research programs of the Forest Service.

Of special importance for Oregon is an acceleration and intensification of Forest Survey. This activity has Federal responsibility for the inventory of forest resources. As you may know, Oregon State University, at the request of the Oregon State Board of Forestry, is conducting an analysis of timber resources in the state using in part data provided by Forest Survey. Using this information, as well as information from other sources, the Forestry Department will work with other concerned organizations and individuals to develop a forestry program for Oregon.

The OSU study points out again how important it is to have timely and detailed information for each of the forest zones of the state. In future years there will no doubt be additional analyses of timber and related resources in Oregon, for the demand for these resources increase year by year, while the land base remains stable or shrinks. It is important that we accelerate forest inventory work as promptly as possible. Unless there is a substantial increase in funding, resource assessments required under the Humphrey-Rarick Act (PL 93-378) are likely to dilute the already inadequate survey efforts.

The Forest Service proposes a \$1,200,000 acceleration of survey efforts for the West Coast States as soon as the budgetary situation permits. I hope this increase can come this year.

There continues to be a great concern about insect problems in the West. Through your efforts, we now have an accelerated Douglas-fir tussock moth program to give us a better array of detection and control techniques than heretofore available. We have good reason for optimism; already we are testing better detection systems and improved biological control techniques.

The next big insect, also a forest defoliator, is the western spruce budworm that is now affecting several million acres of forest land in the Northwest. A research and development program similar to the tussock moth effort is needed. Entomologists from my office have been asked to review the spruce budworm program. While the final details remain to be worked out, it appears that a 5-year effort, costing about \$3,000,000 per year is envisioned. We hope this program can also be started this year.

Thanks for your continued support of our forestry programs.

LETTER FROM JOHN C. HAMPTON

March 19, 1975

Senator Mark O. Hatfield
U. S. Senate Building
Washington, D. C. 20006

Dear Mark:

Research assistance provided to industry by the Forest Products Laboratory in Madison has turned into a very practical form in conjunction with our Willamina operation.

A couple of years ago, in an attempt to stretch utilization of our timber resources, the laboratory developed a sawing program called Best Opening Face. Following this, our Willamina plant, after considerable examination of the alternatives, decided to install a new quad band mill to improve utilization at Willamina.

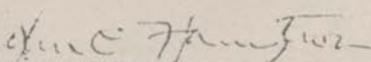
In conjunction with this, the Forest Products Laboratory modified its BOF program to provide industry and Willamina with a highly useful computer program, designed to maximize lumber recovery and to enhance value derived from the raw material.

Frequently research is considered to be pie-in-the-sky. I wanted to call to your attention this very specific, useful and practical development which evolved from the work done by the Forest Products Laboratory.

When the time comes, I hope you will be in a position to insure that the constructive programs of the Forest Products Lab receive the financial support which they deserve.

Sincerely yours,

WILLAMINA LUMBER COMPANY


JOHN C. HAMPTON
President

PREPARED STATEMENT OF HON. JOSEPH M. MONTOYA

INDIAN PROGRAMS

Senator STEVENS. A prepared statement has been submitted by Senator Montoya concerning Indian programs for the fiscal year 1976 budget. He has other committee hearings and could not be here at this time. His statement will appear at the conclusion of the hearings for fiscal 1976 (p. 3004).

PREPARED STATEMENT OF ROCKY BOY'S (MONT.) HEALTH BOARD

The Rocky Boy's Health Board appeared before the subcommittee on Wednesday, May 14, and their testimony appears on pages 2082-2083. The Board's prepared statement also will appear at the conclusion of the hearings (p. 3014).

SUBCOMMITTEE RECESS

Does any other person want to make a statement here this morning? If not, this subcommittee will recess, subject to the call of the Chair. [Whereupon, at 11:10 a.m., Thursday, May 15, the committee was recessed, to convene at the call of the chair.]

DEPARTMENT OF THE INTERIOR AND RELATED
AGENCIES APPROPRIATIONS FOR FISCAL YEAR
1976

WEDNESDAY, OCTOBER 1, 1975

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, D.C.

The subcommittee met at 10 a.m. in room 1114, Everett McKinley Dirksen Office Building, Hon. Robert C. Byrd (chairman) presiding.
Present: Senator Robert C. Byrd.

DEPARTMENT OF THE INTERIOR

BUREAU OF OUTDOOR RECREATION

STATEMENT OF MR. NATHANIEL P. REED, ASSISTANT SECRETARY
FOR FISH AND WILDLIFE AND PARKS

ACCOMPANIED BY:

JAMES G. WATT, DIRECTOR

JOSEPH W. GORRELL, DEPUTY DIRECTOR

EDWARD J. CURVEY, ASSISTANT DIRECTOR FOR MANAGE-
MENT AND BUDGET

A. HEATON UNDERHILL, ASSISTANT DIRECTOR FOR STATE
PROGRAMS AND STUDIES

FRED L. JONES, ASSISTANT DIRECTOR FOR FEDERAL PRO-
GRAMS AND PLANNING

WILLIAM C. DENT, CHIEF, DIVISION OF BUDGET AND FINANCE

FRANCIS M. WILES, DIRECTOR OF BUDGET, OFFICE OF THE
SECRETARY

OPENING STATEMENT OF SENATOR ROBERT C. BYRD

Senator ROBERT C. BYRD. The subcommittee will come to order. This is the time set for hearing the budget estimates of the Bureau of Outdoor Recreation and the appropriations requested from the Land and Water Conservation Fund.

We will follow the usual practice of hearing the BOR budget estimates first. Today, however, the committee will hear some outside witnesses on matters pertaining to the BOR budget before moving on to the Land and Water Conservation Fund estimates of the National Park Service, Forest Service and Fish and Wildlife Service. We will submit written questions on the Bureau of Land Management

portion of the Fund budget, and it is not my intention to hear BLM witnesses on their relatively small share of the Fund.

BUDGET ESTIMATES

For its own operations the Bureau of Outdoor Recreation is requesting \$5,645,000 for fiscal 1976, an increase of \$265,000 over appropriations for fiscal year 1975. For the Land and Water Conservation Fund, the estimate is again \$300 million. The justification has been included in part 1 of the hearing record.

PREPARED STATEMENT

At this time we will hear Secretary Reed's statement. The full statement will be included in the record. I suggest you highlight it for the committee.

[The statement follows:]

Mr. Chairman, I am delighted to have the opportunity to come before you and members of this Subcommittee for a discussion of the programs and budget requests for the Bureau of Outdoor Recreation and the Land and Water Conservation Fund. With me today are representatives of my three Bureaus -- the Bureau of Outdoor Recreation, the Fish and Wildlife Service and the National Park Service -- and the Bureau of Land Management and the Forest Service.

Mr. James Watt is our talented Director of the Bureau of Outdoor Recreation. I am impressed with his leadership and uncanny ability to complete assignments within almost impossible deadlines. The administration of the Land and Water Conservation Fund continues to be a model of partnership with the States and participating Federal agencies.

The Bureau of Outdoor Recreation was established in 1962. Its Fiscal Year 1976 Salaries and Expenses appropriation request is \$5.6 million to administer the Bureau's planning and research, Federal coordination and technical assistance programs. This appropriation request poses an increase of \$265,000.

The Land and Water Conservation Fund budget request for Fiscal Year 1976 is \$300 million, the same amount as in Fiscal Year 1975.

The Bureau is responsible for promoting coordination and development of effective programs relating to outdoor recreation. It serves as the Federal focal point to assure prompt and coordinated action at all levels of government for coordinating, planning and financing public outdoor recreation; and encouraging and assisting all governmental and private interests to conserve, develop, and utilize outdoor recreation resources for the benefit and enjoyment of present and future generations.

Under the Land and Water Conservation Fund Act of 1965, as amended, the Bureau administers a program of financial assistance to States and their political subdivisions for comprehensive planning, land acquisition, and facility development. The Fund also helps finance the acquisition of Federal lands and water areas for recreational purposes.

It is important to reiterate that sound outdoor recreation policies and programs enhance the quality of our national environment and contribute materially to the happiness and well-being of our citizenry.

In a typical year's Land and Water Conservation Fund programming, 40% goes for Federal land acquisition and 60% for State land planning, acquisition, and development. That State share is further broken down for division among States: 40% is apportioned equally

among the States; 30% goes to States based on their total population; another 25% is apportioned on the basis of urban population; and 5% is put in the Secretary of the Interior's contingency fund for projects of regional or national significance or of emergency nature.

\$300 million is covered annually into the Land and Water Conservation Fund. As I mentioned previously, the budget request for Fiscal Year 1976 is for \$300 million, of which \$175,840,000 would provide assistance to the States; \$117,920,000 would provide for Federal land acquisition; and \$6,240,000 would provide for the administration of the Fund by the Bureau.

A great strength of the State portion of the program is that the Federal Government does not manage the areas and facilities thereby created. They are managed by the State or local units of Government and do not add further to the burden of Federal administration. Through the Fund, some 16,000 park and recreation projects have been approved in the 50 States, Puerto Rico, Guam, American Samoa, the District of Columbia and the Virgin Islands.

Over the ten-year life of the Fund, which incidentally expires in Fiscal Year 1989, the Bureau has directed over \$3 billion, including the State matching dollars, toward increasing recreation opportunities for Americans on 2.5 million acres of new recreation land acquired under the program.

Almost \$1.2 billion has been made in grants to the States. These dollars, equally matched with non-Federal money, have been the seed money that inspired the State and local governments to raise several additional billions of dollars for recreational areas or projects which are compatible with and complement the State-Federal projects.

In short, Mr. Chairman, the impact of the Fund in terms of its ability to generate State and local recreation spending has exceeded the \$1.2 billion actually apportioned to the States. It has led to the acquisition of over one million acres of State and locally managed recreation lands and almost 10,000 additional projects to develop recreation facilities on these lands.

The Federal side of the Fund is no less impressive. During the life of the program through June 1974, the last year for which we have completed statistics, nearly \$700 million has been divided among the principal Federal land managing agencies for the acquisition of nearly 1.5 million acres. Specifically, \$494,205,000, including \$72 million for acquisition at Redwood National Park, has helped the National Park Service acquire 509,332 acres; \$170,240,000 has enabled the Forest Service to acquire 782,059 acres; \$19,224,000 has helped the Fish and Wildlife Service acquire 40,297 acres; and the Bureau of Land Management has received \$2,223,000 for the acquisition of 3,238 acres.

Last year I mentioned the procedural delays that were involved in the acquisition of inholdings in the National Park System units authorized prior to 1960. The "Opportunity Inholding Purchase Program", as we describe it, has undergone many modifications since its inception in Fiscal Year 1969 when a lump sum was provided by the Congress for the acquisition of private lands in the older areas of the National Park System on a willing buyer-willing seller basis. During the period from 1969 through 1974, \$51.5 million was made available to acquire such lands. With these funds, we acquired approximately 56,000 acres.

This program is a most successful one but it was plagued with inordinate delays and consequent cost escalation. Your quick response to my suggestion that procedures might be simplified was most gratifying and I am here today to say that there has been material expedition. I would like to mention some of the time-saving steps.

- (1) One region has instituted procedures whereby all offers must be accepted within five working days. This requirement also includes notifying the landowner of acceptance and requesting the Treasurer's check.
- (2) Preliminary title evidence is being ordered at the same time the appraisal is ordered.
- (3) Most importantly, realty specialists assigned to field offices are now being given authority to accept offers to sell on the spot with prescribed guidelines.

The total program for Fiscal Year 1975 amounted to \$19 million, which included \$891,043 carried forward from Fiscal Year 1974. From that we have assessed \$2 million for pertinent costs associated with the acquisition of lands (appraisals, title surveys, etc.) and \$25,000 was reprogrammed to Virgin Islands National Park. As of June 30, 1975, all of the \$16.7 million had been obligated. You can see that the program is in high gear. I want to assure you that all of the safeguards essential to prudent action are still in full force and effect. We are extremely pleased with its success and continue to receive every indication that this program will continue to progress under these greatly improved and streamlined procedures. Furthermore, the National Park Service obligated all but \$366,235 of its \$74.6 million FY 1975 land requisition program.

Members of this Subcommittee and those members of our legislative subcommittees have asked periodically what the dollar needs are to acquire the land authorized by Congress. On February 11, 1975, Director Watt appeared before the Senate Interior Subcommittee on Parks and Recreation and testified that after Fiscal Year 1975, the land acquisition authorizations for the National Park System total \$572 million. This figure includes

\$254 million attributable to the authorizations for Cuyahoga Valley National Recreation Area, Big Thicket and Big Cypress National Preserves, recently enacted in the 93rd Congress. In the legislation authorizing these three areas, the Congress directed that the land acquisition program be substantially completed in six years. This figure also includes \$76 million for privately-owned areas within parks authorized prior to 1960.

Under the current appropriation level for the National Park Service from the Fund, it gets approximately \$75 million annually. At this rate it will take eight years to eliminate the current backlog in authorized land acquisition assuming no additional authorizations and no increase in land values. The legislative direction that the land acquisition program for the three areas be substantially completed within six years necessarily will raise them to a priority level during that period.

The other Federal land managing agencies also have substantial specific land acquisition authorizations which create demands on the Fund.

	(\$ millions)
<u>Forest Service</u>	
-- Specially authorized areas	124
-- Wilderness and primitive areas	47
	171
<u>Fish and Wildlife Service</u>	
-- Specially authorized areas	22
-- Wilderness	2
	24
<u>Bureau of Land Management</u>	
-- Specially authorized areas	8

In addition, there are many opportunities under existing general authorizations for each of the Federal land managing agencies to use the Fund for land acquisition. For example, the Forest Service acquires specifically designated recreation areas at this time. The Fish and Wildlife Service acquires lands for recreation purposes within or adjacent to existing refuges and hatcheries. The Fish and Wildlife Service is presently formulating a plan for acquiring land essential to the performance of their responsibilities under the Endangered Species Act.

Mr. Chairman, in addition to administering the Land and Water Conservation Fund, the Bureau of Outdoor Recreation carries out the basic functions I described earlier. In this regard, I want to mention that they are actively engaged in studies of proposed Wild and Scenic Rivers and National Scenic Trails.

Mr. Chairman, I realize that I have given a rather brief overview. In the event that I did not touch upon any program or policy that may be of interest to you and the other members of this Committee, I want to assure you that my associates and I will be happy to respond to any questions that you have.

STATEMENT HIGHLIGHTS

Secretary REED. With your permission, I would like to submit my statement for the record and touch on some of the highlights.

I am delighted to come before you and the members of this subcommittee for a discussion of the programs and budget requests for the Bureau of Outdoor Recreation and the Land and Water Conservation Fund.

With me today are Director James Watt of the Bureau, and Mr. Joseph Gorrell, Deputy Director. The Bureau has the reputation of running one of the best examples of State-Federal cooperation with its administration of the Land and Water Conservation Fund. I also have with me representatives of the Bureaus that participate in the Land and Water Conservation Fund.

I am indeed proud of the professionals that support and assist the Director of the Bureau of Outdoor Recreation in the planning and coordination of their important recreational resource programs. One of the great pleasures of my tenure has been the opportunity to be associated with these dedicated, capable employees who, in my judgment, are among the singularly most dedicated members of the Federal Government.

The Bureau of Outdoor Recreation was established in 1962. Its fiscal year 1976 "Salaries and Expenses" appropriation request is \$5.6 million, an increase of \$265,000, for noncontrollable increases such as Pay Act adjustments, to administer the Bureau's planning and research, Federal coordination and technical assistance programs with regard to outdoor recreation.

LAND AND WATER CONSERVATION FUND PROGRAM

The Land and Water Conservation Fund appropriation request for fiscal year 1976 is \$300 million, the same amount as in fiscal year 1975.

The Bureau serves as the Federal focal point to assure prompt and coordinated action at all levels of government for coordinating, planning and financing public outdoor recreation. It encourages and assists all governmental and private interests in the conservation, development and utilization of outdoor recreation resources for the benefit and enjoyment of present and future generations.

I would like to emphasize that sound outdoor recreation policies and programs enhance the quality of our natural environment and contribute materially to the happiness and well-being of our citizenry.

The Land and Water Conservation Fund program is generally split 60 percent State and 40 percent Federal. The States use their portion for land planning, land acquisition and development. Furthermore, the States match the Federal grants. The Federal portion is used for land acquisition and is shared by the National Park Service, the Fish and Wildlife Service, the Bureau of Land Management, and the Department of Agriculture's Forest Service.

STATE ASSISTANCE

A great strength of the State portion is that the Federal Government does not manage the areas and facilities thereby created. They are managed by the State or local governments. Some 16,000 park and

recreation projects have been approved for funding. These are located in 50 States, Puerto Rico, Guam, American Samoa, the District of Columbia and the Virgin Islands.

Almost \$1.2 billion has been made in grants to the States. These dollars, equally matched with non-Federal money, have been the seed money that inspired the State and local governments to raise several additional billions of dollars for recreational areas or projects which are compatible and complement the State-Federal projects. In fact, over 1 million acres of State and locally managed recreation lands have been acquired.

FEDERAL PROGRAMS

The Federal portion of the program is also impressive. Through June 1974—the last year for which we have completed statistics—nearly \$700 million has been divided among the National Park Service, the Fish and Wildlife Service, the Bureau of Land Management and the Forest Service. Nearly 1.3 million acres have been acquired.

Specifically, \$494 million, including \$72 million for Redwood National Park, has helped the National Park Service acquire 509,332 acres.

The \$170 million has enabled the Forest Service to acquire 782,059 acres.

The \$19 million has helped the Fish and Wildlife Service acquire 40,297 acres.

The \$2 million has helped the Bureau of Land Management acquire 3,238 acres.

Last year when I appeared before this committee, I mentioned my desire to eliminate certain procedures that were delaying the acceptance of offers to sell in the opportunity inholding purchase program. You will recall that this program consists of the acquisition of inholdings in the National Park Service areas authorized prior to 1960. Your quick response enabled us to expedite these "willing seller-willing buyer" transactions materially.

I want to assure you that all the safeguards essential to prudent action are still in full force and effect. We are extremely pleased with its success and I am here to say that the landowners wanting to sell have been pleasantly impressed with our ability to close the transactions so quickly compared to the past. Once again, I wish to express our appreciation for your assistance in helping us streamline and simplify the process.

FUNDS NEEDED FOR AUTHORIZED FEDERAL LAND ACQUISITION

Members of this committee and members of our legislative committees ask me periodically what the dollar needs are to acquire land authorized by the Congress to be financed by the Land and Water Conservation Fund. As you know, we have specific authorizations as well as general authorizations.

Specific authorization needs amount to \$776 million, as follows:

National Park Service—\$572 million, including \$254 million attributable to the recent authorizations by the 93rd Congress for Cuyahoga Valley National Recreation Area, Big Thicket and Big Cypress National Preserves. Incidentally, in the legislation authorizing

these three areas, the Congress directed that the land acquisition program be substantially completed in 6 years.

Forest Service—\$171 million.

Fish and Wildlife Service—\$25 million.

Bureau of Land Management—\$8 million.

Over and above the \$776 million for specific authorizations, the needs to accommodate general authorizations and pending and possible legislative additions would add approximately \$2 billion, making the estimated grand total \$2.9 billion.

In the general authorization category, the Forest Service acquires specially designated recreation areas. Furthermore, the Fish and Wildlife Service acquires land for recreation purposes within or adjacent to existing refuges and hatcheries. Under the Endangered Species Act, the Fish and Wildlife Service is presently formulating a plan for acquiring land essential to the performance of the responsibilities specified in the Act.

Mr. Chairman, in addition to administering the Land and Water Conservation Fund, the Bureau of Outdoor Recreation carries out the basic functions I mentioned earlier. In this regard, I want to mention that they are actively engaged in studies of proposed Wild and Scenic Rivers and National Scenic Trails.

Mr. Chairman, this completes my rather brief highlight statement. My associates and I will be glad to discuss with you any program or policy that may be of interest to you and other members of this committee.

Mr. Watt has a statement on the budget for his Bureau as well as one for the Land and Water Conservation Fund. The representatives from the Federal agencies participating in the Fund also have statements.

Thank you, Mr. Chairman.

INCREASE OF FEDERAL SHARE

Senator ROBERT C. BYRD. Thank you, Mr. Secretary. I notice that you continue to follow a 60-40 split of the Land and Water Conservation Fund for the State-Federal shares. With all the pressing Federal land acquisition priorities, why isn't the Federal share increased?

Please give us your thinking on this.

Secretary REED. It has been our feeling that we wanted to maximize the participation of the States in getting as much of the real estate into State and local park systems, trying in a sense to minimize the Federal Government's entry into urban recreation into smaller recreation areas surrounding urban areas, that we should be involved in the bigger sites, and they have the direct responsibility for the more urban and pressing local parks.

If we cut back on the States' share and increase the Federal share, well, I think, we would see an increase in the demands by State and local government for increased Federal participation in urban programs, which will be more expensive in the long run. However, we are alarmed at the growing Federal commitment.

NATIONAL PARK SERVICE ACQUISITION IN URBAN AREAS

Senator ROBERT C. BYRD. We are confronted again this year with requests for additional money to fund new urban parks under the National Park Service. With the considerable assistance available to States and communities under the Land and Water Conservation Fund, not to mention revenue sharing, why is it necessary to keep expanding the urban park role of the Park Service?

Secretary REED. It is my hope, sir, that our strong testimony before the authorizing committees of the Congress is persuasive and that that point of view will be shared by them. We do not think that it is necessary for the Federal Government at this time to make major entry into the urban recreation needs of the Nation. These can be satisfactorily met by State and local assistance from the Land and Water Conservation Fund.

Senator ROBERT C. BYRD. What is the added burden of expensive acquisition programs doing to the regular acquisition programs of the Park Service?

Secretary REED. They are backlogging us very badly, Mr. Chairman. These urban areas that have been added are extremely expensive. They are extremely expensive in land purchase price. They are extremely expensive in manpower. They are extremely expensive in terms of operational and maintenance expense. They are the most expensive areas we manage.

STATE GRANT CONTINGENCY FUND

Senator ROBERT C. BYRD. The Secretary continues to set aside 5 percent of State assistance in a contingency fund that runs close to \$9 million. Generally, how is this contingency fund used?

Secretary REED. I will let the Director answer, but having watched the contingency fund as a member of the State government in Florida prior to my coming to the Federal Government, though I didn't get a project into the contingency fund, as a State employee, I did find out from four consecutive Secretaries in a row, and having overview on it now, generally it is done on an emergency basis. Projects are very carefully screened.

I believe the Director now has pending in his office probably two or three times the projects we could fund. It is a system which is very, very carefully watched and unless a real emergency is shown, the projects are not acceptable to us.

Mr. Watt, would you expand on that?

Mr. WATT. This program has been a very successful one. First of all, we discourage as much as we can applications for those funds because we want to preserve those moneys so that they can be used to acquire areas that are in danger—those areas which are in danger of being taken over for development or for other uses that would be detrimental to our uses, and for which there is no other source of financing. Also, we want to establish that the area would provide a unique and different type of recreation area and that it would serve a substantial number of people for recreation purposes. Once those criteria are met, we then consider the priorities that it has in the State program and make the commitments accordingly.

NATIONAL PARK SERVICE ACQUISITION BACKLOG

Senator ROBERT C. BYRD. Secretary Reed, your statement on page 5 says the backlog of authorized acquisitions for the Park Service totals \$572 million. Is that the estimated total for all Park Service acquisitions or just specific authorizations?

Secretary REED. Those are the specific authorizations, Mr. Chairman, and another figure that I would like to get into the record to echo your deep concern for the growing backlog is that we have been experiencing and are experiencing even this year in a time of national recession, approximately 15-percent escalation in land value price per year.

Senator ROBERT C. BYRD. Please supply a table, similar to the one provided last year, detailing these acquisition estimates and including areas proposed for authorization.

Secretary REED. It will be our pleasure, sir.

[The information follows:]

ESTIMATED ACQUISITION COSTS BY NATIONAL PARK SERVICE AFTER F.Y. 1975

<u>Current Authorization</u>	
Apostle Islands	\$ 1,000,000
Appalachian Trail	4,310,000
Big Cypress	155,700,000
Bighorn Canyon	450,122
Big Thicket	63,612,000
Biscayne	3,699,300
Boston	2,700,000
Buffalo River	4,158,000
Canaveral	7,938,500
Cape Lookout	7,853,753
Capitol Reef	87,600
C & O Canal	909,919
Colonial	7,563,964
Cowpens	461,375
Cumberland Island	246,000
Cuyahoga Valley	34,400,000
Deficiencies	13,500,000
Delaware Water Gap	6,620,000
Everglades	2,311,772
Fort Donelson	52,156
Fort Necessity	600,000
Fort Union Trading Post	300,000
Gateway	11,963,000
Golden Gate	32,510,000
Grand Canyon	1,250,000
Gulf Islands	100,000
Harpers Ferry	1,290,000
Indiana Dunes	7,463,251
Inholdings	76,667,921
John Day Fossil Beds	395,000
Knife River	595,000
Lake Mead	4,382,438
Lower St. Croix River	18,050,000
Martin Van Buren	210,000
Minute Man	840,000
Moore's Creek	241,000
Morristown	563,061
Muir Woods	143,324
Point Reyes	7,354,000
Relocation	15,181,750
Rocky Mountain	1,446,569
Sleeping Bear Dunes	36,953,000
Upper St. Croix River	699,994
Virgin Islands	10,925,000
Voyageurs	24,917,231
Total, Current Authorization	\$ 572,616,000
<u>Areas Proposed for Acquisition</u> ^{1/}	
Assateague Island	1,350,000
Indiana Dunes	1,080,000
Klondike Gold Rush	2,655,000
New River	2,500,000
Total, Areas Proposed for Acquisition	\$ 7,585,000
Total, All Areas	\$ 580,201,000

^{1/} Comprises areas on which the Administration has recommended favorable action

ACQUISITION OF NEWLY AUTHORIZED AREAS

Senator ROBERT C. BYRD. Are we still authorizing new areas faster than we can handle them?

Secretary REED. There is a strong sense, I think, in the authorizing committee, that we have largely completed the major outline of the National Park Service. There may be two or three areas that are of acute national interest in the lower 48, but the very active work of the last 10 years, during which 99 new areas were added by the Congress—20 areas in the last 2 terms of the Congress, we have done a remarkable job of rounding out, fleshing out the national park system.

The areas in Alaska are still very much ahead of us in the future. The feeling was that we should acquire these major lands now and put them aside and hopefully staff them and properly utilize them as rapidly as possible. I think that we are ending an era of large purchase.

I think there are several unique areas in the lower 48 that are obtainable right now and should be obtained right now, but generally I think the era of the tremendous expansion is behind us.

Senator ROBERT C. BYRD. More than half of the acquisition backlog is for three units created in the last Congress and all three have a 6-year acquisition directive. Will that put the squeeze on other acquisitions?

Secretary REED. Yes, sir.

Senator ROBERT C. BYRD. Aside from the legislative directive, what are the relative priorities of those three areas when looking at the Park Service land acquisition program as a whole?

Secretary REED. The problem at Big Thicket is that we have cutting now going on within the authorized boundaries. There are some sentiments of colleagues of yours in the House, sir, for legislative taking there. I would have to look upon that with some suspicion, having been badly burned in the Redwoods taking. I am nervous about going to a court on a legislative taking issue there, though I recognize the problem of continual cutting within the authorized boundary.

However, we have completed our contracting with the Corps of Engineers, which is going to be our land acquisition agent in the Big Thicket, and we believe that we are ready to embark on a good thrust of land acquisition there.

We will try to buy as a primacy the lands that are being cut or are about to be cut to minimize the damage to the preserve.

With regard to Big Cypress, we are off to a very good start. As you know, the State of Florida put up \$40 million of its own money for us to come in there, and we will be spending the State money at a rapid rate now that we have opened a land office in Naples, and their money will be sufficient with a small amount of Federal money for the first year or so.

In Cuyahoga, we are just getting established there and will begin our first purchases in this fiscal year.

But all three of them were given legislative priority by the Congress which presents, as you point out, other problems elsewhere in the system.

ENLARGEMENT OF THE LAND AND WATER CONSERVATION FUND

Senator ROBERT C. BYRD. Last year there was some discussion on enlarging the Fund's authorization. There has been some legislation along that line. Where does that idea stand now?

Secretary REED. We have testified in front of both the legislative committees of the Senate and the House, sir, on the subject of an expanded fund. It has passed out of the Senate committee—a large expansion of the fund to \$1 billion a year.

We have continued as an administration to testify that the fiscal climate of this year is not one that we can recommend a major increase at this time, that we recognize the need both in the State program and in the Federal program and are hopeful that a forecast of an increase in fiscal stability in the 1976 calendar year will lend itself to the administration making a positive recommendation on raising the level of the fund to some higher level.

I think it would be appropriate to say that we do not think a move from \$300 million to \$1 billion is right. We think there are intermediate steps that should be our goal with some priority.

UNAPPROPRIATED BALANCE IN FUND

Senator ROBERT C. BYRD. What is the unappropriated balance in the fund now?

Secretary REED. \$254 million.

Senator ROBERT C. BYRD. How much of that is committed?

Secretary REED. \$62 million was the advance appropriation from the general fund before the Land and Water Conservation Fund had sufficient moneys to accommodate the funding of Redwoods National Park, and we are committed by statute to repaying to the general treasury that \$62 million this year or next year, unless forgiven by the Congress.

Senator ROBERT C. BYRD. Does that mean that \$192 million remains uncommitted?

Secretary REED. That's correct, sir.

BOR SALARIES AND EXPENSES

Senator ROBERT C. BYRD. Let's talk a little about BOR salaries and expense accounts. We will hear from Director Watt.

Mr. WATT. I have a prepared statement. If I may, I would like to submit that for the record.

Senator ROBERT C. BYRD. That will go into the record.

[The statement follows:]

Mr. Chairman:

I appreciate the opportunity to appear before your Subcommittee to discuss the budget requests of the Bureau of Outdoor Recreation.

Over the years, the Bureau and your Subcommittee have shared a mutual objective of assuring adequate outdoor recreation resources for the American people. The Bureau has endeavored to further this vital objective through its planning and coordinating responsibilities as the Federal focal point for outdoor recreation. Our financial and technical assistance to the States and their political subdivisions, other Federal agencies and the private sector have been undertaken also with this objective firmly in mind.

Renewed and strong emphasis has been accorded the Bureau's Fiscal Year 1976 technical assistance program. Our primary aim is to measurably increase the supply of outdoor recreation opportunities. While technically assisting Bureau clients is an implicit part of all Bureau program activities, special emphasis will be placed on the development of new technical assistance initiatives designed to motivate public agencies and the private sector direct suppliers of outdoor recreation. Success in this endeavor will enhance private opportunities to serve the public, thereby reducing demands on the Federal tax base. This effort will also identify Federal lands, not needed for primary missions, with potential for meeting outdoor recreation needs of people through cooperative management with State and local public agencies.

We look forward to continuing our excellent relationships with your Subcommittee in the furtherance of mutual objectives.

Salaries and Expenses

The Bureau's Fiscal Year 1976 Salaries and Expenses request for carrying out our planning, coordinating, research and technical assistance responsibilities reflects the tight fiscal situation which the Nation faces. Except for cost increases beyond our control, our Salaries and Expenses request is at the same operating level as the current fiscal year.

The request for the Salaries and Expenses appropriation is \$5,645,000. This is an increase of \$265,000 because of uncontrollable cost increase items such as reimbursement for space, services and facilities provided by General Services Administration, within grade salary advancements and pay cost increases.

Of the total Salaries and Expenses request, \$2,694,000 is for Planning and Research activities. A major thrust of this activity is the conduct of studies of wild and scenic rivers and national trails.

These studies have been increasing in complexity as a result of the need to consider the requirements of the National Environmental Policy Act of 1960 (including the preparation of environmental impact statements), various State and Federal water quality acts, and the new principles and standards for planning water and related land resources development by the Water Resource Council. These Federal

standards require all water and related land resources development projects and wild and scenic river proposals consider a full range of alternatives and the environmental consequences of each. This is necessary so that decisionmakers will fully be aware of the trade-offs to be evaluated when considering proposals and benefits to be foregone whichever alternatives is selected. Also, if a river to be studied is known to be directly involved with power development proposals, oil share extraction or water supply for coal processing, acceleration of this type of study is a must in view of the energy crisis.

Water resource problems and special natural resources situations will be investigated and reviewed for their recreation impact and opportunities as a part of the Planning and Research activity. The Bureau will assist in the formulation of the recreation components of studies of the Bureau of Reclamation, the Corps of Engineers and other Federal agencies. In addition, we review reports and environmental impact statements of the several Federal agencies on water development proposals, as well as the applications by private interests which require a Federal license or permit for hydroelectric development for dredging and other related work on navigable waters. The purpose of our review work will be to assure that adequate consideration is given to the preservation of natural, scenic and recreational resources and to identify opportunities for meeting outdoor recreation needs.

The Fiscal Year 1976 budget request for the Federal Coordination activity is \$1,461,000. During FY 1976, the Bureau will increase its coordinative efforts to implement new initiatives to provide recreation opportunities and to more effectively manage and develop existing resources. The Nationwide Plan is the primary vehicle for achieving inter-related planning at all levels of government and with private interests. During FY 1976 the Bureau will accelerate its efforts to review and coordinate proposals for increased utilization of Federal land through cooperative management by State and local governments. The Bureau will identify existing and potential recreation lands which are of interest to non-Federal agencies and which are not necessary for the primary mission of the Federal agencies. The Bureau will coordinate development of guidelines for cooperative management of such Federal lands by non-Federal agencies. Under the Federal Coordination activity, the Bureau will also continue substantial efforts in the review of environmental impact statements and Section 4(f) reports for Federal highway projects, giving priority to those statements which indicate a probability of major recreation environmental consequences.

The FY 1976 budget request for Technical Assistance is \$1,490,000. During the fiscal year, the Bureau will continue its priority emphasis on a highly successful program--the transfer of surplus Federal properties to States and their political subdivisions for park, recreation and historic monument purposes. As of June 30, 1975, 544 surplus Federal real properties totalling more than 76,346 acres and nearly \$213 million in value were announced by the White House for transfer to States and their political subdivisions. We anticipate that approximately 120 properties will be applied for during FY 1976. This will increase the Bureau's responsibility for compliance inspections to over 800 transfer Federal properties.

As indicated earlier in my statement, very special emphasis will be placed in FY 1976 on activities that technically assist private outdoor recreation interests in their efforts to meet public demand for outdoor recreation through private capital enterprises.

Transition Period Request

As you know, FY 1976 is fifteen months in length due to the new Congressional Budget and Impoundment Control Act. Accordingly, the Bureau is requesting an additional \$1,411,000 to fund the continuance of our Salaries and Expenses activities for the period of July 1 through September 30, 1976. Our request is calculated on the basis of one-fourth of the regular FY 1976 request. Details are covered in the Bureau's justification before you.

Land and Water Conservation Fund

Ten years ago--January, 1965 to be exact--the operation of the Land and Water Conservation Fund program began. The wisdom and foresight of the Congress in establishing a fund to assist "...in preserving, developing and assuring assessability to all citizens of present and future generations...such quality and quantity of outdoor recreation resources as may be available and are necessary and desirable..." has been measurably demonstrated.

Through June 30, 1975, over 14,600 State assistance projects have been funded. This represents a State matched investment of over \$2 billion. Slightly over 40 percent of these funds have been applied to purchase 1,328,563 acres of land. Approximately 58 percent has been applied to development of outdoor recreation facilities and about one percent has been used for preparing and updating statewide comprehensive outdoor recreation plans. The largest project investment was slightly over \$10 million and the smallest just under \$800.

Through June, 1974, over \$685 million has been obligated for Federal land acquisition purposes. With these funds, 1,334,926 acres have been acquired--superlative lands and waters for wild and scenic rivers, trails, parks and recreation areas and lands for the preservation of endangered species.

We trust that this tremendous contribution to the meeting of this Nation's outdoor recreation needs and a quality America will be exceeded during the remaining life of the Fund.

I am pleased that the President's FY 1976 budget continues the full funding of the Land and Water Conservation Fund. Our request for the first twelve months of FY 1976 is as follows:

Assistance to States	\$175,840,000
Federal Programs	117,920,000
Administrative Expenses	6,240,000
Total	<u>\$300,000,000</u>

Assistance to States

The FY 1976 request for \$175,840,000 to fund matching grants to States and their political subdivisions is essential to continue programs for

acquisition of needed outdoor recreation land and development of facilities for public recreation use. This proposed funding level is in accord with the Administration's intent to give priority assistance to States in meeting their recreation needs which they know best. The requested funding level is commensurate with the ability of the States to obligate at a sustained rate for an orderly and efficient program.

Federal Programs

Funds in the amount of \$117,920,000 are requested for land purchases for the first twelve months of FY 1976, to be allocated as follows:

National Park Service	\$77,440,000
Forest Service	29,980,000
Fish & Wildlife Service	8,500,000
Bureau of Land Management	2,000,000

The program gives emphasis to urban related recreation areas, natural and historic preservation and endangered species habitat. Recently authorized areas in these categories that are to receive funding in FY 1976 include Big Cypress National Preserve, Big Thicket National Preserve, Cuyahoga Valley National Recreation Area and San Francisco Bay National Wildlife Refuge. A substantial acquisition effort will continue in older areas primarily for the preservation of natural conditions.

The FY 1976 budget request also reflects the deferral of \$20,000,000 budget authority from FY 1975.

Administrative Expenses

Funds in the amount of \$6,240,000 are requested for the Bureau of Outdoor Recreation for the administration of the Land and Water Conservation Fund. The request represents a decrease of \$340,000 from FY 1975.

Transition Period Request

For the period of July 1 through September 30, 1976, the Bureau is requesting \$75,000,000 to continue the Land and Water Conservation Fund program, to be allotted as follows:

Assistance to States	\$43,960,000
Federal Programs	29,480,000
Administrative Expenses	1,560,000

These amounts are computed on the basis of 25 percent of the funding level for these programs at the FY 1976 budget estimate level.

Funds within the Federal Program activity are allotted as follows:

National Park Service	\$17,780,000
Forest Service	7,600,000
Fish & Wildlife Service	3,700,000
Bureau of Land Management	400,000

TECHNICAL ASSISTANCE TO THE PRIVATE SECTOR

Mr. WATT. In summary, for salaries and expenses for fiscal year 1976 we are asking for no program increases or changes to our 1975 program. The difference in money there is within-grade increases, pay raise costs and rental services of GSA. Our budget request for 1976, because of budgetary restraints, is based on 1975.

Senator ROBERT C. BYRD. In your prepared statement, you place special emphasis on assisting the private sector in recreation development.

Mr. WATT. Yes.

Senator ROBERT C. BYRD. How much assistance are you talking about in terms of dollars?

Mr. WATT. We are talking about \$634,000 for salaries for our professional people to work with the private sector in an effort to encourage them to open up more and better recreation resources for public enjoyment.

Senator ROBERT C. BYRD. We are all interested in developing recreation opportunities, but why should the BOR be using taxpayer dollars to help commercial interests?

Mr. WATT. We have assessed and evaluated demands for recreation services for people, and as you are personally familiar, this demand has just mushroomed in the last few years. There is no way that the Federal Government or the State governments and local governments can meet that demand. Presently over 50 percent of the recreation opportunities are provided by the private sector.

With our budgetary limitations, our contribution to the growing demands for resources is going to remain rather constant, and so it is important that we stimulate and encourage the private sector to fill in that tremendous gap that is growing, and the results that we have had to date are most encouraging.

We worked with the forest products industry, for example, and have shown them it is profitable for them to open up lands, that it is good for their profit and loss statement as well as public relations, and the payout has been tremendous. And by encouraging them to do it, we are reducing the requirements on State and local government to provide the same type of resources.

PROGRAM RESTRICTIONS

Senator ROBERT C. BYRD. Your budget request is the same level except for cost increases. I assume that your increased emphasis on private assistance will have to come out of other activities. Am I correct?

Mr. WATT. We are trying to improve and slim down management of our other programs so that we can do more in the technical assistance area. We think we are getting better payout for the dollar investment by doing that.

Senator ROBERT C. BYRD. What are the activities that would have to stand the pressures?

Mr. WATT. We are going to be reducing the time given to paperwork and processing the applications of the Land and Water Conservation Fund. We will be reducing the manpower committed, too.

Senator ROBERT C. BYRD. You should be reducing the time and paperwork anyhow.

Mr. WATT. We should be, and the manpower effort that we gain by that reduction has been substantial.

Senator ROBERT C. BYRD. Why haven't you done this before?

Mr. WATT. We have been and I have been at the Bureau 3 years, and we have made tremendous progress in that area. And in fact today we are recognized as the agency with the most efficient grants-in-aid program in the Federal establishment and have received tremendous recognition from the governors for this program.

Senator ROBERT C. BYRD. I want to compliment you. Have you finished your statement as to the other activities?

Mr. WATT. Yes, unless you have questions, Mr. Chairman.

URBAN CAMPGROUNDS

Senator ROBERT C. BYRD. Under technical assistance your justification states on page 23 that the BOR will examine the potential for private urban campgrounds, survey private financing capabilities and allied private sector needs. Is this something that ought to be left to private enterprise?

Mr. WATT. That study has to be carried out in concert with local and State governments and the private sectors so that we are not experiencing a duplication of capital investments. That's a study that cannot be done by any one of those partners to the venture by themselves. It must be a joint effort.

ALLOCATION OF TECHNICAL ASSISTANCE COSTS

Senator ROBERT C. BYRD. While we are on technical assistance, please supply for the record how the requested \$1,490,000 will be allocated among the three principal efforts listed in your justification—survey and inventory of Federal property, assistance to Federal, State and local governments, and assistance to the private sector.

Mr. WATT. I'll be glad to.

[The information follows:]

Survey, inventory and conveyance of Federal surplus property.....	\$369,000
Assistance to Federal, State and local governments.....	487,000
Assistance to the private sector.....	634,000
Total.....	1,490,000

COSTS RELATED TO NATIONAL ENVIRONMENTAL POLICY ACT

Senator ROBERT C. BYRD. How much of your total spending program is directly related to requirements of the National Environmental Policy Act?

Mr. WATT. The requirements of the National Environmental Policy Act involve several of the Bureau's program areas; therefore, some of the Bureau's environmental costs are reflected in other programs. However, we estimate costs directly related to compliance with the National Environmental Policy Act to be approximately \$1,050,000.

ALLOCATION OF FEDERAL COORDINATION COSTS

Senator ROBERT C. BYRD. Please supply for the record the allocation of your \$1,461,000 request for Federal coordination by the five subactivities covered in your justifications.

Mr. WATT. I'll be glad to.

[The information follows:]

The allocation of dollars is approximately as follows, by subactivity:

A. Federal programs review	\$902,000
B. Legislative review	52,000
C. Recreation environmental activities	447,000
D. Data processing and statistics	50,000
E. Program review and evaluation	10,000
	<hr/>
	\$1,461,000

TRAVEL COSTS

Senator ROBERT C. BYRD. Why do you need a 41-percent increase in travel under your salaries and expenses account?

Mr. WATT. The estimated obligations for travel in the object class schedule column for fiscal year 1975, as shown in the President's fiscal year 1976 budget request, reflects the limitation imposed by the Congress in section 205 of the Supplemental Appropriations Act of 1975 (Public Law 93-554, approved December 27, 1974). The joint resolution making further urgent appropriations for 1975 (Public Law 94-6) repealed this limitation.

The Bureau's actual travel expenses for fiscal year 1975 were \$252,000, making the percentage increase from fiscal year 1975 to fiscal year 1976 25 percent.

The Bureau is experiencing a 30-percent increase in our costs for travel including increased per diem and mileage rates, as approved by Congress in Public Law 94-22, rising GSA and private car rental rates and increased air fares.

Travel is of vital necessity to the Bureau in order to carry out its congressionally directed responsibilities for planning, coordination and technical assistance as the Federal focal point for outdoor recreation. Travel costs are incurred, for example, to collect a variety of resource and associated information in the field to perform wild and scenic river and trail studies, to schedule and hold in the field public hearings on project proposals, to assist the Bureau of Reclamation in the formulation of the recreation component of water development and conservation proposals, to assess in the field the potential of Federal surplus real property for use in meeting outdoor recreation needs and to contact and assist State and local public agencies in applying for these lands and in preparation of plans for such use.

The ratio of travel expenses to the total Bureau appropriation in fiscal year 1974 was 6 percent; in fiscal year 1975 it was 5 percent; and our fiscal year 1976 request is 6 percent. To reduce travel expenditures below these minimal levels would in our opinion seriously hamper the Bureau's capability to carry out its responsibilities.

HOUSE ADD-ON FOR WILD AND SCENIC RIVERS

Senator ROBERT C. BYRD. The House has provided an additional \$300,000 for wild and scenic rivers mandated under Public Law 93-621. Please summarize how these funds would be used.

Mr. WATT. Public Law 93-621 was signed on January 3, 1975. The law required that the study of the Dolores River, Colorado, be completed within 1 year. We and the Forest Service were able to initiate the Dolores study by utilizing existing study funds. We

also initiated limited studies on some of those rivers which we felt were threatened by development. However, the budget request before you does not contain funds for initiation of the rest of the studies or continuation of those already initiated on a limited basis. The \$300,000 add-on would provide reasonable assurances that the studies could be initiated and completed within the congressional deadline.

Senator ROBERT C. BYRD. Please include in the record a statement detailing the additional river studies.

Mr. WATT. I will be glad to furnish such a list. Public Law 93-621 designated 29 rivers for study. The Wild and Scenic Rivers Act provides that the Secretary of the Interior or the Secretary of Agriculture, when national forest lands are involved, shall study the rivers. Of the 29 rivers designated for study, 13 will be studied by the Bureau of Outdoor Recreation, 13 by the Forest Service and 3 will be studied jointly. The list I am submitting identifies the responsibility for all 29 studies.

[The information follows:]

STUDY RESPONSIBILITY

RIVERS DESIGNATED FOR STUDY IN PUBLIC LAW 93-621

Bureau of Outdoor Recreation

Big Thompson, Colo.; Colorado, Colorado and Utah; Green, Colo.; Gunnison, Colo., Illinois, Okla.; John Day, Oreg.; Kettle, Minn.; Nolichucky, North Carolina, and Tennessee; Owyhee (South Fork), Oreg.; Shepaug, Conn.; Sweetwater, Wyo.; Upper Mississippi, Minn.; Yampa, Colo.

Joint Bureau of Outdoor Recreation and Forest Service

Dolores, Colo.; Tuolumne, Calif.; Wisconsin, Wis.

Forest Service

American, Calif., Au Sable, Mich., Cache la Poudre, Colo., Cahaba, Ala., Clarks Fork, Wyo., Conejos, Colo., Elk, Colo., Encampment, Colo., Los Pinos, Colo., Manistee, Mich., Piedra, Colo., Sipsy Fork, West Fork, Ala., Snake, Wyo.

STUDY DEADLINES

Senator ROBERT C. BYRD. Is there any deadline for these river studies?

Mr. WATT. Yes sir, there is. As I mentioned, the study of the Dolores in Colorado must be completed by January 3, 1976. The other 28 studies must be completed by October 2, 1979.

Senator ROBERT C. BYRD. Why was there no budget estimate for these studies?

Mr. WATT. Public Law 93-621 was signed January 3, 1975, well after our fiscal year 1976 budget request had been finalized.

Senator ROBERT C. BYRD. Is there any way that the Bureau could absorb the additional river studies costs?

Mr. WATT. No sir, there is not. You will note that our salaries and expenses budget is comparatively small. Most of the activities covered by it are directed by the Congress in various legislation. To absorb \$300,000 would seriously affect our ability to carry out these activities in a manner responsive to the congressional directives.

GERMANY VALLEY AREA IN WEST VIRGINIA

Senator ROBERT C. BYRD. Interest has been recently expressed in the potential of the Germany Valley area in West Virginia as a new unit of the park system or as a Forest Service area. It has been declared a natural landmark, but this status affords no protection to its limestone caverns and other scenic features. A study of this potential might be in order, and I will supply you with recent correspondence on this matter and ask you to provide an assessment and recommendations for the subcommittee.

Mr. WATT. We will be glad to do that, Mr. Chairman.

LAND AND WATER CONSERVATION

Senator ROBERT C. BYRD. Let's go to the Land and Water Conservation Fund which is budgeted at \$300 million. Of this, \$175.8 million would be for State assistance, \$117.9 million for Federal programs and \$6.2 million for administrative expenses of the BOR.

Mr. Watt, would you please highlight that portion of your statement that covers the Land and Water Conservation Fund. We have included the full statement in the record at this point.

Mr. WATT. We are requesting basically the 60-40 split between the State and Federal shares, which has been discussed here in the hearing today.

Assistance to States, of course, is a grants program on a 50-50 matching basis, and we have found that States are aggressively pursuing programs and can easily and adequately match all the funds that would be made available to them under this program.

For the Federal share we are requesting \$77.4 million be given to the Park Service, \$30 million to the Forest Service, \$8.5 million to the Fish and Wildlife Service and \$2 million to the Bureau of Land Management for their acquisition programs.

Also, we are requesting \$6.2 million for administrative costs that the Bureau of Outdoor Recreation needs for carrying out these programs.

UNOBLIGATED BALANCES

Senator ROBERT C. BYRD. Your statement shows an unobligated balance at the end of fiscal year 1975 totaling \$34.2 million. Is that estimate still a firm one?

Mr. WATT. No, sir. The actual unobligated balance as of June 30, 1975, was \$64.8 million. Of this amount, \$27.5 million was on the Federal side of the program and \$37.3 million on the State side. The Federal amount includes the deferral of \$20 million.

Senator ROBERT C. BYRD. What is involved in this unobligated balance? First, the State assistance and then the Federal program?

Mr. WATT. On the State side, the States are allowed 3 years to get projects approved for the moneys that have been appropriated and apportioned to them. This is the 3-year time frame that is granted to them under the authorizing act so they can do the proper planning, the proper comparison studies that need to be made for priority establishment, and the proper distribution among their component local governments.

We found that on the whole, States are doing very well on that. Some States, of course, do much better than others, but we are very pleased with the progress that has been made there. The difference creates some carryover and we have found from practical experience that it is needed. We need a carryover so there can be continuity.

In fiscal year 1974 appropriations for the State program were cut back to \$66 million, and that adjustment caused tremendous problems in the planning cycles of State governments. And I would strongly recommend that that type of cutback never be experienced again. It imposed hardships on their commitments, their planning staffs and their State legislatures that needed to make money available for the matching programs. So, therefore, we need some carryover, and Congress was wise to provide a 3-year program for it.

With regard to the Federal program, we ordinarily do not anticipate any substantial carryover. There may be some carryover because contractual obligations are made on an arm's length "willing buyer-willing seller" arrangement, and sometimes those contracts don't come through.

The deferral of \$20 million in fiscal year 1975 was an exception. That year we came up and asked Congress to let us defer some of the obligations in an effort to reduce cash outlays and obligations during the national economic situation we find ourselves in. We are ready to go with those in 1976. They have now been released and we are ready to get them obligated and acquisitions realized.

Senator ROBERT C. BYRD. Why don't you supply for the record a detailed makeup of the 1975 unobligated balance?

Mr. WATT. I think I can do it for the record better than I can do it orally right now. Thank you.

[The information follows:]

The Federal portion of the Fund had an unobligated balance of about \$27.5 million, of which \$20 million was deferred under the Congressional Budget and Impoundment Control Act of 1974.

The unobligated end of year, deferred, and balance for the Federal portion by agency is as follows:

	Unobligated End of Year	Deferred	Balance
National Park Service	\$ 9,903,501	\$ 9,200,000	\$ 703,501
Forest Service	8,860,345	4,800,000	4,060,345
Fish and Wildlife Service	7,764,817	6,000,000	1,764,817
Bureau of Land Management	586,085	---	586,085
BOR Redwoods	383,830	---	383,830
	<u>\$27,498,578</u>	<u>\$20,000,000</u>	<u>\$ 7,498,578</u>

The unobligated balances for the State side of the program are shown on the following table:

Unobligated Balances as of June 30, 1975

Alabama	\$ 7,726.91	New Hampshire	\$1,657,175.43
Alaska	1,008,046.48	New Jersey	426,350.25
Arizona	265,518.09	New Mexico	26,827.42
Arkansas	246,690.57	New York	17,552.24
California	695,435.26	North Carolina	342,014.72
Colorado	374,532.76	North Dakota	5,185.94
Connecticut	8,957.88	Ohio	344,408.61
Delaware	2,268,328.19	Oklahoma	411,941.70
Florida	-0-	Oregon	164,617.21
Georgia	416,164.12	Pennsylvania	13,803.24
Hawaii	416.86	Rhode Island	2,412,357.36
Idaho	252,513.52	South Carolina	18,060.98
Illinois	539,670.00	South Dakota	38,636.01
Indiana	176,624.32	Tennessee	11,943.07
Iowa	1,464,719.80	Texas	376,977.88
Kansas	3,424.92	Utah	528.90
Kentucky	191,387.67	Vermont	1,093,755.06
Louisiana	63,564.84	Virginia	1,597,809.65
Maine	2,198,035.56	Washington	56,449.72
Maryland	1,041,842.94	West Virginia	308,135.16
Massachusetts	32,597.85	Wisconsin	201,043.82
Michigan	2,013,178.89	Wyoming	-0-
Minnesota	2,138,918.51	District of Columbia	-0-
Mississippi	615,483.18	Puerto Rico	1,492,146.69
Missouri	107,382.18	Virgin Islands	69,351.00
Montana	6,574.36	Guam	44,366.65
Nebraska	-0-	American Samoa	56,451.00
Nevada	675,342.03		

Unobligated State Apportionments	\$28,000,967.40
Unobligated Contingency & Special Account Funds	9,321,326.91
Total Unobligated Funds State Programs	<u>\$37,322,294.31</u>

STATUS OF DEFERRALS

Senator ROBERT C. BYRD. In fiscal year 1975 the administration deferred a total of \$30 million in the Land and Water Conservation Fund, \$10 million for State assistance and \$20 million for Federal land acquisition. What is the status of those deferrals at this time?

Mr. WATT. Those deferrals have now been released and we are going ahead with the commitments of those funds.

Senator ROBERT C. BYRD. Will you also supply for the record a list of Federal land acquisition deferrals and indicate when these funds are expected to be obligated?

Mr. WATT. Yes, we will, thank you.

[The information follows:]

Land and Water Conservation Fund--Federal Portion
Fiscal Year 1975 Deferral Program

<u>Agency/Management Unit</u>	<u>Amount Deferred</u>
<u>National Park Service:</u>	
C&O Canal NHP	\$688,000
Cumberland Island NS	2,750,000
Delaware Water Gap NRA	1,425,000
Gulf Islands NS	234,000
Independence NHP	1,485,000
Lower St. Croix NSR	700,000
Minute Man NHP	743,000
Ozark NR	400,000
Piscataway Park	490,000
Sleeping Bear Dunes NL	285,000
Subtotal, NPS	<u>\$9,200,000</u>
<u>Forest Service</u>	
Appalachian Trail	\$400,000
Flaming Gorge NRA	200,000
Oregon Dunes NRA	500,000
Sawtooth NRA	1,500,000
Spruce Knob-Seneca Rocks NRA	800,000
Whiskeytown-Shasta-Trinity NRA	400,000
<u>Specially Designated Areas:</u>	
Green Mountain NF	500,000
Sabine, Sam Houston and Angelina NFs	500,000
Subtotal, FS	<u>\$4,800,000</u>
<u>Fish and Wildlife Service:</u>	
San Francisco Bay NWR	\$5,000,000
Tincum Environmental Center	1,000,000
Subtotal, F&WS	<u>\$6,000,000</u>
Grand Total	<u>\$20,000,000</u>

It is expected that these funds will be obligated during FY 1976.

ADDITIONAL APPROPRIATIONS FOR PROGRAMS DEFERRED IN 1975

Senator ROBERT C. BYRD. In many instances the budget is requesting additional appropriations for acquisition programs that were deferred in fiscal year 1975. What is the thinking behind this?

Mr. WATT. The objective is just simply to slow down the economy, reduce the Federal expenditures, obligations.

Senator ROBERT C. BYRD. Why should the economy be slowed down? I thought it ought to be speeded up a little. Isn't that what we want?

Mr. WATT. To stimulate the economy and slow down the Federal expenditure is what I meant. The Federal expenditures in the economy, we are attempting to slow down.

Senator ROBERT C. BYRD. You are talking about slowing down Federal expenditures but not slowing down the economy?

Mr. WATT. That is correct.

Senator ROBERT C. BYRD. Slowing down Federal expenditures in some areas will probably have a braking effect upon the momentum of the Federal economy; will it not?

Secretary REED. It certainly would, sir.

STATE GRANT FUNDS CARRYOVERS

Senator ROBERT C. BYRD. Under State assistance, you appear to be reducing the amount of carryover funds. What is your estimated 1976 carryover, assuming that the requested appropriation is approved?

Mr. WATT. Between \$14 and \$25 million is expected to be carried over.

Senator ROBERT C. BYRD. How are the States coming along in qualifying for the matching fund?

Mr. WATT. The States are doing very well. They have established a good record and are better than matching it. The beautiful part about this program, Senator, is that indeed this has been a seed money program, and most of our States contribute much more than just 50 percent to their park and recreation programs, so this is not a ceiling but is a floor and is seed money. And it has been most encouraging to see the tremendous progress that they have made.

STATE GRANT FUNDS APPORTIONED TO WEST VIRGINIA

Senator ROBERT C. BYRD. What about West Virginia?

Mr. WATT. West Virginia has an aggressive program.

Senator ROBERT C. BYRD. I should think you would have that one right in front of you.

Mr. WATT. I should, but I was prepared more for discussion of the New River Gorge. I will find the information for you in a moment.

Senator ROBERT C. BYRD. You know, once there was a network commentator who referred to Senator Robert C. Byrd of Virginia,

whereupon one of my constituents who happened to be in Florida at the time wrote a letter indicating that she was quite incensed over the commentator's error. He thereupon set out to straighten her out.

He said,

I will have you know that not only is Senator Robert C. Byrd the Senator from Virginia and Harry F. Byrd, Jr. the Senator from West Virginia, but Robert C. Byrd is the father of Harry F. Byrd, Jr.

Mr. WATT. We finally put our fingers on the figures and West Virginia does have a good track record. We have given to them over the period of history of this program over \$14 million, and they have spent all but \$300,000 which is very good.

Senator ROBERT C. BYRD. Suppose you supply for the record a breakdown of the States.

Mr. WATT. Yes, we have that and will be glad to do it.

[The information follows:]

ST	NAME	NET APPORTIONMENT SUM	GRANT-IN-AID APPORTIONMENT REPORT	
			FEDERAL SHARE APPROVED PROJECTS	UNOBLIGATED BALANCE OF APPORTIONMENTS
01	ALABAMA	18,228,454.70	18,229,727.79	7,726.91
02	ALASKA	11,136,450.07	10,128,403.59	1,008,046.48
04	ARIZONA	16,810,014.53	16,584,496.44	265,518.09
05	ARKANSAS	13,367,177.52	13,120,666.95	246,690.57
06	CALIFORNIA	82,333,764.20	81,638,328.94	695,435.26
09	COLORADO	16,015,160.75	15,640,527.99	374,632.76
09	CONNECTICUT	10,944,171.24	10,939,213.36	8,957.88
10	DELAWARE	11,394,583.70	9,125,255.51	2,269,328.19
11	DIST. OF COLUMBIA	6,394,999.62	6,388,999.02	
12	FLORIDA	32,100,620.29	32,100,620.29	
13	GEORGIA	23,457,531.96	23,291,367.84	415,164.12
15	HAWAII	11,555,624.63	11,555,207.97	415.66
16	IDAH0	11,194,102.47	10,791,888.95	252,513.52
17	ILLINOIS	49,355,566.05	48,815,896.05	539,670.00
18	INDIANA	24,336,429.34	24,159,800.02	176,629.32
19	IOWA	15,931,114.05	16,466,394.25	1,464,719.80
20	KANSAS	15,538,320.03	15,534,895.11	3,424.92
21	KENTUCKY	17,599,760.90	17,508,373.23	191,387.67
22	LOUISIANA	23,134,297.79	23,070,732.95	63,564.84
23	MAINE	12,957,048.25	14,767,412.69	2,193,035.56
24	MARYLAND	25,083,090.21	24,041,247.27	1,041,842.94
25	MASSACHUSETTS	29,934,838.11	29,839,240.26	32,597.85
26	MICHIGAN	39,564,244.74	37,565,667.85	2,013,170.89
27	MINNESOTA	20,734,324.93	18,597,408.42	2,139,918.51
28	MISSISSIPPI	13,447,259.69	13,231,775.51	615,483.18
29	MISSOURI	24,024,050.05	27,916,667.87	107,342.18
30	MONTANA	11,253,273.47	11,254,592.11	6,575.36
31	MONTANA	13,567,199.09	13,567,199.09	
32	NEVADA	12,615,434.71	11,040,094.68	675,342.03
33	NEW HAMPSHIRE	11,216,230.69	9,559,056.26	1,657,175.43
34	NEW JERSEY	37,297,325.08	36,870,974.83	426,350.25
35	NEW MEXICO	12,324,071.16	12,298,143.74	26,827.42
36	NEW YORK	75,076,506.00	75,054,033.76	17,562.24
37	NORTH CAROLINA	21,259,258.45	20,908,243.73	342,014.72
38	NORTH DAKOTA	10,842,731.59	10,837,545.65	5,186.94
39	OHIO	47,532,405.33	47,197,998.74	344,406.61
40	OKLAHOMA	15,631,540.74	15,629,619.04	411,941.70
41	OREGON	20,708,052.44	20,541,435.33	164,617.21
42	PENNSYLVANIA	55,251,106.40	55,217,301.66	14,893.24
44	RHODE ISLAND	12,149,467.18	9,947,104.82	2,412,357.36
45	SOUTH CAROLINA	17,035,549.78	17,017,488.80	18,060.98
46	SOUTH DAKOTA	12,544,525.37	12,555,899.36	30,636.01
47	TENNESSEE	21,421,859.00	21,409,915.93	11,943.07
48	TEXAS	48,774,216.41	48,197,238.53	376,977.88
49	UTAH	14,651,099.64	14,652,570.74	524.90
50	VERMONT	10,494,504.13	9,400,749.07	1,093,755.06
51	VIRGINIA	25,356,912.38	23,759,102.73	1,597,809.65
53	WASHINGTON	19,759,467.04	19,923,018.22	56,449.72
54	WEST VIRGINIA	14,236,693.82	13,928,558.65	309,135.16
55	WISCONSIN	24,030,049.20	23,829,605.38	201,043.82
56	WYOMING	10,141,820.66	10,141,820.66	
60	AMERICAN SAMOA	544,365.43	597,918.43	56,451.00
66	GUAM	822,530.50	774,161.85	48,368.65
72	PUEBLO RICO	8,071,462.45	7,379,315.76	1,492,146.69
78	VIRGIN ISLANDS	736,702.12	667,351.12	69,351.00
		1,175,970,391.00	1,147,969,423.60	28,000,967.40

TYPES OF STATE MATCHING FUNDS

Senator ROBERT C. BYRD. Under present practices, what kinds of matching funds do you accept from the States, other than straight expenditures?

Mr. WATT. As part of a project the Bureau accepts donations from private parties including real property, services, materials, and equipment. Where real property is donated, the fair market value as determined by an appraisal acceptable to the Bureau is allowed.

SECRETARY'S CONTINGENCY FUND

Senator ROBERT C. BYRD. We touched on the Secretary's contingency fund earlier. Please supply for the record a detailed statement of the expenditures from this fund for fiscal years 1973 through 1975.

Mr. WATT. During that period 114 projects were approved as shown on these tables which I would like to put in the record.

[The information follows:]

LAND AND WATER CONSERVATION FUND
CONTINGENCY RESERVE PROJECTS APPROVED IN FY 1973

State	Project Number	Project Name	Date of Approval	Amount
Arkansas	05-00132	River Mountain Park	12/13/73	\$ 83,000
California	06-00290	Old Santa Ana	6/25/73	604,758
California	06-00303	Community Youth Center	6/4/73	4,998
California	06-00312	Point Pinole, Phase 2	6/25/73	510,000
Georgia	13-00214	Chattahooche Palisades	9/21/72	949,125
Illinois	17-00178	Illinois Beach	3/7/73	2,000,000
Louisiana	22-00243	Lafreniere Park	6/29/73	1,731,788
Maryland	24-00249	Baltimore Flood Damage	11/15/72	15,774
Missouri	29-00514	State Park Donation and Development	5/15/73	100,000
New Mexico	35-00264	Off-Road Vehicle Recreation Area	6/29/73	199,975
New York	36-00221	Dennison and Williams St. Park	11/22/72	206,000
North Carolina	37-00279	Kerr Reservoir	3/16/73	24,527
Pennsylvania	42-00062.3	Muhlenberg Township Park	6/13/73	12,625
Pennsylvania	42-00133.3	Belles Springs Recreation Area	7/20/73	17,571
Pennsylvania	42-00229	Wilkes - Barre, Coal St. Phase II	9/15/72	250,000
Pennsylvania	42-00236	Kingston Borough Parks - Rehab.	10/27/72	218,000
Pennsylvania	42-00237	Forty Fort Borough Park - Rehab.	10/27/72	24,447
Pennsylvania	42-00238	Plymouth Borough Park - Rehab.	12/18/72	7,500
Pennsylvania	42-00239	Swyersville Park - Rehab.	10/27/72	72,000
Pennsylvania	42-00240	Hanover Parks - Rehab.	10/27/72	120,000
Pennsylvania	42-00242	Shikallamy Marina	12/18/72	333,050
Pennsylvania	42-00246	Penn. State Parks, Reg. 1, Rehab.	1/26/73	612,787
Pennsylvania	42-00248	Penn. State Parks, Reg. 2 and 3, Rehab.	3/2/73	210,517
Pennsylvania	42-00250	Penn. State Parks, Reg. 4, Rehab.	3/5/73	105,398
Pennsylvania	42-00261	Montgomery Borough Park	6/25/73	199,405
Tennessee	47-00168	Radnor Lake	6/25/73	962,500
Texas	48-00264	Armond Bayon Reg. Park	6/29/73	625,043
Virginia	51-00086	James River Park	11/22/72	166,954
Virginia	51-00088	Covington Flood Damage	11/22/72	4,287
Virginia	51-00090	Fredricksburg - Stafford Park	4/16/73	25,850
Washington	53-00183	Socajawa Park, Phase III	4/10/73	150,000
Washington	53-00184	Valley Mission Park	3/29/73	63,355
West Virginia	54-00120	Pendleton Run Recreation Area	6/13/73	322,750
TOTAL OBLIGATIONS FOR FY 1973				\$10,933,804

LAND AND WATER CONSERVATION FUND
CONTINGENCY RESERVE PROJECTS APPROVED IN FY 1974

<u>State</u>	<u>Project Number</u>	<u>Project Name</u>	<u>Date of Approval</u>	<u>Amount</u>
Alaska	02-00180	Campbell Creek Greenbelt	6/28/74	\$ 1,000,000
Arizona	04-00280	Indian Bend Wash	5/6/74	494,195
Arizona	04-00283	Phoenix Metro Bikeway	6/17/74	273,985
Arkansas	05-00132	River Mountain Park	12/13/73	83,000
California	06-00349	Santa Monica Mountains	6/14/74	1,118,216
Florida	12-00089	Ocean Ridge Beach	2/26/74	550,000
Georgia	13-00248	Phoenix Park	12/14/73	400,000
Louisiana	22-00262	Willow Creek Park	6/28/74	67,515
Louisiana	22-00273	Southern Hills Acquisition	6/28/74	145,057
Louisiana	22-00310	Southside Regional Park	6/28/74	315,980
Maryland	24-00269	Patapsco State Park	6/28/74	1,250,000
Michigan	26-00518	Foley Lake Reclamation	5/22/74	100,000
Minnesota	27-00565	Spirit Mountain	8/14/73	200,000
Missouri	29-00437	Little Blue Trace	7/31/73	772,140
Missouri	29-00613	Ranken and Reither Estates	6/18/74	764,413
New Jersey	34-00191	Allamuchy Mt. State Park	10/9/73	1,107,718
New Jersey	34-00193.2	Waywanda Acquisition	6/28/74	450,000
New York	36-00287	Pine Barren Acquisition	3/27/74	281,600
New York	36-00292	Oriskany Flats	6/28/74	500,000
New York	36-00294	Baskerkill Marsh	6/28/74	600,000
North Carolina	37-00174	High Point Metro Park	2/26/74	59,188
North Carolina	37-00324	Mecklenburg County Park	3/20/74	310,000
North Carolina	37-00337	Dismal Swamp State Park	6/28/74	600,000
Ohio	39-00301	Riverfront Park - Phase 4	6/6/74	750,000
Pennsylvania	42-00097	North Shore Park	6/7/74	11,130
Pennsylvania	42-00127	Allentown - Trout Creek Park	6/7/74	5,577
Pennsylvania	42-00129	Reading-Anglica Park II	6/7/74	26,100

<u>State</u>	<u>Project Number</u>	<u>Project Name</u>	<u>Date of Approval</u>	<u>Amount</u>
(Cont.)				
Pennsylvania	42-00133	Bellies Springs Recreation Area	7/20/73	\$ 17,571
Pennsylvania	42-00260	Little Pine State Park Flood Rehab.	8/10/73	360,800
Pennsylvania	42-00277	Hoffer Park	8/10/73	100,000
Pennsylvania	42-00293	Bloomsburg Community Park	11/5/73	45,000
Pennsylvania	42-00298	West Borough Park	12/4/73	125,000
Pennsylvania	42-00300	Coudersport Community Park	2/26/74	8,000
Pennsylvania	42-00302	Renovo Memorial Park	3/20/74	25,000
Pennsylvania	42-00303	West Reading Flood Rehab.	5/6/74	25,000
Pennsylvania	42-00304	Gorden Memorial Park	3/20/74	10,000
Pennsylvania	42-00305	Eldred Borough Community Park	3/20/74	25,000
Pennsylvania	42-00306	Shenandoah Recreation Park	3/20/74	15,000
Pennsylvania	42-00307	Community Park	3/20/74	8,000
Pennsylvania	42-00308	Twin Bridges Park	3/20/74	10,000
Pennsylvania	42-00309	Memorial Park	3/20/74	15,000
Pennsylvania	42-00311	Lackawanna County Trail	6/26/74	47,500
Pennsylvania	42-00313	Darby Borough Acquisition	4/6/74	85,000
Pennsylvania	42-00314	Donovan Park	3/20/74	12,500
Pennsylvania	42-00315	John P. Saylor Memorial Park	6/28/74	96,000
South Dakota	46-00303	Rapid City Floodway	12/4/73	1,322,185
Texas	48-00146	Canyon Lakes	5/22/74	300,050
Utah	49-00151	Provo-Jordan River Parkway	4/18/74	695,537
Washington	53-00257	County Line Park	6/18/74	75,000
Wisconsin	55-00419	Pine, Poppie and Pike Wild Rivers	2/27/74	375,000
		TOTAL OBLIGATIONS FOR FY 1974		\$16,033,957

LAND AND WATER CONSERVATION FUND
CONTINGENCY RESERVE PROJECTS APPROVED IN FY 1975

<u>State</u>	<u>Project Number</u>	<u>Project Name</u>	<u>Date of Approval</u>	<u>Amount</u>
California	06-00360	El Pescador Beach	3/21/75	\$ 482,660
District of Columbia	11-00030	Lighting 7 Sites	5/14/75	216,850
Georgia	13-00262	Chattahooche Palisades, Ph. III	3/17/75	600,000
Idaho	16-00227	Tubb's Hill Acquisition	4/22/75	138,050
Kansas	20-00304	Strang Neighborhood Park	4/22/75	154,691
Louisiana	22-00243.2	Lafreniere Park	8/26/74	72,586
Minnesota	27-00565.2	Spirit Mountain	3/18/75	57,746
Missouri	29-00617	Cragwood Estate Acquisition	12/23/74	412,500
Missouri	29-00657	Grindstone Creek	5/27/75	215,500
Nebraska	31-00335	Black Elk/Neihardt Park	10/26/74	131,000
North Carolina	37-00174.9	High Point Metro Park	2/21/75	37,612
Ohio	39-00381	Madison Lakes	6/18/75	250,000
Oklahoma	40-00310	Dr. T. J. Martin Park Nature Center	12/6/74	96,525
Oklahoma	40-00336	Coody Creek Acquisition	5/9/75	39,050
Oregon	41-00659	Pioneer Courthouse Square	3/28/75	750,000
Pennsylvania	42-00310	City Island Park	7/1/74	58,000
Pennsylvania	42-00312	Island Park	7/1/74	10,000
Pennsylvania	42-00340	River Street Park	12/6/74	118,600
Pennsylvania	42-00360	Homewood Tract	6/12/75	155,100
South Carolina	45-00425	Cappers Island	9/20/74	1,800,000
Tennessee	47-00221	Germantown Park System	5/27/75	300,000
Utah	49-00173	Provo-Jordan River Parkway	3/28/75	612,000
Washington	53-00218	Mercer Slough Ecological Preserve	10/23/74	191,203
Wisconsin	55-00886	Lake Mendota State Park	3/11/75	521,133
TOTAL OBLIGATIONS FOR FY 1975				\$7,420,806

LAND AND WATER CONSERVATION FUND
 CONTINGENCY RESERVE PROJECTS APPROVED IN FY 1976
 (TO SEPTEMBER 29, 1975)

<u>State</u>	<u>Project Number</u>	<u>Project Name</u>	<u>Date of Approval</u>	<u>Amount</u>
Arizona	04-00313	Glendale Acquisition	7/15/75	\$ 310,000
Colorado	08-00544	Riverside Park	7/17/75	628,500
Illinois	17-00298	Edgewater-Warren Park	9/8/75	875,000
Louisiana	22-00374	Lovett Road Acquisition	9/26/75	82,789
Montana	30-00319	Colstrip Park and Open Space	9/26/75	526,617
Oklahoma	40-00336.1	Coody Creek	8/29/75	17,545
Pennsylvania	42-00357	Keyser Valley Park	9/5/75	300,000
		TOTAL OBLIGATIONS FOR FY 1976		<u>\$2,740,451</u>

COMMUNICATION

Senator ROBERT C. BYRD. At the request of Senator Nelson, correspondence he received from the Wisconsin State Department of Natural Resources concerning the State's request for assistance will be included in the hearing record at this point.

[The correspondence follows:]

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

August 25, 1975

BOX 450
MADISON, WISCONSIN 53701

IN REPLY REFER TO: 8700

Honorable Gaylord Nelson
United States Senator
Senate Office Building
Washington, D. C. 20510

Dear Senator Nelson:

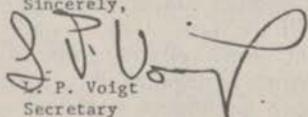
The House of Representatives on July 23, 1975, approved the Department of the Interior and Related Agency Appropriations Bill.

The recommended appropriation for the Land and Water Conservation fund is \$309,761,000 for the 1976 fiscal year. This could provide \$175,840,000 for the states or \$3,309,312 for Wisconsin.

The 1975 fiscal year apportionment was \$300,000,000 with the states receiving \$180,000,000 and Wisconsin receiving \$3,387,600.

Based on the \$309,761,000 recommended appropriation, we believe the amount apportioned to the states should be \$180,000,000 for the 1976 fiscal year. If additional funds are needed for program administration on the federal level or for special federal projects, the national apportionment should be raised or funds taken from the federal share not from the state's share. Your support on this matter would be appreciated.

Sincerely,



L. P. Voigt
Secretary

ADMINISTRATIVE EXPENSES

Senator ROBERT C. BYRD. Let's question you briefly on the BOR administrative expenses of \$6,240,000 under the fund. This is a reduction of \$340,000, mainly in dropping 19 compliance inspection positions.

Under State assistance, in view of your own statement that Bureau compliance inspection responsibilities are increasing, how did you

manage to reduce this effort without neglecting requirements of the act?

Mr. WATT. This is a reallocation of manpower and obviously, by the way, I am responding, I'm not responding with enthusiasm. We, as other agencies that come before you, have had to squeeze back on manpower, establish priorities, and we have come to the conclusion that it is worth taking the risk on compliance areas.

The States have done a good job. We feel that we will meet the requirements of the act by making this cutback.

They have always been concerned whether there might not be a violation. Our track record is very good. The States have done a very good job, and we are hopeful we can live with this cutback as required in the present budget submitted to you.

COMPLIANCE INSPECTION INTERVALS

Senator ROBERT C. BYRD. You state that compliance inspection intervals have been lengthened. Lengthened by how much?

Mr. WATT. In the past we have required that completed projects receive compliance inspections every 3 years by either State or Bureau personnel. We are lengthening this period to every 5 years. The initial compliance inspection will still be conducted 3 years from the date of project completion.

BOR ASSISTANCE IN EIS PREPARATION

Senator ROBERT C. BYRD. What portion of the administrative expenses is devoted to assisting States with environmental impact statements?

Mr. WATT. Approximately 2 percent of the administrative expenses is devoted to assisting States with environmental impact statements and assessments.

Senator ROBERT C. BYRD. Your justification states that some State projects require annual impact statements. Why?

Mr. WATT. Our statement refers to new projects that will require impact statements in a given year before the project is approved and not to annual impact statements for a particular project.

Senator ROBERT C. BYRD. Why does the Bureau have to help States with such things as environmental impact statements and relocation assistance? Why can't the States and local governments handle that on their own?

Mr. WATT. With regard to environmental impact statements, the National Environmental Policy Act of 1969, Public Law 91-190, and CEQ guidelines place the primary responsibility for preparing impact statements on the Federal agency having primary responsibility for the proposed action. In order for us to prepare an impact statement or an assessment for a Land and Water Conservation Fund project, we require the States to prepare and submit to the Bureau the necessary environmental information. In the case of relocation assistance the Bureau's responsibilities under the Uniform Relocation Assistance Act of 1970, Public Law 91-646, is to insure that States have and understand all applicable rules, regulations and information regarding implementation of Public Law 91-646; provide technical assistance; and insure compliance where Land and Water Conservation Fund assistance is used for land acquisition.

STATE PLANNING EFFORTS

Senator ROBERT C. BYRD. How much Bureau funding goes to assisting State planning efforts?

Mr. WATT. Approximately 6 percent of administrative expenses goes to assisting State planning efforts.

DIVISION BETWEEN STATE AND FEDERAL PROGRAMS

Senator ROBERT C. BYRD. How is your administrative expenses budget divided between State and Federal programs in terms of dollars?

Mr. WATT. The Bureau's administrative expenses under the Fund are allocated one-third to Federal programs and two-thirds to the State assistance program.

The allocation reflects the use of manpower and associated expenses to carry out activities needed to insure that the Fund program is being operated in accord with the objectives and policies established by the Congress.

Activities relating to administering the State assistance program include but are not limited to: providing technical assistance to States in the preparation and updating of Statewide outdoor recreation plans; conducting compliance inspections of State projects funded with Federal matching funds to insure that lands and facilities are being used for purposes intended and all are open to the public; environmental assessment of all grant projects and preparation of EIS when appropriate; working with States in the application of relocation assistance requirements to land acquisition activities; and assistance to States in preparation of project applications, approval of project agreements and amendments as needed, and selective monitoring of projects underway to insure the safeguarding of the Federal investment.

Activities relating to administering the Federal program include but are not limited to: developing a unified Federal agency budget for land acquisition; conducting review of Federal Agency composite and management unit land acquisition plans; monitoring program progress and submitting to Congress requests for reprogramming of funds to meet changing, unforeseen needs; providing staff services to the Department Land Planning Group; and coordinating Federal, State and local public program interests during the conduct of studies of wild and scenic rivers, trails and similar potential recreation resources and developing alternatives for protecting and managing these resources.

COORDINATION OF FEDERAL LAND ACQUISITION

Senator ROBERT C. BYRD. Back to the Federal land acquisitions, what is the Bureau's role in coordinating Federal land acquisitions among the various agencies?

Mr. WATT. We provide two major functions. First, we have a land planning group that we chair that is made up of the members of the four Federal agencies using the Land and Water Conservation Fund. We assist them in building their plans, doing their land planning and setting the priorities. Second, we provide staff service to the Office of the Secretary including Assistant Secretary Nathaniel Reed and others to make those evaluations and determinations on the allocations of the Federal funds available to the respective agencies.

Senator ROBERT C. BYRD. To what extent does the Bureau control or influence the acquisition policies of these agencies?

Mr. WATT. That influence varies from year to year, sometimes greatly and sometimes not at all. That's really an honest answer. It varies, Senator, depending on the situation and the personalities involved.

Fortunately, with Secretary Reed we have had a close working relationship, and we have had significant input that he has relied upon.

POSITIONS INVOLVED

Senator ROBERT C. BYRD. How many Bureau positions are directly involved in the Federal programs portion of the fund?

Mr. WATT. The number of positions requested for fiscal year 1976 for the Land and Water Conservation Fund is 277. In fiscal year 1975, a total of 296 positions were authorized. However, 237 were actually on board during the fiscal year. Currently, 79 positions are directly involved with the Federal portion of the fund.

I would like to elaborate further on how these people are directly involved in the programs. The Bureau is administering the Federal portion of the Land and Water Conservation Fund by assisting in the development of land acquisition plans of the Federal agencies, also providing such coordination and review as necessary to help identify potential recreation resources and evaluating those resources proposed for purchase from Land and Water Conservation Fund moneys. The Bureau in developing a unified Federal agency budget for land acquisition, develops the 5-year land acquisition plan and subsequent annual plan for the Federal portion of the Land and Water Conservation Fund. Within the Bureau's authority reprogramming actions, reviews, and recommendations requiring approval by OMB and Congress are made. The Bureau also has people involved in programs and studies such as wild and scenic rivers, national scenic trails, NRA, and other areas involving planning and programming to identify recreation areas needed to provide the greatest recreation opportunities and preserve the recreation resources for the American public. In carrying out the reviewing and coordinating functions as well as conducting the studies, the Bureau considers the options available for management and recommends an appropriate agency or agencies at the Federal, State, and local levels for the management responsibility. The Bureau also considers the best method to protect the area—whether it should be through fee acquisition or less-than-fee acquisition or a combination thereof. In addition, the Bureau considers the appropriate source of financing.

While 79 positions are charged to the Federal portion of the Land and Water Conservation Fund, usually there are more involved in the Federal program portion, as many have an input on a part-time basis while having other duties and responsibilities. Considerable expertise is required by the Federal portion program in the early stages of programs such as wild and scenic rivers, national scenic trails, NRA, et cetera, to assure that all feasible alternatives are presented. An example of such a study is the Santa Monica Mountains where Bureau employees conducted a study and recommended alternatives

for protecting and managing the area. Until a decision is made whether it is to be a Federal area, the Bureau considers this as part of responsibility of the Federal portion of the Fund.

TRAVEL COSTS

Senator ROBERT C. BYRD. Although you are reducing dollars and personnel under administrative expenses, your travel budget is increasing by 5 percent or more. Why?

Mr. WATT. The estimated obligations for travel in the object class schedule column for fiscal year 1975, as shown in the President's fiscal year 1976 budget request, reflects the limitation imposed by the Congress in section 205 of the Supplemental Appropriation Act of 1975 (Public Law 93-554, approved Dec. 27, 1974). The joint resolution making further urgent appropriations for 1975 (Public Law 94-6) repealed this limitation.

The Bureau's actual travel expenses for fiscal year 1975 were \$259,000, making the percentage increase less than 1 percent from fiscal year 1975 to fiscal year 1976 request.

The Bureau is experiencing a 30-percent increase in its costs for travel including increased per diem and mileage rates, as enacted by the Congress in Public Law 94-22, rising GSA and private car rental rates, and increased air fares.

Reductions in dollars and personnel were, of course, made. However, travel expenses are increased for many other continuing activities carried out by the Bureau in order to administer the Land and Water Conservation Fund program in accord with the policies and objectives of the Congress. These activities include, but are not limited to: providing assistance to the 55 States in the updating of their SCORPS; assistance to the States and their political subdivisions in the preparation of project fund requests; inspection of work underway on projects; and working with the Forest Service in the field review of proposed composite plans for land acquisition in national forests.

In effect, the savings accrued through personnel reductions have been offset by travel cost increases.

QUESTIONS SUBMITTED BY SENATOR M'GEE

Senator ROBERT C. BYRD. I think it would be appropriate at this point to give you some questions from Senator McGee, and ask you to answer them for the record.

[The questions and answers follow:]

FUNDS AWARDED TO WYOMING

Q. Under the Land and Water Conservation Fund, how much has the State of Wyoming received since the beginning of this program? How much of the Federal money awarded to the State remains unspent?

A. Since the beginning of the Land and Water Conservation Fund program through June 30, 1975, the State of Wyoming has been apportioned \$10,141,820 from the Fund. This money has been completely obligated as the Federal share of approved Wyoming projects.

LAND ACQUISITION IN WYOMING

Q. Since the passage of the Land and Water Conservation Fund Act of 1965, how much land has been acquired by the National Park Service and the Forest Service for inclusion in their systems in Wyoming? In what specific location were these acquisitions?

A. The following lands have been acquired in Wyoming using monies from the Land and Water Conservation Fund:

Agency/Management Unit	Acres
National Park Service:	
Bighorn Canyon NRA	28,623
Devils Tower NM	80
Fort Laramie NHS	233
Fossil Butte NM	379
Grand Teton NP	2,000
John D. Rockefeller, Jr. Memorial Parkway	23,777
Total, NPS	55,092
Forest Service:	
Bridger NF	160
Medicine Bow NF	1,000
Targhee NF	20
Total, FS	1,180

Q. What is the projected acquisition program in Wyoming during fiscal year 1976?

A. The only Park Service area where land acquisition is projected is at Grand Teton National Park. Since this is an inholding area (authorized prior to January 1960) land acquisition is conducted on an opportunity basis. It is thus difficult to project a land acquisition program for the park, but the National Park Service estimate of possible acquisition in fiscal year 1976 is approximately 400 acres.

The Forest Service and Bureau of Land Management have no projected acquisition programs in Wyoming during fiscal year 1976.

The Fish and Wildlife Service has requested \$200,000 during fiscal year 1976 for the purchase of 26 acres at National Elk Refuge.

OPPORTUNITY INHOLDING PROGRAM IN WYOMING

Q. Explain briefly how the opportunity inholding purchase program has functioned in Wyoming. Are there any processing problems?

A. The Committee on Appropriations, United States Senate, in its report on the Department of the Interior and Related Agencies Appropriation Bill for fiscal year 1975 expressed its concern over the increasing delays involved in processing inholding purchase proposals, all of which then required individual review by the Office of Management and Budget and the Appropriations Committees of the House and Senate. Often these proposals took many months to clear the Department and OMB processing. In order to expedite that unwieldy process and to provide prompt payment to land owners, the National Park Service was authorized to accept negotiated offers not exceeding \$150,000 without referring them to the Committee in advance. This exception applies only to cases involving willing sellers. All proposed acquisitions by eminent domain proceeding must receive prior approval of the Committee, regardless of the amounts involved.

In conference on the Department's Appropriation Bill, the House of Representatives concurred in the authorization as outlined above.

As a consequence, the land acquisition program of the Service for all inholding areas, including Grand Teton National Park in Wyoming, has been vastly accelerated. In fact, all of the funds available for inholding acquisitions in fiscal year 1975 were obligated.

At Grand Teton National Park, a small land acquisition office is maintained comprised of a realty specialist and a typist. Authority to accept offers from willing sellers not to exceed \$150,000 has been delegated to that realty specialist. As a result, offers on 11 tracts comprising 23.05 acres at a total amount of \$718,500 were accepted at Grand Teton in fiscal year 1975 compared to offers on 6 tracts comprising 13.34 acres at \$388,000 in fiscal year 1974.

The new authority provided by the Congress as discussed above has eliminated the prolonged processing problems that had been experienced in the past.

Q. What land acquisition programs are projected for the National Elk Refuge in Wyoming?

A. The Service's acquisition program is to acquire private holdings lying between the refuge and the Teton National Forest to prevent subdivision and development and destroy this valley's natural scenic vista. There is currently about 440 acres of private land, of which 26 acres are under imminent threat of development.

Q. Please explain briefly how this program is progressing, how much money has been spent on this program to date and how much is projected for fiscal year 1976.

A. The Service's acquisition program has thus far curtailed construction except on one property. However, there are still three private properties which could be developed at any time. The Nature Conservancy has been of invaluable assistance. They purchased the remaining unsold subdivision lands from the developer for repurchase by the Service as funding was available. There is only 52 acres remaining to be acquired within the 160-acre subdivision, 26 of which is still held by TNC.

To date \$1,600,000 has been appropriated for acquisition on National Elk Refuge and this has acquired 202 acres. The fiscal year 1976 request is for \$200,000 to acquire 26 acres, being the remainder of The Nature Conservancy holdings. This leaves approximately half of the remaining subdivision unacquired, which will require an additional \$300,000.

INTRODUCTION OF OUTSIDE WITNESSES

Senator ROBERT C. BYRD. Mr. Secretary, we will resume with the Land and Water Conservation Fund just as soon as we finish with our outside budget requests. We will start with the National Park Service request at that time.

The only time we would displace the Secretary and Mr. Watt and his associates would be when people from that State, which is almost heaven and actually a little closer than almost, are here to testify, and I will ask some of the best constituents in the 50 States to come forward and take seats at the table. Robert Holliday and those who are with you, please come forward and take the chairs.

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NONDEPARTMENTAL WITNESSES

STATEMENTS OF:

J. D. SHULTZ, CHAIRMAN OF THE BOARD, FAYETTE FEDERAL SAVINGS AND LOAN ASSOCIATION

JAMES RUST, VICE PRESIDENT, MERCHANTS AND MINERS NATIONAL BANK OF OAK HILL, W. VA.

J. B. HESS, EXECUTIVE DIRECTOR, FAYETTE/PLATEAU CHAMBER OF COMMERCE

ROBERT K. HOLLIDAY, EDITOR, FAYETTE TRIBUNE

NEW RIVER GORGE PRESERVATION

Senator ROBERT C. BYRD. We now move to consider an item that is of particular interest to citizens of West Virginia and to me, and that is the preservation of the New River Gorge.

Last year, this subcommittee at my request included language and funding in the amount of \$150,000 to enable the Bureau of Outdoor Recreation to conduct a comprehensive study of the New River Gorge area. A finalized version of that report was completed and delivered to the committee on May 1, 1975. The officials of the Bureau of Outdoor Recreation, I think, performed in many respects an outstanding job of collecting and assembling the information. Reasonable men might disagree with some of the conclusions and findings contained in that report.

There is one area—that involving the extent and the value of the coal and other mineral deposits underlying the area—which I believe was inadequately and insufficiently developed in the report.

PRESERVATION METHODS

In essence, the Bureau of Outdoor Recreation studied three methods to protect the environmental quality and to preserve the New River Gorge. And briefly those three methods were as follows:

(1) Including the gorge as a component of the National Park System. This would, according to the report, involve the acquisition of approximately 83,000 acres by the Federal Government which the BOR report states would cost approximately \$45 million for the surface rights to the property and possibly \$70 million to \$210 million for the mineral rights, and this would require authorizing legislation first by the Interior Committee of the Congress and then by the House and Senate itself.

(2) Designation of the gorge as a National Recreation Area. It is stated the acquisition of 55,200 acres would be required to implement this plan at a cost of \$22 million for the surface rights only. The report notes that mining and timbering are permitted where they are compatible with the National Recreation Area. This report states that when this area was tested according

to established criteria for the designation as a National Recreation Area, the gorge would not qualify. The National Recreation Area designation also requires legislative authorization by the Interior Committee and by the Congress.

(3) Designation of the New River Gorge as part of the Wild and Scenic River systems under this designation would also have to be accomplished by authorizing legislation. Under the BOR recommended Federal-State management plan, the State would continue to manage the existing State parks. The Federal Government would acquire and manage 1,000 acres of riverside land at a cost of \$1.6 million with the National Park Service administering the river corridor.

The report recommends that the New River Gorge not be designated as a National Park or as a National Recreation Area, but instead recommends inclusion within the National Wild and Scenic Rivers System

With joint Federal-State management, this report also recommends that local zoning be relied upon to protect approximately 50,000 acres. I will have some questions on the report when the BOR officials return to the witness table.

At this point, however, I would like for Mr. Robert Holliday, who is the editor of the Fayette Tribune and who is a former member of the West Virginia Senate, a longtime acquaintance and friend of mine, to present those who are with him today, stating their names for the record.

INTRODUCTION OF WITNESSES

Mr. HOLLIDAY. Mr. Chairman, Mr. Shultz is the president of the New River Gorge National Park Committee. He will open with the remarks. Mr. Rust is the vice president of the committee. And Mr. Jim Hess, who is also treasurer of this committee and executive director of the Fayette/Plateau Chamber of Commerce and each of us will have very brief remarks and we will submit ourselves for questioning.

Mr. Shultz, will you proceed?

Senator ROBERT C. BYRD. Mr. Shultz, and gentlemen, I am pleased to have you appear before the committee today to testify on the future of the New River Gorge. You are residents of the area and I believe that your comments and your views should be seriously and carefully considered in connection with any Federal action that would affect the future of this very scenic area. Mr. Shultz, you proceed, please.

STATEMENT OF DUVAL SHULTZ

Mr. SHULTZ. Senator Byrd, Mr. Chairman, thank you very much. My name is Duval Shultz. I live in Fayette/Plateau, W. Va., which is on the edge of the New River Gorge, where I have lived for many years.

Pursuant to the act of the Congress, a study of the potential of the New River Gorge as a National Park, a National Wildlife Recreation Area or a Wild and Scenic River Area was carried out under the direction of the Bureau of Outdoor Recreation. They have

prepared and I want to compliment them very highly on the completeness, the thoroughness, the research that they have done in presenting their recommendation to the committee.

The first contact which our committee had with the representatives of BOR was a meeting held in the city of Oak Hill in January at which time two representatives of BOR were present. The committee set up by the chamber of commerce had very explicit directions from the chamber that we would pursue the designation of a National Park.

In the very beginning of the meeting in Oak Hill, with the representatives of BOR, we asked the question, if there was any hindrance in the gorge area which would prevent its consideration as a National Park. We were told that there was not, and we proceeded on that basis and still pursue our objective.

Senator ROBERT C. BYRD. When you speak of a hindrance, what do you have reference to?

Mr. SHULTZ. The fact that there were residences in the gorge area, that there was a railroad in the gorge area, that there was one mine in the gorge area.

Senator ROBERT C. BYRD. Was this a deep mine or a surface mine?

Mr. SHULTZ. It is a deep mine, sir. So we proceeded on that basis.

Senator ROBERT C. BYRD. Your questions were asked of whom?

Mr. SHULTZ. Representatives of the BOR. If you want the names, I will be happy to give them to you.

Senator ROBERT C. BYRD. No. But the responses were that there were no hindrances.

Mr. SHULTZ. For consideration as a National Park.

PUBLIC MEETINGS HELD BY BOR

Later, four public hearings were held by BOR in the city of Oak Hill, the city of Fayetteville, the city of Hinton, the city of Charleston. At these meetings, first statements were made that in their preliminary study, the gorge area would not qualify as a National Park, would not qualify as a National Recreation Area because it did not meet the criteria which had been established by the Department of the Interior, BOR. So the proponents of the National Park were precluded from discussing the merits of the National Park.

Senator ROBERT C. BYRD. When you say "they were precluded from discussing the merits," how were they precluded?

Mr. SHULTZ. Because the statement was made that the gorge did not qualify as a National Park.

Senator ROBERT C. BYRD. That wouldn't preclude them from discussing the merits.

Mr. SHULTZ. The general attendance took that as preventing any presentation. The question of the National Park was never brought to the attention of the floor. The only proponent who spoke on the National Park was Mr. Sexton, a representative of the United Mine Workers of America who spoke in favor of the National Park concept.

So that they further made the statement that the New River Gorge would qualify as a Wild and Scenic River. Why the New River Gorge would qualify as a Wild and Scenic River when the river is the

prime consideration in the designation of Wild and Scenic River, that was the only qualification that would be possible. So that the entire public hearings were devoted to the discussion of a Wild and Scenic River, and what such a designation would do to protect the water flow in the river and the purity of the water in the river. And, Senator, unfortunately, it turned into a referendum on the building of the Blue Ridge Dam in eastern Virginia and western North Carolina.

Senator ROBERT C. BYRD. Was this true of all four of the meetings?

Mr. SHULTZ. I'm not—I cannot say with certainty that this was true of the Charleston meeting because I did not attend that. I attended two meetings and it was the prime subject of discussion, it was the only subject of discussion.

Senator ROBERT C. BYRD. At both of the meetings you attended?

Mr. SHULTZ. At both of the meetings I attended, and I think some of the gentlemen here, Mr. Rust or Mr. Hess, attended all three meetings and I am told that this was the prime subject of discussion.

As you know, it has been a very hot subject and these public hearings devoted entirely to those who are in favor of the New River Dam being built or not built and the people who are opposed to that, largely sportsmen, were very vociferously outspoken in their feeling toward the dam. They would do anything to prevent the construction of the dam, and the hearings revolved around this point.

COMMENTS ON BOR REPORT

Later the BOR put out a preliminary report which was followed by a permanent report to the committee, and again I want to commend in the very highest terms, the excellent report.

Senator ROBERT C. BYRD. What did you say about the report?

Mr. SHULTZ. We commend it. It is an excellent study. It is exhaustive. But we do not accept all of their recommendations. Their criteria, which was to meet the criteria set up by BOR for a National Park, states that the criteria most suitable for the gorge area were those for a National Park Area, a Recreation Area and a Wild Scenic and Recreation River.

The criteria for each type area was formulated to permit greater flexibility. Each set of criteria has developed a subjective interpretation over the years along with the objective specifications. Natural areas are islands of primitive America.

I want to ask you, Senator, where we have primitive America today. There is no such thing. If we are precluded from having any national designation for a national park which must be a primitive area, then we will have no national parks. There just isn't such a thing.

UNIQUE AND SCENIC VALUES

This designation of the national system includes areas of unique and superlative scenic and scientific patterns. I think the New River Gorge meets these qualifications. It is unique.

It is generally accepted by geologists and scientists as the second, if not the oldest river in the world, certainly the oldest river in the United States. That is certainly unique in itself. It has in the East superlative scenic value. We may compare it with the Colorado River Gorge.

We can't compare it with the Colorado River Gorge but in the East it is unique. I would ask if the Great Smokies, which is a chain of mountains, qualifies for National Park status, the Shenandoah National Park, which is a monument in the Shenandoah Valley or Hot Springs, Ark., qualify as unique.

We have got hot springs every place else, a great many places. Why wouldn't the New River Gorge qualify just as well as they would?

The statement further says, "Such uses as logging and mining are not permitted." And for this reason they threw out any consideration of National Park status. The New River Gorge is located in the southern part of West Virginia and is or will be accessible to three interstates and one Appalachian Highway which is a connecting link between Interstate 77 and Interstate 79.

The report goes into exhaustive detail as to costs. I don't think it is necessary to detail these and point out the comparative costs between the designation as a Wild and Scenic River or National Recreation Area or a National Park. Senator, we are looking to the future.

We realize that this objective cannot be accomplished overnight or perhaps in this decade, but we have the obligation to preserve what is beautiful, what is unusual, what is majestic for posterity, for those who come behind us, and the New River Gorge certainly deserves the most careful consideration of the committee and of the Congress.

Our objective—and this has been so stated by all of the proponents who are in the great majority of our citizens—is to preserve the wild and scenic natural environment that we have in the gorge. The designation of a Wild and Scenic River development as such will not protect the gorge. It will not protect it. The point is made in considerable extent on zoning.

As you perhaps know, our West Virginia zoning laws exclude from the operation of zoning mining—anything related to mining. If a mining company owns the land and wants timber for mine properties, they can cut that timber, they can develop the mine, they can strip the steep hillsides. Wild and Scenic River will not protect the gorge. It will only protect the river to perhaps a limited extent, and that protection will afford pleasure perhaps to a very small percentage of our citizens.

Sportsmen primarily are interested in this who comprise perhaps 5 percent. I am and always have been a sportsman. I have fished many, many times, every mile of the river of the gorge and the New River from Sandstone Falls below Hinton to Ferrick Station, and I love the river and I love the fishing. It affords great sport, but that serves only a small percentage of our people.

Why deprive 95 percent of the people of the enjoyment of the gorge and preservation of its beauty?

The cost is, if money was appropriated, at this time, would be in the light of our budget situation, would be too costly, but this money doesn't have to be appropriated all at one time. You can't develop this thing overnight.

COAL MINING, FISHING, AND RESIDENCES

I challenge in the original report the tonnages that were estimated which would have to be acquired either by purchase or condemnation.

Senator ROBERT C. BYRD. What was that?

Mr. SHULTZ. I challenge the tonnages that they would have to purchase, the coal they would have to buy. In its revised edition, those estimates have been lowered. I still challenge these figures. The costs, although they have secured these from reputable sources and the only sources available, Bureau of Mines, West Virginia Bureau of Mines and other sources, but at no place is there any mention of the recoverable coal. They just take coal in bulk in the coal seams.

For 45 years I have lived up on the river or on the plateau adjoining the river. I have been a mine superintendent. This area of the gorge was among the earliest developed coal area in the southern part of the State. Shortly after the Civil War in the seventies, when the C&O Railroad was built through the gorge, the mines were opened along the river.

There are few areas of coal within the gorge area which have not been mined on the front. Those mines have been exhausted close to the river. The pillars have been pulled. The coal which remains in the back cannot be brought out from the front. There is an economic reason for that.

No company today can afford to pay portal-to-portal pay and drive in where coal is half a mile, to get the coal in the back. Railroad facilities mean nothing now when large amounts of coal are transported by truck. So the location of the coal shaft is meaningless today, when we used to have right along the river, that's outmoded.

Senator ROBERT C. BYRD. What are you saying? Are you saying that any coal deposits in that area could be mined by having shafts—

Mr. SHULTZ. Back from the river. That's what I am saying. So we do not feel that encroachment will be a serious problem with the development of the park. We believe that the Bureau of Outdoor Recreation should revise their criteria in light of present day conditions.

Senator, I am getting up in years, and I know how individuals as well as administrative bodies get set in their ways. I resist change. I am a victim of inertia and I think administrative bodies sometimes get the same way.

I think present day demands, to meet the demands of our people, of our population, we should change our criteria. We should bring them up to date.

After all, coal is playing a tremendous part to meet the energy needs of the present and the future. Why is it so objectionable to have a mine in a National Park where people can see just exactly where our source of energy is from? How it is produced, how your labor, our miners are contributing to the energy demands of the Nation? We think that would not be objectionable in a National Park.

Following the recommendation of BOR, and should the designation of Wild and Scenic Rivers be—

Senator ROBERT C. BYRD. Excuse me. On that point, what other criteria would you recommend the BOR change?

Mr. SHULTZ. I would recommend that for the immediate future there are a good many resident homes, fishing camps in the gorge area. If it is the decision, if it should be designated a National Park, and it would be the decision of the authorities that they would acquire these homesites and fishing sites, we would very strongly hope that at least the owners be given a life residency for their homesites. We don't want them put out.

Senator ROBERT C. BYRD. How many residents or residences would be affected?

Mr. SHULTZ. Mr. Hess advises me there are at least 300.

REASONS FOR DESIGNATION AS A NATIONAL PARK

The designation as a Wild and Scenic River will not preserve the beauty of the gorge. It will protect the river but the gorge still is subject to spoiling, degradation and its beauty will be hurt.

Senator ROBERT C. BYRD. Would the designation as a National Recreation Area protect the gorge?

Mr. SHULTZ. I couldn't believe—I think in the designation of a National Recreation Area, Senator, there is given adequate land area for development. You would have to go back too far from the gorge to provide the areas needed for full recreation.

Senator ROBERT C. BYRD. When you say "too far," what do you mean by "too far"?

Mr. SHULTZ. Possibly to develop it they would have to acquire land 1 mile back from the gorge and that would—we feel that so far as estimates are concerned, as you perhaps know, a good deal of the gorge area is owned by large coal companies. We have no commitments.

We are of the opinion that some of these companies either will make a very—set a very small price for their acreage or that we might get some donations from that area which would reduce the cost.

Senator ROBERT C. BYRD. How would you view the designation of this area as a National Recreation Area? The Federal Agency in its report, at least up to this point, appears to oppose the designation as a National Park, and you have spoken out quite vigorously in opposition to the designation as a Wild and Scenic River area. What about the in-between National Recreation Area status, what would you think about that?

Mr. SHULTZ. We do not believe that the designation as a National Recreation Area will carry the prestige and importance as the designation as a National Park.

Senator ROBERT C. BYRD. Do you think it would protect the gorge, however? This is one of your objections to the Wild and Scenic River designation?

Mr. SHULTZ. I do not think so. It all depends on the land that the National Recreation Area would acquire. Zoning will not accomplish protection unless our legislature would change the laws or enact

a specific single zoning for the gorge area which might be possible I will admit.

I think the only protection under existing law is designation as a National Park. I thank you, Senator, very much. My associates perhaps would like to make a statement and we certainly are open to any questions which you may have. Thank you.

Senator ROBERT C. BYRD. Thank you, Mr. Shultz. You made a very fine statement.

STATEMENT OF JAMES RUST

As I understood you, Mr. Holliday, Mr. James Rust would be the next witness. Mr. Rust is vice president of Merchants and Miners National Bank of Oak Hill. How is my friend Shirley Donnelly getting along?

Mr. RUST. He is back at work, attending board meetings now, and sends his best. He is feeling just fine.

Senator ROBERT C. BYRD. You give him my best. He is my guide, philosopher and friend, as Alexander Pope would say, and I am glad to hear that he is recuperating from his recent illness. Give not only him my regards but also Mrs. Donnelly.

Mr. RUST. Thank you. I would like to thank you for allowing me to meet with you this morning. Being fully aware of the time problems the committee has, I will attempt to keep my statement brief.

INCREASING USE

The State of West Virginia is ideally located geographically within a 500-mile radius of over 60 percent of the Nation's population. Although we are ideally located, much of the Nation's traffic patterns have avoided our State in the past due to an inadequate highway pattern system. This situation is rapidly changing and the New River Gorge in southern West Virginia will be immediately accessible from three interstates and one Appalachian highway.

For this reason I personally feel the gorge area will be utilized more in the future than it has in the past and the potential destruction of this area is increasing daily. The feeling of our organization and within southern West Virginia is that people are beginning to arrive in our portion of the State with its new highways that are being constructed and are currently being constructed, the people are going to come and utilize the gorge. They are going to utilize the gorge regardless of whether we create a National Park or National Recreation Area or Wild and Scenic River. If nothing is done, people are still going to come to this area.

So I think that what we are basically talking about is, are we going to allow people to utilize the area and possibly destroy the very gorge itself, or are we going to enact certain protective measures to protect its scenic values for the future.

It is an unfortunate but nevertheless established fact of life that man is not always kind to the world in which he lives. For that reason our Nation has set aside specific areas to be protected so that future generations might enjoy the beauty that only God has the right to give.

COMMENTS ON BOR REPORT AND MEETINGS

I personally feel, and I think all West Virginians feel, that the New River Gorge is one of those areas that should be set aside. I compliment also, as did Mr. Shultz, the thoroughness of the Bureau of Outdoor Recreation and their report, although I don't necessarily agree with some of their conclusions and, specifically, the manner in which the meetings were conducted.

The Bureau of Outdoor Recreation in their report stated that the gorge did not possess any outstanding feature that would qualify it for a National Park designation. I can't understand this statement in light of the fact that the New River within the gorge, as Mr. Shultz said, is the oldest in North America which certainly qualifies it as a unique feature.

I also feel that in the public meetings, of which I attended three, the one in Oak Hill, one in Hinton and one in Fayetteville, the manner in which the meetings were conducted—

Senator ROBERT C. BYRD. I thought you said one was in Beckley.

Mr. RUST. There was one in Beckley. I did not attend that meeting. There was one in Charleston, one in Beckley and one in Fayetteville, one in Hinton, and there was also a fifth meeting with the executive committee in Oak Hill. I attended that one plus two public meetings.

At all of the meetings, 90 percent of the conversation centered around the Blue Ridge power project. We told BOR representatives when we met with them in our executive committee meetings, prior to the public meetings, that the mention of Wild and Scenic River would immediately divert the attention of the meetings to Blue Ridge.

We were told at that time that they would inform the participants at each of the meetings that the Wild and Scenic River designation would have no effect whatsoever on the construction of Blue Ridge.

We also told them at that time that we felt they would have a credibility problem because once Wild and Scenic River was mentioned, the connection with Blue Ridge was automatically made, whether effective or not, it was made, and I think that public meetings that I attended bore out the fact that this did happen. I also feel that at the public meetings—

Senator ROBERT C. BYRD. Would you elaborate a little bit, just a little bit on this? The connection between the idea of a Wild and Scenic River designation and the Blue Ridge power project?

BLUE RIDGE POWER PROJECT

Mr. RUST. The Blue Ridge power project, which was proposed for construction in North Carolina and in Virginia, is actually a twin dam power project, hydroelectric, by the American Electric Power Co.

There was an effort made by the citizens of North Carolina and Virginia to have that stretch of river designated as Wild and Scenic River. If that designation had been placed, it would have eliminated the construction of the dam simply because it was wild and scenic and therefore could not be impounded.

The Wild and Scenic River designation for that portion was strictly for North Carolina and Virginia. It did not affect any part of West Virginia to the best of my knowledge.

Senator ROBERT C. BYRD. Would the designation as a National Recreation Area or designation as a National Park preclude the construction of the dam?

Mr. RUST. No, sir.

Senator ROBERT C. BYRD. It would only be precluded by the designation as a Wild and Scenic River?

Mr. RUST. No, sir, it won't even do that simply because we are talking about a different stretch of the river and we are talking about creating—or the Bureau of Outdoor Recreation is talking about creating—a Wild and Scenic River from the area of Hinton to, say, Gauley Bridge or Hawks Nest, Amstead area.

Senator ROBERT C. BYRD. That would have no bearing on such a dam.

Mr. RUST. No, none whatsoever, but the fact that Wild and Scenic River was mentioned, literally, a few months after the controversial issue of Wild and Scenic River for North Carolina was brought up, the connection was made and people were led to believe, similarly because I think they didn't listen, but they were believing that by designating it a Wild and Scenic River it would eliminate construction of the Blue Ridge Power Dam and therefore would protect their river. Most of the citizens of our State want the area protected.

Senator ROBERT C. BYRD. So this would lead them mistakenly to believe that if the area were designated as a Wild and Scenic River area, the dam ipso facto would go out the window?

Mr. RUST. That is correct. That is my feeling.

Senator ROBERT C. BYRD. You are saying that the construction of such a dam would not be affected or precluded by any one designation.

Mr. RUST. That is correct; only to the extent, Senator, that the fact that it would be a Wild and Scenic River or would be a National Park or would be a National Recreation Area, and water quality control standards can be incorporated in any of those pieces of legislation, which would protect the river and we have so been informed by the Bureau of Outdoor Recreation of this.

Senator ROBERT C. BYRD. So you are saying that in any discussion of the Blue Ridge power project is entirely irrelevant to the designation of New River Gorge as any one of the three possible designations.

Mr. RUST. That is correct. I think the Blue Ridge power project, in my opinion, would probably have to take into consideration that there was a Wild and Scenic River downstream and would have to maintain minimum flows and minimum water quality standards that would affect it.

ALTERNATIVE MEANS OF PRESERVATION

But we have been told by the Bureau of Outdoor Recreation and on page 68 of their report they state, when discussing the National Park designation, that regulations could be placed on water quality

and flow for environment protection and recreation benefits. So that particular protection of the river could be provided through Recreation Area or National Park and it does not have to be done directly by Wild and Scenic River designation.

In the public meetings that were conducted, many people said or made the statement that "We love this river, we have fished this river, we have hunted in this area, we have enjoyed this river, we have boated on this river; how can we protect it?"

This is our main concern, we want to protect this area and Bureau of Outdoor Recreation officials have said, "Wild and Scenic River will do just that for you." Although I don't disagree, I believe they should have said that National Recreation Area will do the same thing and so will National Park designation.

The entire conversations, as I said, were led toward the Wild and Scenic River, and I feel that many people misunderstood the entire purpose of the meeting. It is not the contention of our committee or the people in our area or the people in our chamber or people that have expressed an interest in the National Park to have the homes of private citizens confiscated.

We are not asking for this, we don't want this. Nor is it the intention of ours to have the natural beauty of the gorge altered through man-made structures. We don't want that. But we, specifically, do not want a fence built around that property and prevent our citizens and people that will be visiting our area, the opportunity of enjoying this very unique place in America.

Senator ROBERT C. BYRD. Wait a minute. What do you mean by a fence built around the area? I know you are not speaking literally, you are speaking figuratively but—

Mr. RUST. I am speaking almost figuratively, Senator. The National Park Committee in its meetings with Bureau of Outdoor Recreation asked at the official meeting exactly what was a National Park and exactly what was the definition of a Recreation Area.

The Bureau of Outdoor Recreation stated that the major purpose of the National Park was to seal the area off and allow limited access in order to preserve the natural quality and natural beauty of the area.

It is the feelings of our committee, quite frankly, that we have been placed in a bind of trying to accomplish our goals while looking at the criteria that have been established when many times we find ourselves in a dilemma, because we can see advantages, for instance, in the Wild and Scenic River. We can see advantages in the Recreation Area and we can see advantages in the National Park System.

I would personally like to see a combination of all three in order to provide exactly what we are trying to accomplish, and what we are trying to accomplish is the preservation of the area and still allow people to utilize it.

And this is really a difficult thing to do when we have been handed guidelines that have been established, I assume administratively, that have been handed down for a period of years.

I agree with Mr. Shultz when he stated that many parts of the gorge would probably be donated to the National Park System. I also don't feel that it would be necessary for the Federal Government

to acquire all of the land immediately, and may not even be necessary for the Federal Government to acquire all of the lands eventually.

It is my understanding in conversations that I have had with Federal representatives, that the area could be designated a National Park and put under the administrative control of the Department of Interior and that the Secretary of the Interior would have the right to set certain guidelines as to what the land could be used for, and that if he saw portions of the lands were going to be used in such a manner that would not accomplish the National Park, he could step in in condemnation suits or acquire the properties.

So it is theoretically possible that we could go for a hundred years, Senator, before the Federal Government would ever acquire all the land, if ever. So I don't really feel that the arguments that the Bureau of Outdoor Recreation have raised, the fact that a National Park would be excessively expensive, are valid arguments in light of the fact that I don't feel that all of that money would have to be laid out. I don't feel like it would have to be used.

PROTECTION FROM INCREASING USE

I think that we should understand that the high level bridge at Fayetteville is under construction. It has been estimated—I have seen a lot of estimates—but it has been estimated somewhere between 10,000 and 30,000 automobiles will be crossing that bridge daily.

A bridge is located right on the gorge itself, it crosses the gorge. And I feel that the existence of that bridge plus the fact that Appalachian corridor "L" of which the bridge is part, is the only true north-south highway in West Virginia, that would give people from the Great Lakes area, upstate New York, Pennsylvania, an immediate south road to travel.

I think that all of these facts will indicate that people will be coming into the area. They are going to be utilizing the gorge and I can see, myself, the possibility of the area being destroyed. And this hurts, it hurts a great deal.

I think the people of West Virginia want that gorge preserved and I think it is a legacy that we want to hand down not only to our own generation but to future generations to come.

I sincerely hope that this committee will make a positive recommendation toward the preservation of the gorge, and I sincerely hope the Congress of the United States will agree and set aside this very special part of America.

Without going into any more detail, I would like to thank you and I will be available for any questions you want to ask.

PREPARED STATEMENT

Senator ROBERT C. BYRD. Thank you, Mr. Rust. We will insert your prepared statement in the record at this point.

[The statement follows:]

Mr. Chairman:

My name is James E. Rust, and I am Vice President of the Merchants & Miners National Bank in Oak Hill, West Virginia, and Vice Chairman of the New River Gorge National Park Committee. I respectfully request that this letter be made part of the records with regard to the New River Gorge National Park hearings.

It is an unfortunate fact of life that man is not always kind to the world in which he lives, and has repeatedly misused, abused and destroyed the beauty of his land and even fouled the very air he breathes. For this reason, certain areas of our nation must be preserved so that existing, as well as future, generations might enjoy the beauty that only God has power to grant. The purpose of this hearing is to discuss the possibility of establishing a National Park in the area of the New River Gorge in southern West Virginia. I personally feel, however, the idea of preserving this area was probably born with the first man that saw the awesome, breathtaking grandeur of the Gorge with its river that is reportedly the oldest in North America, if not the world. In the past the need for a formal program designed to protect this Gorge was not as critical as it is today because man was not as mobile and the Gorge was protected to some degree through its inaccessibility. This situation, however, is rapidly changing and with the construction of modern Interstates and Appalachian Highways a virtual river of tourists could soon be arriving to this area of southern West Virginia. Although West Virginians do not wish to prevent others from enjoying this area, we do feel it should be protected.

I would personally like to compliment the Bureau of Outdoor Recreation for their efforts in assessing the New River Gorge and its potential. I do, however, disagree with some of the conclusions of the BOR report and specifically the manner in which the public meetings were held. Last year BOR representatives visited Oak Hill and met with our National Park executive committee. At that time I directed specific questions to BOR representatives. I asked if the fact that the Gorge had a few coal mines, several small communities, and the C & O Railroad traveling the entire length of the Gorge would eliminate it from consideration as a National Park. Mr. Arnold of the Bureau of Outdoor Recreation stated at that time that there were National Parks having entire cities within their boundaries, and that the existence of coal mines and railroads could enhance the Gorge, and would certainly not eliminate it from National Park designation. Upon completion of the report we were informed that the area would not qualify for National Park status because of the communities, coal mines, and railroads.

We were also told that the individuals attending the public meetings in Hinton, Charleston, Beckley and Fayetteville would be told the area did not qualify for National Park status or National Recreation Area status, but would qualify for Wild and Scenic River designation. This was of great concern to our Committee because of the emotional atmosphere existing in southern West Virginia with regard to Wild and Scenic Rivers. We told BOR representatives at that time that the mention of Wild and Scenic Rivers would completely divert the meetings to a discussion of the Blue Ridge Power Project currently being proposed for construction in North Carolina, and that the National Park or National Recreation area proposals would not receive a fair hearing. I personally attended three of those meetings and the major portion of the meetings' time was consumed with discussions of the Blue Ridge Power Project.

I also feel the meetings were conducted in such a manner as to forbid discussion of National Park or National Recreation areas.

It is not the intention of the New River National Park Committee to have the homes of private citizens confiscated nor is it the intention of the Committee to alter the natural beauty of the Gorge with manmade structures. We specifically do not wish to have this area sealed off and placed in a vacuum, thereby denying existing, as well as future, generations the opportunity of enjoying this very special part of America. The Bureau of Outdoor Recreation report which has been submitted to this Committee has indicated local control and zoning will provide protection the Gorge requires. I personally disagree with this conclusion and feel protection for the Gorge would be impossible through zoning if for no other reason other than the fact that the Gorge area being studied is in three separate counties of southern West Virginia, and the coordination problem of working with three separate zoning authorities could make effective zoning impossible.

I also do not feel the State of West Virginia can adequately develop and protect the New River Gorge due to the size of the project and the inadequacy of my state with regard to funding a project this size. I feel this Committee should take into consideration that with the completion of Interstate 64, 77, 79, and Appalachian Corridor "L", with the high level bridge at Fayetteville, West Virginia, the tourism traffic will be greatly increased. Without adequate facilities and proper supervision the natural beauty of this Gorge could greatly diminish. In the Bureau of Outdoor Recreation report the Gorge has been criticized due to the fact that it has been timbered and mined. On page 48 of the BOR report, however, it states, and I quote: "It was noted that the Gorge has a very high regenerative capacity and that the scars were only obvious from vantage points high on the Gorge walls or rim."

I have personally met with coal mine operators and officials of the United Mine Workers of America. As a result of these meetings, I seriously doubt the possibility of large scale mining operations taking place within the Gorge in the future. I do know, however, that small mining operations could drastically alter the natural beauty and that many parts of this Gorge could become a dumping ground for abandoned automobiles and trash, in addition to landfills for communities located in the immediate area of the Gorge. I sincerely hope this can be avoided.

In conclusion I would like to say that the criteria for establishing National Parks and National Recreation areas should be reviewed. I do not feel that decisions can be made in 1975 based on criteria established in the past. If Congress is to be directed by policies that are outdated the establishment of National Parks within our nation could come to an end. It is the contention of our Committee that the New River Gorge located in southern West Virginia is a unique area that should be preserved. This preservation cannot be accomplished through the designation of Wild and Scenic Rivers for we are talking about more than just a river. I sincerely hope this Committee and the Congress of the United States will agree with our Committee and initiate action to preserve this area for the future.

STATEMENT OF J. B. HESS

Senator ROBERT C. BYRD. Mr. J. B. Hess, who is executive director of the Fayette/Plateau Chamber of Commerce, will be the next witness. Mr. Hess.

Mr. HESS. Mr. Chairman, first, before I start—

Senator ROBERT C. BYRD. You have already started.

Mr. HESS. I have several documents which I would like to have entered into the record. No. 1, I have over 600 names that were given to me yesterday from the Fayetteville Elementary School and the Oak Hill Elementary School on behalf of the New River Gorge becoming a National Park. And they wanted me to specifically see that you received these signatures because they are from children of all ages, from 5 on up through high school, and they feel that this gorge, if it is made into a National Park, is for their future. And if I may, Mr. Chairman, enter these documents into the record.

PETITION LANGUAGE AND PREPARED STATEMENT

Senator ROBERT C. BYRD. Mr. Hess, I think it will not be necessary to enter the signed petitions into the record. They will be entered into the files. The substance of the petition will be included in the record.

Mr. HESS. The high school teachers and the principals thought this would be a good idea, so I certainly wouldn't turn them down and accepted them, and I give them to you for your information.

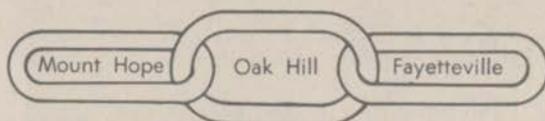
Senator ROBERT C. BYRD. Thank you very much, Mr. Hess. We will also include your written statement in the record at this point, along with the substance of the petition.

[The information follows:]

PETITION LANGUAGE

The petition below was signed by over 600 students from the Fayetteville Elementary School and the Oak Hill Elementary School, West Virginia:

We, the undersigned students and teachers of Fayetteville [Oak Hill] Elementary School, would like you and your committee to seriously consider the New River Gorge as a National Park. We would like to preserve it's magnificent charm and beauty, wildlife, water and forest as a National Park for our future and future generations.



September 26, 1975

Honorable Robert C. Byrd, Chairman
Senate Appropriation Subcommittee On Interior
Capitol Building
Washington, D. C. 20510

Mr. Chairman:

My name is J. B. Hess, I am secretary of the New River Gorge National Park Committee representing Fayette, Raleigh and Summers Counties for the purpose of promoting the New River Gorge as a National Park.

The New River Gorge National Park Committee has studied in depth the report dated May 1 entitled "New River Gorge" made by the Bureau of Outdoor Recreation of the United States department of the Interior pursuant to the request of the Congress contained in the 1975 Interior Appropriations Bill. We protest vigorously the conclusions reached and the recommendations made that the New River Gorge in southern West Virginia be designated a component of the National Wild and Scenic Rivers System contrary to the position of this committee and the great majority of our citizens that the studied area be designated a National Park.

New River, geologically one of the oldest streams in the world, was discovered by Europeans in 1671. In that year an expedition made up of Thomas Batts, Thomas Wood, Robert Fallam, an indentured servant, and an Indian guide set out from Fort Henry, at present Petersburg, Virginia, in search of waters which might lead them to the Pacific Ocean and of new opportunities for the fur trade. They followed the Roanoke and Staunton rivers to present Roanoke, Virginia, where they left Thomas Wood, who had become ill, with friendly Toterio Indians. Beyond the Alleghenies they came upon a stream which, unlike all others known to them, flowed westward rather eastward into the Atlantic. Sensing the importance of their discovery, they held a ceremony in which they took possession of all the lands drained by its waters for the King of England. They named the new-found stream Wood's River in honor of Abraham Wood, who had sent out their expedition, but in time it became known as New River.

This famous river which flows through the New River Gorge, sometimes called the "Grand Canyon of the East," is in the heart of the magnificent Appalachians. It is abundant in scenic splendors and historical significance making it one of the outstanding tourist attractions in the eastern part of the United States today.

This is an area which should be preserved in its natural state for all posterity and made available for recreational use for people from throughout the country.

Our primary and over-riding objective is to preserve and augment the natural beauty of the gorge. Herein lies its appeal and all other considerations are secondary. Nowhere has nature more lavishly bestowed its boundies. This is as we love it. This is the way we want it-as nearly natural, as nearly undisturbed, as nearly unspoiled as possible. We have something here which we are willing to share with others; unique, rugged, awesome, of unparalleled splendor in the east; a wild unruly river carving, cutting, eroding away year after year, century after century, eon after eon, its ever deeping gorge.

The number one priority of our Chamber and the National Park Committee and the expressed desire of our people is to maintain the natural beauty of the Gorge area.

The New River and its Gorge possess outstanding scenic, geologic, recreational, botanical, historic and mineral values. Access to the environmental preservation, high quality outdoor recreation and educational use. Economic benefits can be derived from a policy balancing protection and use of the values found.

The New River Gorge region still has resources of significance. Foremost is the rugged beauty which has never failed to draw the attention and admiration of all lovers of Nature in its pristine splendor. Two state parks, Hawks Nest and Grandview and a new proposed new state park at Sandstone Falls, provide spectacular views of the New River Gorge. The clear and rushing waters of the river provide one of the most appealing streams in the eastern United States for boating enthusiasts. But aside from these natural advantages, so important to a people beset by all the problems of urbanization and modern living, the New River Gorge and plateau area have a rich and memorable history which illustrates the mainstream of Appalachian development. From the days when Batts and Fallam discovered the stream, through the era when pioneers were threading their way through the mountains into the region's isolated valleys, through the years when the construction of the Chesapeake and Ohio Railway opened the gorge area to the industrialist and entepeneur, to the exploitation of its vast coal resources, which are now depleted and, finally to the reversion of much of it to a wilderness, the New River region has provided, in microcosm, a significant part of American history.

Mr. Chairman, we ask unanimous consent that this statement be inserted in the record.

J. B. Hess, Secretary
New River Gorge National Park Commission

COMMENTS ON BOR REPORT AND MEETINGS

Mr. HESS. Mr. Chairman, I'm not going to take too much of the committee's time. I think quite a bit has been said here in regard to the National Park and as you probably know, I am the director of Fayette/Plateau Chamber of Commerce and I have tried to carry the ball on this National Park since its very inception.

We have had various meetings throughout Fayette County, Raleigh County and Summers County in regard to the National Park, trying to get the citizens of our area and southern West Virginia interested in what we believe would be an outstanding tourist attraction in southern West Virginia.

I would like to take just a few exceptions with the reports of the Bureau of Outdoor Recreation if I may. First, in all fairness, it must be stated that report is well drafted and most of the material presented is factual and fairly represented. However, it should be plainly stated the Park Committee has little interest in the recommended designation of the gorge as a Wild and Scenic River. We do believe that the area warrants designation and future development as a National Park.

The following are items of exceptions which we take with the report and public hearings from which, in part, the report is based:

1. The report recommends that local zoning be the device through which preservation of the goal can be effected. This is not true, as it relates to strip mining, which has the greatest possibility for devastation. Only a special act of the West Virginia Legislature or fee ownership by land management agency can positively prevent strip mining. As you know, under our present law, we do have strip mining outside the gorge area, we also have farming that is exempt under the present zoning laws.

Therefore, this is a strong reason that we are a proponent of Federal ownership of this area.

2. The public hearings were conducted on the basis of what was the public reaction to the preliminary report recommending a Wild and Scenic River designation. The relative merits of designation as a National Park or Recreation Area were not explored as these items were dismissed as being unattainable. At no time was the public asked to address this question: Do you want a National Park or National Recreation area? Do you want a Wild and Scenic River?

The public hearings were conducted in Fayetteville, Beckley, Hinton and Charleston. I attended two out of three of the meetings or two out of the four meetings. At our meeting in Fayetteville, the Wild and Scenic River, the National Park, the Recreation Area were not made a part of these hearings. Everything was based upon the Blue Ridge Dam Project.

None of the citizens at those meetings got up and even discussed the Wild and Scenic River, Recreation Area or the National Park. They didn't realize what they were there for but after we got outside of the meeting and talked to some of the citizens and discussed what this was all about, they said, "Well, if we had known this, we would have certainly gotten up and expressed our opinion."

We sort of feel that the meeting got out of hand. I know at Fayetteville. And I think the Chamber of Commerce is at fault because we did not chair that particular meeting. When those people got up to make statements in regard to the Blue Ridge Dam, they should have not been heard. They should have been declared out of order because that was not why we were there. We were there for three reasons. Do you want a National Park, do you want a Recreation Area, do you want Wild and Scenic River?

3. We consider the public hearings were a travesty, being steered to a referendum on construction of the dam on New River in Virginia.

4. Throughout the public hearings the controversial subject of the pending Blue Ridge Dam was used to confuse the National designation for the New River Gorge. This belief was left with the public that the Wild and Scenic River designation would keep this project from being built. The only dam building which would be prohibited by the Wild and Scenic River designation would be in the study area itself. The River in the study area could also be protected under a National Park designation

specifying no impoundments, but no mention was made of this fact by the Bureau representatives.

5. The Chesapeake & Ohio Railroad which traverses the length of the gorge was inferred to be manmade improvements intending to limit designation of the gorge as a National Park. No emphasis was given the great possibility of such an improvement may soon give access to a great recreation complex which the gorge has a possibility of being to a gasoline starved populace.

6. Coal reserves in the gorge were implied to be large and vital to the National interest. We do not believe this to be a fact. Most of the deep reserves have long since been mined and what remains can be obtained from shafts from outside the gorge area. This information that we have obtained from most of the coal operators in the southern parts of West Virginia and we feel that they know what they are talking about, that this coal can be mined outside of the gorge perimeter.

Senator ROBERT C. BYRD. Do you have that information in writing from the coal operators?

Mr. HESS. No, sir, I don't. I can give you the man's name that I received it from.

Senator ROBERT C. BYRD. Can you supply the committee with written correspondence from coal operators?

Mr. HESS. Yes, I certainly can, sir. I will.

7. Remarks concerning the acquisition of the area and development cost as a National Park, we do not feel to be pertinent. Only when assessing alternative investments by the Federal Government in park development should cost factors be weighed.

REASONS FOR DESIGNATION AS A NATIONAL PARK

The New River Gorge is one of the oldest gorges in North America. This gorge has many locations that are over 1,000 feet deep. It is abundant in scenic and recreation advantages. West Virginia prides itself on the distribution of modern parks in this region which emphasize the unspoiled outdoors; rugged beauty is everywhere. In this part of the New River Gorge construction has been started on the world's largest single steel arch bridge. That bridge is over 3,000 feet long, it is 875 feet above the famous New River.

It will be the longest steel arch bridge in the world. This alone will bring tourists in from all over the eastern part of the United States to see this engineering feat of this century.

We feel that now we have a scenic railroad going into the New River Gorge. We have just received funds from the State of West Virginia to build this road. We will be able to go from Minden to Thurmond, W. Va., hopefully from Thurmond back up Blue Creek, to Glen Gene, to the Garden Grounds, the land that is owned by the New River Co. with an overlook in the New River Gorge giving us a total of about 40 miles for a round trip.

Historic Thurmond, as several of you know, back in its olden days, more freight was unloaded at this little freight station than Cincinnati, Richmond, and some of the other large cities in the eastern part of the United States. Thurmond, W. Va., was known for a poker game that lasted for 14 years without ever stopping. This is a fact.

Senator ROBERT C. BYRD. Tell us a little more about that. Who were the participants? Who won and who lost?

Mr. HESS. I can just faintly remember the hotel, Senator. But this is very true and Thurmond is very historic, and we hope someday that Thurmond will be restored to its former beauty.

There are many other things that I could talk about. We hope that this committee, Senator, will see fit to put into the bill to designate the New River Gorge as a National Park from the Blue Stone Dam down to Gauley Bridge, covering a territory of about 66 miles and about 8,300 acres of land.

And as most of you know, we do not expect the Federal Government to come in and acquire this land now. We would like to have the lines designated, the boundary lines designated, because we are talking now of about at least 20 years in the future. It is for the next generation, not for us. This gorge in all of its beauty and magnificence should be protected.

We do not feel that the Wild and Scenic River will accomplish this similarly because they are relating to zoning; zoning will not do the job. It will only go so far and as most of you know, the zoning within the respective counties is controlled by the director and depends upon how forceful this man is going to be to correct the pollution, the cutting of timber and anything else that might interfere with the beauty of the New River Gorge.

The recommendation for a Recreation Area certainly will have its effect because of the people, the impact that the people will have within the gorge area, the many things that we have planned to go into the gorge after the park has been designated. These recommendations have been made a part of this hearing, and they have been made a part of the BOR report.

We hope that in the future, before this bill is enacted, that you, Senator, will see that this bill, when it is prepared and sent to the Congress, that it will have the necessary teeth to protect this segment of the river and gorge from Blue Stone down.

Senator ROBERT C. BYRD. Let me say at that point, that anyone of these three designations is going to require authorization by the Congress. I don't sit on the authorizing committee of the Senate.

Mr. HESS. Yes, sir, I understand that, sir. Mr. Chairman, we hope that your judgment will be to recommend to the Congress the New River Gorge as a National Park. I certainly want to thank you for giving me the time to appear here today, sir.

Senator ROBERT C. BYRD. Thank you, Mr. Hess.

Mr. Holliday, would you now proceed?

STATEMENT OF ROBERT K. HOLLIDAY

Mr. HOLLIDAY. Senator Byrd, other distinguished members of the United States Senate on this committee. I promise not to take more than 5 or 6 minutes. I turned in some papers this morning to enter in the record from certain individuals and organizations endorsing the National Park concept. I have also been authorized by Dave Sexton, who heads a compact committee in Fayette County, to say that the United Mine Workers International Union adopted the resolution in support of a National Park.

Since I began my newspaper and editing and publishing career in 1965, including several years in the House of Delegates and State Senate, I have been an enthusiastic supporter of bringing a National Park to this over 60-mile area of the New River Gorge serving counties of Fayette, Raleigh and Summers in West Virginia.

Some geologists claim this river is the oldest in the world, as Mr. Rust pointed out. Few seem to dispute the fact that it is at least second in age. But not because of this, but because of the magnificent panorama of scenic beauty, the grandeur and because not only of the river but also the ridge to land surrounding should it be preserved for posterity sake. I think it necessary for the Congress of the United States to pass legislation so designating the gorge as a National Park.

And I do appreciate very much the courtesy and the facts which the Bureau of Outdoor Recreation submitted pertinent to the preservation of the New River Gorge area in the counties mentioned, but I do not feel that its studies, based upon the premises of setting outcome, justify the contention of a Wild and Scenic River status. It was based upon this premise of setting out to justify a Wild and Scenic River status instead of going into the full ramifications of creating a National Park.

This unspoiled beauty is truly one of our last hopes for saving, and if something is not done immediately, within a very short time, the transgressions of people will bring about a general degradation of this tremendous scenic area which is the lands also, and I emphasize that, ridge to ridge, in this vicinity of the New River which offers such wonderful opportunities as the preservation of recreation development.

I do believe that no responsible person whom I talked to in Fayette County or West Virginia would like to see anything less than a National Park and if there is one drawback—there are some, as there are all the time—who just cannot believe that it is possible to establish this National Park. It is similarly the lack of vision on the part of some.

We trust that the Congress of the United States will cut through the maze of bureaucratic red tape and in its wisdom will determine that the recommendations of the New River Gorge National Park by so many West Virginians will be carried out.

I turn our part of the program back over to Mr. Shultz and any of us will be available for any other questions you might have, Senator. Thank you.

ENDORSEMENT RESOLUTIONS

Senator ROBERT C. BYRD. Thank you, Mr. Holliday. We will insert the material you spoke of at this point in the record.

[The resolutions follow:]

RESOLUTION

Whereas, through the efforts of West Virginia Senators Jennings Randolph and Robert Byrd, the Bureau of Outdoor Recreation, a planning agency of the U. S. Department of the Interior, was requested to make a study, which was funded through a supplemental appropriation of \$150,000.00 (HR 14434) through the influence of Senator Byrd, of the New River Gorge area in Fayette, Raleigh and Summers Counties, West Virginia, to determine if the area is suitable as a National Park; and

Whereas, the Bureau of Outdoor Recreation has made a study of the area and has held a series of public meetings to present the same; and

Whereas, the Board of Directors of the Beckley-Raleigh County Chamber of Commerce has considered the report which concludes that while "the area did not qualify for a National Park or National Recreation area, it does qualify for National Wild and Scenic River designation"; and

Whereas, no reasons are given why the Area does not qualify for National Park status other than "the area does not meet national criteria"; and

Whereas, the designation as a "National Park" carries greater prestige and opportunities for development than other classifications;

Therefore, Be It Resolved, That the Board of Directors of this Chamber takes the position that the New River Gorge should be designated a National Park and respectfully requests the Bureau of Outdoor Recreation to restudy and re-evaluate its preliminary findings to the end that it recommends the New River Gorge be designated a "National Park"; and

Be It Further Resolved, That a copy of this resolution be forwarded to the Honorable Robert Byrd, the Honorable Jennings Randolph, the Honorable Harley Staggers, the Honorable Ken Hechler, the Honorable Arch A. Moore, Jr., the Honorable Ira S. Latimer, the

Bureau of Outdoor Recreation of the U. S. Department of Interior, and Mr. J. Duval Shultz, Chairman, Fayette Plateau Chamber of Commerce, Committee for the Establishment of the New River Gorge National Park.

Respectfully,

Beckley-Raleigh County
Chamber of Commerce

By Melvin L. Tolle
Melvin L. Tolle, President

Adopted: January 16, 1975

RESOLUTION

At a called meeting of the Fayette Plateau Chamber of Commerce Committee for the Establishment of the New River Gorge National Park to receive the preliminary report from the Bureau of Outdoor Recreation (BOR) of the U.S. Department of the Interior, which report was presented by Mr. Maurice Arnold, Regional Director of BOR, after lengthy and full discussion of all phases of the preliminary report, the following Resolution was adopted unanimously:

Whereas, through the efforts of West Virginia Senators Jennings Randolph and Robert Byrd, the Bureau of Outdoor Recreation, a planning agency of the U.S. Department of the Interior, was requested to make a study, which was funded through a supplemental appropriation of \$150,000.00 (HR 14434) through the influence of Senator Byrd, of the New River Gorge area in Fayette, Raleigh and Summers Counties, West Virginia, to determine if the area is suitable as a National Park; and

Whereas, the Bureau of Outdoor Recreation (BOR) has made a study of the area and has submitted a preliminary report to this committee and is holding a series of public meetings to present the same; and

Whereas, this Committee has read and considered the preliminary report which concludes that while "the area did not

qualify for a National Park or National Recreation area, it does qualify for National Wild and Scenic River designation"; and

Whereas, no reasons are given why the Area does not qualify for National Park status other than "the area does not meet national criteria"; and

Whereas, this Committee suggests that National Park status should be bestowed upon the New River Gorge because of its great natural beauty and grandeur, of which the New River Gorge has no peer in the east; and

Whereas, it is the duty of government to adjust to changing times and the will of its citizens, of whom more than one-half live within one day's drive of the New River Gorge; and

Whereas, the designation as a "National Park" carries greater prestige and opportunities for development than other classifications;

Therefore, Be It Resolved, That this Committee reiterates its firm position that the New River Gorge be designated a National Park and respectfully requests the Bureau of Outdoor Recreation to restudy and re-evaluate its preliminary findings to the end that it recommends the New River Gorge be designated a "National Park"; and

Be It Further Resolved, That a copy of this resolution be forwarded to the Honorable Robert Byrd, the Honorable Jennings Randolph, the Honorable Harley Staggers, the Honorable Ken Heckler, the Honorable Arch A. Moore, Jr., the Honorable Ira S. Latimer, Jr. and the Bureau of Outdoor Recreation of the U.S. Department of the Interior.

Respectfully,

Fayette Plateau Chamber of Commerce,
Committee for the Establishment of
the New River Gorge National Park

By

J. Duval Shultz
Its Chairman (J. Duval Shultz)

Adopted: January 14, 1975

AGE OF NEW RIVER

Senator ROBERT C. BYRD. I have often heard the New River referred to as the oldest river in the world. I have noted in years gone by that in the Book of Genesis the Euphrates River is referred to and in the Book of Revelations the Euphrates River is also referred to. That river runs from the beginning of the Old Testament to the end of the New Testament, and while I would not want to pose as a Biblical scholar, nor would I want to challenge the geologists, I wonder whether they would place the Euphrates in the category of aging rivers.

Mr. SHULTZ. We know, Senator, that you are a very astute student of the Bible and we are willing to make New River the second oldest.

Senator ROBERT C. BYRD. Well, we are not so much concerned with the age of the river, are we, but as with the status of it.

I have a gentleman from that historic community of Thurmond, W. Va., Mr. John Dragon. Is he in the room? Would you come forward, Mr. Dragon. Mr. Dragon is president of Wild Water Inc. of Thurmond, W. Va.

By the way, may I say that any of you people from the various agencies, who are in the room here, if you have never visited Thurmond, W. Va., you have something still ahead of you. By all means you ought to try to visit Thurmond, W. Va. It is truly not only a historic place but a very interesting place and you will never forget it if you once visit it. Mr. Dragon has been a host to many congressional staff members and Department of Interior personnel and has personally shown to them the magnificent scenery of the gorge area.

We are very pleased to have you appear before the subcommittee. Please proceed.

WILD WATER, INC.

STATEMENT OF JOHN DRAGON, PRESIDENT, WILD WATER INC.

Mr. DRAGON. One of the opening remarks I had on my paper was about the oldest river in the world. That was said about 43 times.

One of the things that has not been said about scenic Thurmond was back at one time it was the gambling culture center of the eastern seaboard. Most of the people are aware of the poker games and the scarlet night collusion that went on in Thurmond but it was only one of the things that went on there. It was a center of culture.

There was a gentleman by the name of Sylan Green of New Orleans who brought outdoor operas and minstrels into the area. But that is not why we are here today.

The people who have never been to see Thurmond are really in for a treat. I generally tell people when they are going down the river, I always ask them to stop by. When you are coming through Thurmond be sure to stop in for a free steak dinner. Everybody likes to take us up on that. The only catch is you never stop in Thurmond. You are either on your way in or out.

I am a yearlong resident of Thurmond, W. Va. I traverse daily what was once a populated area which has been turned back to pretty much of a wilderness with almost no access except by hiking or primitive roads. I see an area that needs immediate and permanent preservation.

MEANS OF PRESERVATION

I personally feel that this can be best accomplished by inclusion of the New River under the Wild and Scenic River Act. I would point out that there are certain exceptions to that, and I do not feel that the Wild and Scenic River Act, solely, will preserve New River. I have been told that due to the report that New River, itself, possibly does not qualify because of certain manmade inclusions for a National Park status.

If this would be true, then I would recommend that New River be preserved under the Wild and Scenic River Act with certain changes. We hear daily from people who ride the river that they can't believe that there is this much open country left east of the Mississippi with no real visible intrusions by man, particularly people who visit New River country from highly populated areas like Washington D.C., Pittsburgh, New York, Columbus, Cleveland.

In fact, we did a survey last year of the 8,000 people we took down the river; at least 76 percent of the people that traveled on New River with us last year traveled better than 500 miles to get there. So we are talking about people who are not just local residents but people who are quite taken by the beauty and grandeur of New River.

More than 8,000 people that chartered with our company last year, as well as the numerous travelers, have seen the grandeur as a guest of the West Virginia Department of Commerce and Wildlife, have told us numerous times that there is some need for preservation.

There are other noteworthy measures for preserving the river. However, since the existence of the river is the main reason for everybody's concern in this room, I feel it is only right that the river and her banks and the area up to its rim be preserved first and foremost.

The prominence of New River itself has prompted National Geographic to feature the New River Gorge area in an upcoming article tentatively scheduled for June of 1976. In the past 2 weeks we have been guiding a photographer down the river and she was heard to say numerous times that she really couldn't believe that this much country without population existed in the East, and she was really taken back by the fact that the mountain was uninhabited. She kept wanting to know where the condominiums were overhanging the gorge area, and I kept telling her we didn't have any, and she was very excited over the fact that we had some exciting white waters as well as clean air.

I feel the BOR reports concerning the flow remedy for New River should afford much more attention than in its report. Namely, they are mentioned in the report, but they are not provided for. This should be part of the act when the river is placed on the Wild

and Scenic River System that this will maintain New River's real reason for existence, the water flows.

I also feel that zoning is not the real answer to providing permanent protection for the corridor along the river as proposed in the report.

I believe the scenic easements may be necessary, as indicated in the report, where small communities and individual properties are concerned, but I feel the permanent protection lies in the combination of scenic easements and total fee acquisition.

I think there has to be sort of a—for lack of a better term, I am not knowledgeable about these things—it would be a combination of something between a National Park and a Wild and Scenic River. I would agree with the gentlemen from the committee to place New River on a National Park; that the Wild and Scenic River Act solely will not do it. I believe there is a need to preserve both sides of the canyon waterwalls.

On the other hand, we have been told by the people who have investigated the area, that it doesn't meet their criteria. If we can change the criteria, then possibly we can establish it as a National Park. But I also point out that there is a need for expediency regarding this whole matter.

In fact, it has just been in the last few weeks that they have cut various roads into the gorge area where they are planning today clear cutting on several large acres and there are two strip mines ready to open on the top of the mountains between Berry Mountain and Lake Inn which will go right out to the edge of the rim, so I do believe there is a need to move on these particular matters with great urgency.

And I would like to invite the Senator and the other members of the subcommittee to join us at any time in New River country and be our guest and take a first firsthand look. If you feel that I or any member of my staff can supply you with any information, I will be happy to supply you at any time.

Senator ROBERT C. BYRD. Thank you, Mr. Dragon.

Our next witness is Mr. Destry Jarvis, program director for the National Parks and Recreation Association. Mr. Jarvis has asked to be heard. We will be glad to include your prepared statement in the record, and you may summarize it for the committee.

NATIONAL PARKS AND RECREATION ASSOCIATION

STATEMENT OF DESTRY JARVIS, ADMINISTRATIVE ASSISTANT, NATIONAL PARKS AND RECREATION ASSOCIATION

Mr. JARVIS. Mr. Chairman, if my statement will be included in the record, I can summarize very quickly the comments that I have to make.

I am Destry Jarvis, administrative assistant for parks and conservation for National Parks and Conservation Association in Washington, D.C. NPCA was founded in 1919 by Stephen Mather, the first Director of the National Park Service.

Let me say we strongly believe that the New River Gorge deserves to be included and qualifies for inclusion in the National Park System. This I can say from several extensive visits to that area and on the ground, on the river, hiking in the canyon and along the roads.

The BOR report—the purpose of this hearing—the BOR report is excellent, I think, in its discussion of the characteristics of the gorge and the physical attributes of the area and the discussion of why the gorge does qualify and deserves protection.

I think insufficient consideration is given to all the viable alternatives, however. The emphasis seemed to be toward zoning rather than designation as a National Park or National Recreation Area and the discussion of the coal that came in there and the very high value of that coal seemed to preclude their recommendation for fee acquisition. I think there very definitely needs to be a thorough study of the amount of coal in that area before we can determine exactly how much can be acquired.

I think that comments that have been made this morning about the adequacy of zoning are quite well taken. I don't think the zoning will work in this area. I think there needs to be some very definite direction toward scenic easements and fee acquisition. One thing that the BOR report seems to mask is the true cost of fee acquisition of a 50,000-acre Wild and Scenic River. I think that is one thing that hasn't been pointed out and you can have fee acquisitions in a Wild and Scenic River Area or a National Recreation Area.

We agree the area does not qualify under existing criteria for parkland as drawn up by the National Park System as a National Park. This is not to say this area would not be a unit of the National Park System as either a Wild and Scenic River or a National Recreation Area.

The elimination of fee acquisition from the Wild and Scenic River recommendation of the report, I think, is the area of greatest inadequacy of the report. The report speaks of \$22 million costs for the National Recreation Area of 55,200 acres, but that includes 5,200 acres of State parklands which the State is going to buy anyway and if you take the cost of that, which it is \$5.4 million away from that \$22 million, you have a 50,000 acre area that would cost \$16.6 million. This is for the surface rights only.

The National Recreation Area alternative is rejected, because I believe the size of the area that was considered as an alternative in this report was too restricted.

Why not consider an 83,000-acre National Recreation Area? That was the size that was considered for the National Park and it was rejected because of the manmade encroachments, the commercial railroad, the mine and so forth. I think that was justified, but why not consider also a National Recreation Area of 83,000 acres where the additional acres over 50,000 acres would be back on the plateau.

It would be of an adequate size, spaciousness to fit all the National Recreation Area criteria, proximity to urban centers and so forth. And in that way we would take the pressure off of the river itself in which a 50,000-acre National Recreation Area would be indeed inadequate, an inadequate area, but an 83,000-acre area, or some other size with additional lands back on the plateau would, I think, enhance the ability of the area to provide diverse recreation and at the same time protect the pristine qualities of the gorge.

In conclusion, I think the amount of coal needs to be more thoroughly investigated before any designation is made of this area,

and that one of alternatives should be considered and that is a Wild and Scenic River of the size that is recommended in that gorge, in the reports, to the 50,000-acre corridor, but a combination of scenic easements and fee acquisition be used for assuring its preservation or a National Recreation area of larger than 50,000 acres. Thank you.

PREPARED STATEMENT

Senator ROBERT C. BYRD. Thank you, Mr. Jarvis. Your prepared statement has been received for insertion in the hearing record.

[The statement follows:]

Mr. Chairman and other distinguished members of the Subcommittee:

I am T. Destry Jarvis, Administrative Assistant for Parks and Conservation of the National Parks and Conservation Association, 1701 18th Street, NW, Washington, D.C. 20009. NPCA was founded in 1919 by Stephen Mather, first Director of the National Park Service, as a citizen organization to promote and protect the national parks. Today, NPCA has nearly 50,000 members nationwide, with our responsibilities still relating primarily to protecting the national parks and monuments of America, while broadening our scope to cover a wide-range of environmental topics.

From its modest beginning, the national park system has grown to its present 287 units totaling about 30 million acres. Yet the national park system is not complete -- another 30 million acres in Alaska awaits consideration for inclusion by the Congress. In addition, there are a number of other areas in the lower 48 States which merit inclusion in the national park system.

Distinctive natural areas such as the Congaree Swamp of South Carolina and the Tallgrass Prairie in the Flint Hills of Kansas come to mind. Another such area, affording scenic vistas of unexpected beauty, providing the exhilarating thrill of white-water sports, historic settings of abandoned mining and gambling towns, and broader river scenes for bank and boat fishing in a region of unique geologic significance is the New River Gorge area of West Virginia. Let me clearly state that NPCA strongly believes that the New River Gorge qualifies for inclusion in the national park system.

The National Parks and Conservation Magazine: The Environmental Journal in our issue of February, 1975 contained an article entitled "New River Country, Wild and Scenic" by Elizabeth Watson of Thurmond, West Virginia, a reprint of which is attached to my statement.

BOR, in its New River Gorge study, provides a complete and detailed discussion of the physical characteristics of the New River area so that the reader becomes fully cognizant of its significance to the State, region, and the Nation.

In this sense, the BOR report is excellent. However, the recommendations for protection of the New River Gorge which BOR offers based on its analysis of the data contained in the report reflect an insufficient consideration of all viable alternatives and in NPCA's judgment, would not adequately assure protection of the river and gorge area.

Conflict arises primarily in two areas: the method of land control which would offer the best protection for the area -- that is, zoning, or scenic easements, or fee acquisition (or some combination); and the national designation best suited for the area -- that is, national park, national recreation area, or national wild and scenic river (or some new name such as National Whitewater Way, or National Whitewater Park).

The BOR report recommends a 50,000 acre, 66 mile corridor, extending 500 feet back from the rim of the gorge. This corridor is perfectly adequate for a wild and scenic river designation, which NPCA would support. However, the BOR also recommends that 49,000 acres be "protected" by local zoning, with only 1000 acres of fee acquisition. It is our view that any zoning within the 50,000 acre corridor will leave the area vulnerable

to incompatible development and encroachment. Zoning will not work to protect New River Gorge.

The BOR report offers no assurance that zoning can work; no examples of successful operation of areas with zoning as the principle land control mechanism are given. All affected jurisdictions in the New River Gorge area do not at present have zoning ordinances. Zoning beyond the corridor boundary would be entirely appropriate and a necessary complement to protection of the Gorge itself by easement or fee acquisition.

No mention is made in the report as to how zoning would control mining, timber harvesting, subdivisions, transmission corridors, new road construction and other potential developments in the Gorge area in the face of applications for variances.

BOR should have provided a map of property ownership patterns within the corridor, depicting lands held in large blocks by coal, power, railroad, and land holding companies as well as land used for private residences or owner-occupied commercial establishments and the major historic structures in the small, often abandoned towns in the Gorge area. Such a map is essential in determining which lands could be acquired in fee, by scenic easement, or perhaps by donation. The possibility of donation of lands (with a significant tax advantage to the donor) was not explored in the BOR report.

With an acceptance of the need for greater land control through scenic easements, fee acquisition or a combination of these in order to protect the Gorge, the question of designation comes into sharper focus. In the report, BOR has attempted to tie a Wild and Scenic River recommendation to zoning and a National Park or National Recreation Area alternative to fee acquisition. The "Summary of Impacts of Alternatives" and the "Display Account" charts fail to cover several important costs and alternatives.

For instance, no consideration is given to fee acquisition and scenic easement acquisition of a 50,000 acre (or less, if residential property is excluded) Wild and Scenic River area. Only by a manipulation of the figures in the NRA display account and in the State Wild and Scenic River display account for cost of acquisition can it be determined that the cost of 50,000 acres in the corridor would be \$16.6 million.

BOR rejects National Park designation for New River Gorge because of the existence of a commercial railroad, an active deep mine and extensive strip mine scars. NPCA would agree that the Gorge area does not meet the criteria for designation of a natural area national park as outlined in the NPS Management Policies "Criteria for Parklands."

However, BOR then considers and rejects an NRA of 50,000 acres, stating that "[the area] it falls short of meeting criteria which emphasize that NRA's should be managed primarily to meet high priority outdoor recreation needs and should be designed to achieve a comparatively high recreation carrying capacity."

Unfortunately, the BOR has failed to realize the potential for establishment of an NRA of larger than 50,000 acres. For example, an 83,000 acre NRA (on the same acreage as the National Park alternative) with the additional land on the plateau areas back from the rim could accommodate more people to provide the high recreation carrying capacity necessary for an NRA. Such an area would then meet all criteria for an NRA -- proximity to urban centers, high carrying capacity,

spaciousness, the assurance of national as well as regional visitation, and a recognition that while outdoor recreation is the primary management purpose, it must be compatible with protection of the natural and historic resources of the area.

Visitation figures in the report vary from Wild and Scenic River to National Park and NRA. However, it is likely that visitation to a Wild and Scenic River would increase substantially if more land than 1000 acres was in public ownership.

Another factor playing an important part in the ultimate designation of the area will be the amount of coal underlying the Gorge area. The BOR report provides inconclusive projections of cost of acquisition of mineral rights, although this may be due to a general lack of available information on the subject.

In conclusion, while NPCA would agree that the New River Gorge does not qualify as a natural area National Park, it is fully qualified for and should be included in the national park system as either a Wild and Scenic River in a 50,000 acre corridor with fee and scenic easement acquisition, or as an NRA of 83,000 acres again with fee and scenic easement acquisition.

RECESS

Senator ROBERT C. BYRD. Now I think we will hear again from Mr. Watt and others. Why don't we take a 10-minute break before we proceed.

[A brief recess was taken.]

DEPARTMENTAL TESTIMONY ON NEW RIVER GORGE

Senator ROBERT C. BYRD. The subcommittee will resume its hearing. I had hoped to have a showing of a very fine film on the New River Gorge entitled "The Oldest New River," but because of the constriction of time, I think we will have to forego this for the present and proceed with the questions now.

I would estimate we will go another 45 minutes, at which time we will recess for lunch and return at about 3 o'clock this afternoon. But we ought to complete our questions in connection with the New River Gorge report within 45 or 50 minutes.

LOCAL ZONING TO PRESERVE NATURAL AREAS

Mr. Watt, the BOR report, on page 82 of the report, urges reliance on local zoning actions. You have heard the witnesses earlier today express great doubts as to the feasibility and dependability of reliance on local zoning actions. What evidence can BOR offer to verify that reliance on local zoning for control of lands used within the New River Gorge area would work?

Mr. WATT. Senator, the concern expressed is justified. The record on that is mixed. We have found that where the local folk and the zoning authorities want local zoning to work, it does work. If they are not committed to making it work, it will not work. We can run through several of our case histories.

We are of the view that in West Virginia, where you have the enthusiastic support of good people like we have heard from today, that they can make it work. Several of the counties have already started to consider zoning, and taken constructive steps that we think would lead to a positive program. It would take action by the State legislature to address the mining issues and it would take action by the local governments to make it work.

As I said before, the history is mixed, with good and bad cases. Senator, if it would be helpful, at some time I would like to put in the record what the local governments are doing, and this might be appropriate now.

Senator ROBERT C. BYRD. All right.

Mr. WATT. What they are doing is quite remarkable. The three counties through their elected county officials have taken steps to extend existing land use controls or consider land use controls. Fayette County has strengthened existing controls by prohibiting trailer courts and landfills within the gorge and is considering prohibition on new building on the sides of the gorge. Raleigh County has passed a resolution to adopt land use controls. Summer County, the most conservative of the three, has reestablished county planning for the purpose of considering land use controls to support preservation of the river.

Letters of support have been received from numerous sources including Raleigh County and the Region 1 Planning and Development Council. The community is responding and we are quite pleased with the way the Government officials are addressing this issue. Whether they will be successful is yet to be determined. We think they will be.

Senator ROBERT C. BYRD. What relevant experience has the National Park Service had in other park areas to support the effectiveness of local zoning to preserve an area?

Mr. WATT. I would like to call for some support here. We have Gary Everhardt and others in the room. In the case of Cape Cod in Massachusetts where local zoning is called for, it has been very successful.

Mr. EVERHARDT. Yes, sir.

Mr. WATT. Fire Island is another story, right, Gary?

Mr. EVERHARDT. Right.

Senator ROBERT C. BYRD. When you say "another story," what does that mean?

Mr. WATT. Fire Island, N. Y., has not been a very successful story.

Mr. EVERHARDT. Fire Island, Mr. Chairman, has not been as successful as Cape Cod because of the local zoning, the local governments effecting proper zoning and carrying out the responsibilities. Cape Cod is certainly an experience that we have been happy with and, I think, the local people have been happy with it.

Mr. WATT. Another example we might call to your attention was the experience the National Park Service had at Gettysburg, Pa. There local zoning had not been too effective. We got into a squabble over the tower being built and since then the local government has been most responsive and deeply involved in a program.

LOCAL ZONING IN AREAS SIMILAR TO NEW RIVER GORGE

Senator ROBERT C. BYRD. Have you had any experiences with areas similar to the New River Gorge?

Secretary REED. Yes, sir, there are now national rivers in the National Park System which could be examined, the Ozark and the Buffalo, and we have other areas of the Wild and Scenic River System that usually have a complement of Federal and State land adjacent to them like the Rogue. In the East we are just about ready to release a report on the Delaware. We have made studies on the Connecticut.

Senator ROBERT C. BYRD. Are these areas in which zoning has been effective in preserving the area?

Secretary REED. The Buffalo and the Ozark are fee purchase for the whole line of vision. The Rogue was protected by the various Federal agencies—by the Forest Service and the BLM. They were already in the Federal province. We could not reach agreement on the Connecticut and we have not yet submitted a recommendation on the Delaware. We are still learning how to use zoning. I can not guarantee the results.

Mr. WATT. We have been looking at so many resource areas, Senator, and recognize that there are many that need to be preserved for future generations as has been discussed today.

Senator ROBERT C. BYRD. Aren't you actually saying that you have had no experience with areas similar to the New River Gorge area that would support the idea that local zoning would be effective in preserving it?

Mr. WATT. I think that is a fair statement but we also feel that we have got to develop new concepts in preserving resources such as the New River. Fee acquisition is just such a burden economically to State and local governments as well as the Federal Government that we cannot preserve all we want to preserve if we don't develop new concepts. We feel this one is a new one that needs to be tried.

LOCAL ZONING IN NEW RIVER GORGE AREA

Senator ROBERT C. BYRD. Why try it out on this one?

Mr. WATT. You have good government there that has shown initiative. The local people express a desire to have this river protected. Those assets make it look like an attractive place, where with the good people it will work.

Senator ROBERT C. BYRD. Are you saying with respect to other areas in the country that they were not good people and they didn't indicate a desire to have the area protected?

Mr. WATT. I didn't mean to direct my comments to their character. All Americans are good, but some areas do not want a Federal presence. Some areas want the Federal Government to stay out, and I understand that point of view. When we find that an area will accommodate a Federal presence, plus State presence, we try to do what would be proper in that case.

Senator ROBERT C. BYRD. Would zoning control mining and timber operations on private land?

Mr. WATT. Not without the State legislature addressing that issue. Presently, in the State of West Virginia, there is a moratorium in 22 counties brought about by the State legislature, and that moratorium goes for several more years. These 3 counties could be added to that list of 22 counties, but in any event the simple answer to the question is, no, it would not. The State legislature would have to address itself to that issue.

Senator ROBERT C. BYRD. Could zoning be enforced to impose this recommended moratorium on strip mining?

Mr. WATT. Yes, if the State legislature provided the statutory base for that control.

Senator ROBERT C. BYRD. What about new road construction, upgrading of existing roads, subdivisions?

Mr. WATT. That type of activity could be controlled by comprehensive zoning.

Senator ROBERT C. BYRD. Transportation corridors?

Mr. WATT. Same thing.

Senator ROBERT C. BYRD. These controls could not be enforced by zoning alone in this area? It would require legislative action on the part of the West Virginia Legislature?

Mr. WATT. Yes, the State legislature would be required to control mining in the comprehensive sense as you have outlined it.

LAND OWNERSHIP DISTRIBUTION

Senator ROBERT C. BYRD. Do you have a map of existing land ownership within the gorge area indicating private, residential and commercial property, and land owned by coal, power, railroad and land holding companies?

Mr. WATT. Senator, we do not have such a map. However, we have a series of tax maps which could be made available or used in developing a land ownership map.

Senator ROBERT C. BYRD. Suppose you provide those to the committee.

Mr. WATT. We would be glad to do so.

COUNTY ZONING

Senator ROBERT C. BYRD. On page 83, you refer to the Fayette County land conservation district zoning. What protection does that provide?

Mr. WATT. The Fayette County zoning designation permits limited expansion of existing buildings and Government utility lines. It stresses development of park and recreation areas, golf courses, game preservations and similar areas with accessory buildings. It prohibits new residential, industrial or commercial development in the gorge. Towns are zoned a little somewhat differently. This program of Fayette County has been in effect for 4 years.

Senator ROBERT C. BYRD. Four years?

Mr. WATT. For 4 years, yes.

To our knowledge there have been no variances from the zoning requirements. The regulations, however, have been amended to be more restrictive as a result of the concern for preservation of the environmental values. Trailer parks and landfills within the gorge are now prohibited. Further restrictions of any new building on the sides of the gorge are being considered.

With this type of thought and action taking place by the county commissioners, we are most encouraged that they are going to be responsive to the zoning possibilities.

Senator ROBERT C. BYRD. How far back from the rim does the zone extend?

Mr. WATT. They require about 150 feet, under the Raleigh and Summers County requirements, to protect the gorge and the view from it.

Senator ROBERT C. BYRD. What about Fayette County?

Mr. WATT. In Fayette County, I am being advised that the Fayette County requirements call for prohibitions to the rim. We have not been able to determine exactly the proper definition of what the rim is.

Our professionals are impressed with the zoning requirements being considered or being implemented by these three counties.

Senator ROBERT C. BYRD. Would you say that again, please?

Mr. WATT. I say our professionals are impressed with the zoning provisions being considered.

Senator ROBERT C. BYRD. What are the conservation zoning restrictions being considered?

Mr. WATT. Limiting the construction of buildings, protection of the flood plain and the requirements that building and construction activity be set back from the rim or the edge of the gorge to protect the scenic view and the esthetics of the area.

Senator ROBERT C. BYRD. I understood those were the regulations that have already been effectuated.

Mr. WATT. Yes, in Fayette County they have been and they are being considered in Raleigh and Summers.

WATER FLOW STANDARDS

Senator ROBERT C. BYRD. Your report advocates the establishment of flow standards. How can minimum flow standards be imposed by regulation?

Mr. WATT. Flow standards would have to be worked out among the several Federal, State and local agencies, through cooperative agreements to protect the several values there. The Corps, of course, is the lead agency, as their dam is there on the river. I think it needs to be emphasized again, that this does not affect the construction of the Blue Ridge project in Virginia and North Carolina.

Senator ROBERT C. BYRD. Are you optimistic that cooperative action between the Federal, State and local governments will be forthcoming to establish such a flow standard?

Mr. WATT. Very, very definitely. We are most encouraged with the talks we have already had on that point.

Senator ROBERT C. BYRD. Talks with whom?

Mr. WATT. The Department of the Army, principally, and State officials, to be assured that the qualities needed to be preserved in a Wild and Scenic River system would be preserved and we are confident they can be.

STATE PARKLANDS

Senator ROBERT C. BYRD. You refer to highly developed park in your report. What sort of highly developed parks does BOR have in mind for the lands and ridge tops overlooking the gorge?

Mr. WATT. We are referring to the State parks that have been developed already or are planned for development by the State. Some outstanding work in developing picnic facilities, trails, vistas and views overlooking the gorge is provided there. The very popular park system of the State of West Virginia that requires some real early advance booking to get in. A good program for the State of West Virginia.

RECREATION DEVELOPMENT IN NEARBY TOWNS

Senator ROBERT C. BYRD. Your report also refers to the encouragement of existing towns to expand recreation developments, to eliminate the need for such in the gorge. How would this be done? How would these towns be so encouraged?

Mr. WATT. We would work with them to encourage them to develop the resources needed for the traveling public so that the resources would not be built in the gorge or on the rim. They would be encouraged to develop the recreation facilities, motels, restaurants, camping areas and the like in the towns surrounding that area.

This is part of our technical assistance program we were talking about earlier, to see to it that the needs of people are met, to protect the resources at the same time and to encourage the profit sector of our economy.

EXCLUSION OF STRUCTURES

Senator ROBERT C. BYRD. Page 61 states that,

New industry, commercial structures and major housing development would be excluded from most of Zones 2 through 5.

Where would these activities be permitted within zones 2 through 5?

Mr. WATT. Facilities such as industry, commercial structures, et cetera, would be permitted only within existing towns when they were compatible with the preservation of the whole environment. Actual locations would be dependent upon site, topography, distance from the river or gorge, height and size of the proposed facility.

COST OF FEE ACQUISITION

Senator ROBERT C. BYRD. The Bureau of Outdoor Recreation has attempted to tie a Wild and Scenic River recommendation to zoning and a National Park, National Recreation Area alternative to fee acquisition. What is the cost of acquisition in fee of a 50,000-acre Wild and Scenic River?

Mr. WATT. It is possible to protect the scene along a wild river with zoning. The user of a river area needs areas where he can put in, pull out or stop over. He does not need to have available a continuous strip of land for his use.

Both National Parks and National Recreation Areas require sufficient title to lands to insure that users would have access to the entire area. Thus the cost of fee acquisition of 50,000 acres would be approximately \$17 million.

That, I must insert here, that does not include the value of the coal. That is surface rights that would be needed to protect the ecological system.

Senator ROBERT C. BYRD. The report refers to the acquisition in fee of about 83,000 acres for a National Park. I believe it refers to the acquisition of surface rights of about 50,000 acres for a National Recreation Area.

One of the previous witnesses raised the rhetorical question as to why they did not think of 83,000 acres in connection with National Recreational Park Area designation as well as in the designation as a National Park.

Mr. WATT. The difference in acreage required is based upon a different purpose and the demands of the people. Those who want to go to a National Park require a different type of facility than those type of people who are coming to Wild and Scenic River areas.

Its appeal is to people who wish to use a view or a river in a relatively undeveloped setting, so we don't have to have those extra acres for the Winnebagoes, the campers and tents and that type of thing. It is a difference in development of intensity of use. In a National Park we would be protecting as complete an ecological unit as possible.

Senator ROBERT C. BYRD. The cost of fee acquisition of 50,000 acres, I believe you approximate as being something like \$17 million.

Mr. WATT. Yes.

COST OF SCENIC EASEMENTS

Senator ROBERT C. BYRD. What is the cost of less than fee acquisition, scenic easements, for example?

Mr. WATT. Because of the rugged terrain, it has been estimated that easements would cost from 25 to 50 percent of fee acquisition. If we would go the scenic easements route, we feel that we could get by with a Federal fee acquisition of about 1,000 acres.

The States would need to acquire for the State parks they are going to build about 5,000 acres, so we think that an investment of \$7 million would meet the needs for Wild and Scenic Rivers, \$5,504,000 State cost and \$1,600,000 Federal cost.

Senator ROBERT C. BYRD. What would be the cost of a 50,000 acreage area combining fee acquisition and scenic easements?

Mr. WATT. We are estimating that that would range from \$5.5 million to almost \$10 million.

PROJECTED VISITATION

Senator ROBERT C. BYRD. With respect to the projected visitation, isn't the difference in projected visitation between the National Park and the Wild and Scenic River area largely due to the larger size of the National Park program, to wit 83,000 acres, as compared to the Wild and Scenic River recommendation of 50,000 acres?

Mr. WATT. Yes, and the different type of people that would be attracted by the different resource bases. A National Park, as you know, we know attracts the family unit, whereas the Wild Scenic River will usually not appeal to the tourist out for a family ride.

Senator ROBERT C. BYRD. Would the visitation to the gorge under a Wild and Scenic River designation, with fee acquisition, increase over that if the area were designated as a Wild and Scenic River using zoning only?

Mr. WATT. Very little difference would be realized in visitation at all.

Senator ROBERT C. BYRD. Won't you have more areas available for visitor use under designation with fee acquisition?

Mr. WATT. Our thoughts are that we would do the planning necessary and we would acquire the land needed to properly preserve that river, regardless of our basic program. We are saying that about 1,000 acres along that river needs to be acquired for your put-ins or stopover places. We would require that amount of acreage in fee for servicing the river regardless of whether we acquire the other 50,000 acres in fee or in a scenic easement method.

QUALIFICATIONS AS A NATIONAL PARK OR NATIONAL RECREATION AREA

Senator ROBERT C. BYRD. Your report indicates, I believe, that BOR does not feel that the gorge qualifies as a National Park. If this is so, and if the 50,000 acre gorge corridor is too narrow to withstand the impact of intense diversified visitor use from a National

Recreation Area designation, then why does not BOR consider an 83,000 acre National Recreation Area?

Mr. WATT. There are other factors other than size to be taken into account in determining whether an area qualifies as a National Recreation Area. One factor which limits consideration is that an NRA should be established in those areas where other programs, Federal or non-Federal, will not fulfill high priority recreation needs in the foreseeable future.

Existing and proposed State parks appear capable of meeting the immediate need of the area. Also, it is unlikely that the gorge is a significant enough natural feature to attract patronage from outside the normal service area.

The State of West Virginia has done very well and will have five first-class State parks right there on the rim or adjacent to it to serve the population that is anticipated to come there on the highway systems built or being built.

DRAWING AREA

Senator ROBERT C. BYRD. When you refer to a normal recreation service area, what do you mean?

Mr. WATT. A 250-mile drawing radius.

Senator ROBERT C. BYRD. What you are saying is that the gorge is not a significant enough natural feature to attract patronage from outside the radius of 250 miles? That is just what you said.

Mr. WATT. We look at these things from different aspects, depending on transportation, access and that type of thing. In this instance we determined that the natural drawing area would be about 250 miles. We look at competing resources for their drawing capabilities and the like. Our professionals have come to the conclusion that people from that area would be attracted to this resource base.

Senator ROBERT C. BYRD. That would just—that won't bring Washington, D.C. within the radius?

Mr. WATT. No, we would be further than that and, of course, there is some drawing from there. I don't want to say it would be excluded, but the bulk of the service provided by the recreation resource there would be from within that 250-mile radius.

Senator ROBERT C. BYRD. You are changing your position then. You now say the bulk would be within the 250-mile radius. A moment ago you indicated that the scenic value of this gorge would not attract, is not so unique—I am changing the words a little bit—as to attract patronage from outside the 250-mile radius. Now you are saying the bulk of it would come from within.

Mr. WATT. Yes, I am glad you corrected me on that. I need to make that point clear. There will be a percentage of people who will come to that area because it is one of the unique rivers for rafting, as John Dragon has already discussed here. There will be tourists who will visit that area in travel. So I don't mean to be exclusive about this.

There will always be a percentage of visitation from persons living at some considerable distance, but for basic service we think most of the people going to that area would be from within a 250-mile radius.

Senator ROBERT C. BYRD. Wait a minute. Now you are changing your position again. You now say it would be within a 250-mile radius. A little while earlier you indicated that 250 miles ought to be extended, when I said that would exclude the Washington, D.C. area. You indicated maybe the 250 miles is too little.

Where do you stand?

Mr. WATT. Our professionals looked at this and they said that 23 million people live within a 250-mile radius of this recreation resource and it was their professional judgment that most of the people visiting the area, a substantial portion of them, would come from that 250-mile radius area. They determined that it would not be of such a unique resource that a substantial portion would come from outside that 250 miles.

That doesn't mean some people from outside won't go to it. I drove there last July with my two children just to see the river and to raft it, but most of the people will come from that 250-mile radius, our professionals say.

Senator ROBERT C. BYRD. What about your other parks and National Recreation Areas? From what radius does most of the patronage come?

Mr. WATT. We have used the criteria for all evaluations in proposed National Recreation Areas. I am reading from the guidelines that are now used by recreation planners in the Federal establishment, and the five points here of the primary criteria for selection of National Recreation Areas is that, "Although non-urban in character, National Recreation Areas should, nevertheless, be strategically located within easy driving distance, not more than 250 miles from urban population centers which are to be served. Such areas should be readily accessible at all times for all-purpose recreation use."

Senator ROBERT C. BYRD. Isn't this area within 250 miles of Richmond; Columbus, Ohio; Pittsburgh, Pa.? I wouldn't argue about the 250-mile figure from Washington, but it strikes me as though you are underestimating the ability of this particular area to draw patronage from metropolitan centers that are in relatively close proximity.

Mr. WATT. Yes, there are 23 million people. That is a lot of people it could draw and our people are suggesting to us that the existing recreation resources available through these State parks already there are meeting that need and there is not need to create a National Recreation Area to meet it at this time. The State system is doing a good job and there are other recreation resources within that radius to meet the demands of these people.

PUBLIC MEETINGS

Senator ROBERT C. BYRD. The witnesses were unanimous in their feeling that the public meetings did not develop the alternative of a National Recreation Area and a National Park as against the one designation, Wild and Scenic River. What explanation do you have for the way these meetings were conducted?

Mr. WATT. I was disturbed to hear the reports from the several witnesses on that point, but not surprised. We are trying to involve the citizens in all of our planning activities. We did distribute to

them papers and, in some instances, the preliminary draft of this book, so that they could review the alternatives that were there.

Then I was advised by our people that the local people were very disturbed about preserving the river and confused the construction of the Blue Ridge Dam project and our Wild and Scenic River proposal. So I instructed our people that they should not structure those meetings, not prohibit anybody from testifying or tell them what they can talk about, that those who testify are to have full freedom to talk about whatever they wanted to talk about. Many of them felt emotionally disturbed, and properly so, from their various perspectives, about this dam and what it might do to the river.

Many of them did address that issue, which really was nongermane, but our people did not feel free to gavel them out of order. If that is what they wanted to talk about, they had a right to do it.

Our people ran a very loose meeting and, as the witnesses said today, much of the testimony did not relate to what we were talking about. This allowed the possibility of misunderstanding.

We had four meetings in the towns, plus one special meeting with the committee. We worked closely with Mr. Holliday and the others in order to properly inform the people about the purpose of the meeting, and distributed materials.

That is why I am disturbed, but not too surprised.

Senator ROBERT C. BYRD. I am disturbed, also. I feel that it isn't necessary to gavel witnesses into silence in order to have a productive and informative and effective meeting. I would have to say that from what I have heard, those meetings weren't worth the expenditure of time, money and effort to have been conducted.

I can't understand why, if representatives of the agency recognized that much of the discussion and testimony was emotional—to use the word that has been stated here—and irrelevant and nongermane, why they didn't have a responsibility to keep things on the track. It seems to me that is the responsibility of the person or the agency conducting the hearings to keep them on the track, and while people—it is understandable how people will vary from the subject.

Certainly if a meeting is going to be informative and if it is going to be productive in analyzing and eliciting the sentiments of the people in the area, somebody is going to have to assume the responsibility of getting the people back on the subject and stating to them clearly what relation there is—or if there is none, to so state it—between the Blue Ridge power project and any one or more of the various designations that might be possible for that area.

Mr. WATT. Your points are well taken, Senator. I want the record to show that we did feel that many citizens made significant contributions that were right on the point, direct and proper and very valuable to us.

Too often we talk about the negatives and not about the positives. The people turned out for these hearings; the attendance was high. Some of the people did a lot of research, presented excellent papers. Some mailed them into us later and the work product for the most part was very, very good.

There was the negative aspect that has been presented and, I think, too dominantly, even by myself. We have high commendation for the people who turned out for the hearings.

REVISION OF NEW AREA CRITERIA

Senator ROBERT C. BYRD. What is your reaction to the suggestions that have been made by the various witnesses that the criteria governing the designation of National Park area should be altered in this instance?

Mr. WATT. We are constantly reviewing the criteria and are pretty well satisfied that it gives us a good basis for judging resources throughout the States to determine whether they should be included within the National Park System.

There are exceptions to that, as one of the witnesses pointed out. He named several. I don't remember all that he named. I didn't necessarily agree or disagree, but he named some that we would not hold up as the standard for inclusion in the National Park System.

I am speaking really out of turn. My colleagues to the left here would be very pleased if some State or local government offered to take a few of those parks out of their system and take responsibility for them.

DESIGNATION AS A NATIONAL PARK

Senator ROBERT C. BYRD. What is your best judgment as to the feasibility and the wisdom and the practicality of establishing the New River Gorge as a component of the National Park System?

Secretary REED. If I may, Mr. Chairman, that is an option that is certainly available to the Congress. If it chooses that approach, it should examine, I would think, probably one of two or three different designations.

Certainly a National Recreation Area approach could be indeed supported. They should look at the models of the Ozark National River, the Buffalo National River, for a national river approach. Those are two approaches that I would recommend.

They would require fee acquisition from river bed to top of slope as a minimum. I think it would require the transfer of the State parks to the National Park Service for management. It would have an impact on the National Park Service budget and manpower ceiling. All of these, however, are worthy of consideration.

I am going down the river next month myself, but from every report I get, the run down the gorge is one of the best sights in the East and I look very much forward to being in a better position to talk about its uniqueness after, I hope, my successful run.

I am taking the Director of the Park Service with me and we look forward to discussing the matter with you and the authorizing committees at great length. I think we will share our interest with them, and all the people who have testified, the constituents who have testified here today, our real interest in protecting what obviously is a very unique and very, very extraordinary area of water and gorge.

FEE ACQUISITION

Senator ROBERT C. BYRD. Are you saying that if the area should be designated as a National Park area, it would require the takeover of the State parks, Babcock—

Secretary REED. It usually does at no expense to the Federal Government. That is a standard provision that most of the authorizing committees have wanted. It is not required unless specified.

Congress has great flexibility. It has shown it in the last few years with Boston and Cuyahoga.

Senator ROBERT C. BYRD. If the area were designated as a National Recreation Area, would it similarly require takeover of the State parks?

Secretary REED. Yes, I think it would be desirable to have it as a single unit.

Senator ROBERT C. BYRD. In both instances you spoke of fee acquisition. It would be necessary to acquire the properties in fee. You were referring only to a situation in which it would be designated as a component of the National Park System.

Secretary REED. Yes.

Senator ROBERT C. BYRD. Not as a National Recreation Area?

Secretary REED. I think you would have to have a fairly good guarantee in fee or in less than fee that you were going to have no outside impact on your Federal ownership or Federal commitment. It would have to be fee or slightly less than fee to get that guarantee. I would not rely on zoning.

DESIGNATION AS A NATIONAL PARK

Senator ROBERT C. BYRD. Mr. Everhardt, you are the Director of the National Park Service.

Mr. EVERHARDT. Yes, sir.

Senator ROBERT C. BYRD. I assume you have read this report.

Mr. EVERHARDT. No, sir, I haven't.

Senator ROBERT C. BYRD. Are you familiar with it?

Mr. EVERHARDT. From the conversation today, sir.

Senator ROBERT C. BYRD. What is your reaction based on your conversancy with it, that has been gained mostly at today's meeting? What is your best judgment as to the wisdom and practicality of establishing the New River Gorge as a component of the National Park System?

Mr. EVERHARDT. From what I have heard today, Mr. Chairman, I understand the scenic values, some of the national values, and certainly the historical and cultural values that must exist in this proposed area. If the Congress, in its wisdom, elected to create it as a part of the National Park System, in whatever area it would be classified, we would certainly be pleased—

Senator ROBERT C. BYRD. That is not answering my question. That goes without saying, if the Congress designates it as such.

What is your—if you are not conversant enough with it, to offer a relevant response to my question, say so.

Mr. EVERHARDT. I would like to have an opportunity to see the resource, study the report, discuss it with our staff and see how they react to it. We haven't had that opportunity as yet. I personally haven't.

Next month, when we get the opportunity to go down the river, I think after that it would be a good time to talk about it.

Senator ROBERT C. BYRD. Very well. I accept your reasons for not responding to the question, in view of the fact that you haven't studied the report and perhaps you are not in a position to answer that question.

Mr. Watt, now I will come to you. The same question: What is your best judgment as to the feasibility, the wisdom and practicality of establishing the New River Gorge as a component of the National Park System?

Mr. WATT. I have spoken as an administration spokesman on this. My personal view is very strongly that the area does need to be preserved and I would recommend that it be designated a Wild and Scenic River to be managed by the National Park Service with the acquisition of whatever acreage is needed to provide access and ingress and egress to the river with local zoning authorities.

I think when you involve the local people in the program, you are going to have a good base, and I think we have a commitment of local people that will do that job properly.

Senator ROBERT C. BYRD. Do you share that viewpoint, Mr. Secretary?

Secretary REED. Yes. I signed off on the report of the BOR, so from the standpoint of the administration, I share that viewpoint at this time. I am looking forward to my visit to the New River Gorge.

I shared with you, Mr. Chairman, a great interest in the testimony that was heard this morning. I regrettably did not make any of the local hearings and my interest is fully aroused.

DESIGNATION AS A NATIONAL RECREATION AREA

Senator ROBERT C. BYRD. I understand your position to be, Mr. Watt, that of favoring the designation as a Wild and Scenic River area and that you cannot recommend that at this point at least, the designation be as a National Park.

What about National Recreation Area? How do you come down on that designation?

Mr. WATT. The basic thing we are trying to preserve is the river, and that needs to be done now. We don't really know what the costs of acquiring that whole land mass would be. As our study points out, we are kind of slack on evaluating what the coal and mineral interests are there.

There is, as Secretary Reed has talked about, almost a \$600 million backlog of authorized National Park Service acquisitions. Appropriations are not what we would desire to work that backlog off, and so I am eager to preserve the area in the quickest and best and most economical way, and that would be to use the Wild and Scenic River designation, rather than the National Recreation Area, and I am confessing I am cranking a lot of financial, economic considerations into making that recommendation.

PRIORITY

Senator ROBERT C. BYRD. Once an area is designated as a National Park or National Recreation Area, it is my understanding that these areas are then placed on a priority list for funding to purchase the designated area. If an area were to be designated in the reasonably

near future, how long thereafter would it normally take to purchase it?

Secretary REED. It depends on whether the Congress gives it priority. Mr. Stewart, Chief of Land Acquisition of the National Park Service, is here and can answer it more specifically.

In the sense that the Congress directed us to complete major acquisitions in Big Cypress, Big Thicket and Cuyahoga, we have an obligation to substantially complete those areas in a few years. Other areas have been pushed aside by that priority.

Mr. Stewart, would you like to give us an average length of time?

Mr. STEWART. Normally it would be within 3 or 4 years from the time it was authorized, and assuming an increase in the Land and Water Conservation Fund ceiling level at an appropriate time, I would see no problem.

Senator ROBERT C. BYRD. You do have a backlog?

Mr. STEWART. \$572,600,000. At the current rate of funding it would take us about 8 years to eliminate that backlog. However, I am assuming that at the appropriate time there will be an increase—

Secretary REED. Without that assumption, because I don't want to predicate it on that. I would say that we have to face the facts that without an increase, we have a 7- or 8-year backlog now and it is further complicated by the fact that Congress, in its wisdom, did prioritize three areas.

VALUE OF COAL RESERVES

Senator ROBERT C. BYRD. Page 85 of the report, it is stated that a further study of deep mining is needed to determine the extent and the value of mineable coal reserves within the gorge area. Is this a function that is normally performed by the Bureau of Mines?

Mr. WATT. Yes, they have the expertise in that area.

Senator ROBERT C. BYRD. Do you know how much a study would cost and how long it would take to perform?

Secretary REED. Dr. John Morgan is here from the Bureau of Mines. If I may ask him to respond to that.

Senator ROBERT C. BYRD. Dr. Morgan, would you please indicate how much such a study would cost and give us an idea of how long it would take to conduct the study?

Dr. MORGAN. Mr. Chairman, in response to your request, we have looked into this matter and we have certain facilities in the area.

For example, we have a State liaison officer at Charleston, W. Va. and we have a process evaluation group at Morgantown, W. Va., and our eastern field office is nearby at Pittsburgh, Pa. We work closely with the Geological Survey in matters of this type and our judgment is that if we had about \$420,000 and about 12 full-time professional people and about 1 year, we could do a creditable job. The 12 people would involve about \$300,000. That is something on the order of \$25,000 per person, counting modest overhead and support.

If you really want to define the extent of some of these deposits, because there is renewed interest in coal, as you know, and this area has high-quality, low-sulfur coal, which has been amenable to coking, to really limit or delimit the extent of the deposits, we ought

to do some drilling. You can drill for the order of \$7 to \$12 a foot—say, on the average, \$10 a foot: thus a single 1,000-foot hole would cost about \$10,000 and a dozen holes, \$120,000. So the \$300,000 for the people and the \$120,000 for the drilling, I think we could do a creditable job.

Senator ROBERT C. BYRD. Could you do this work within the available funds or would the funds have to be added to your appropriations accounts?

Dr. MORGAN. No, sir, we are so loaded up now with work, examining the wilderness and other areas that have already been designated by the Congress and the Secretary as high priority, that most of our people who are engaged in this work are in the field, operating out of Denver and Spokane and to a lesser degree in Juneau: our field work involves Alaskan lands also. It would require additional people and that is one of the reasons why it would take about a year, because it takes a little while to bring people on board.

We have wondered whether this sort of thing can be done wholly by outside contract. However, there are some very serious problems involved in trying to do the Government's business, particularly in the examination of land, by outside contractors.

We are convinced that the drilling could easily be done by contract drillers under our supervision and we would probably work closely with the West Virginia Department of Natural Resources and the University of West Virginia, which is nearby, and the other people like that, but we would have to bring on about a dozen new people. About half Bureau of Mines and half Geological Survey.

FISCAL YEAR 1976 FUNDS FOR MINING STUDIES

Senator ROBERT C. BYRD. One quarter of the fiscal year has already gone by and you are talking in terms of a year. As far as the 1976 costs would be concerned, you could get along with less than that; couldn't you?

Dr. MORGAN. In this fiscal year, yes, sir. This was an annual year estimate, but we would have to be assured of continuity into next year if we were to embark on the project and finish it successfully.

Senator ROBERT C. BYRD. Once you start a project, aren't you pretty likely to follow it through to completion?

Dr. MORGAN. Our work has usually been well considered by the Congress, yes, sir.

Senator ROBERT C. BYRD. Let's think a little more about the funding. Maybe we can take a little closer look and perhaps available funds could be used for a portion of this, at least, if not all, so that the need for adding funds would be diminished to that extent.

Dr. MORGAN. If I may say so, sir, the people are even more important than the funding, to get qualified people and to have the official ceiling slots to bring them on board for this type of work is even more important than the funding. Both are necessary.

Senator ROBERT C. BYRD. It will take you a while to get 12 new people on board.

Dr. MORGAN. Yes, sir, it will, because qualified people in this area, particularly in coal, are in demand in industrial circles due to the revived interest in coal.

Senator ROBERT C. BYRD. You wouldn't be able to get them on board tomorrow even if the bill were passed today?

Dr. MORGAN. Yes, sir.

Senator ROBERT C. BYRD. And by virtue of the time problem in getting 12 new people on board, I should think the immediate impact of funding would be to that degree lessened in so far as fiscal year 1976 funding.

Dr. MORGAN. Yes, sir. Looking at it on a fiscal year basis, we could probably do with somewhat less to get the work started.

SUMMARY OF NEW RIVER GORGE ISSUES

Senator ROBERT C. BYRD. Let me see if I can summarize where we stand at this hearing today.

The Bureau of Outdoor Recreation, in its report, considered three alternative proposals to preserve the New River Gorge area. All three proposals would require legislative authorization. Is that not true, Mr. Watt?

Mr. WATT. That is correct.

Senator ROBERT C. BYRD. Thus the National Park or the National Recreation Area or Wild and Scenic River designation would all require authorizing legislation by the Congress and that legislation has to be signed by the President.

I think it would be accurate to state that the authorizing committee, which is not the Appropriations Committee but which would be the Interior Committee, would insist upon a full and complete and accurate estimate of potential costs involved before acting on any legislation.

Secretary REED. Correct, sir.

Senator ROBERT C. BYRD. That has been my experience in dealing with the legislative process here.

That would mean, Mr. Shultz, that in response to a statement that you made during your testimony—to wit, that there was no need for detailed comparative estimates—I believe you would find that the Interior Committee would insist upon comparative estimates of cost, and it would mean that the estimates of the amounts and values of the surface and the mineral rights would have to be available prior to action by the Interior Committees.

So I think it is essential that as speedily as it is possible to do so, such information be obtained.

DISTRIBUTION OF HEARING

I intend to see to it that the testimony that has been given today, together with all other information that has been compiled thus far by the subcommittee, which includes the report about which we have talked today and the funding of which was provided for by this subcommittee, will be conveyed to the Senate Interior Committee and to the House Interior Committee and to my senior colleague in the Senate, Senator Randolph, who has shown a very great interest in this area.

This information will also be supplied to the Representatives in Congress of the area or the areas that would be affected.

So I think that about sums it up. I hope we can proceed with getting the Bureau of Mines working with this, so we can really have an accurate picture of coal deposits that are involved, of the inhibitions, if any, that would be placed upon the extraction of the recoverable coal, and the costs. If we can get the Bureau of Mines started on this job, that will give us a clearer picture and I think not only is the Congress entitled to have that, but I think the citizens of the area are entitled to know these facts.

Mr. WATT. Senator, if I might compliment you, those of us sitting before you are conservationists of this Administration. We have been doing everything we can to bring attention to conservation measures. Just this week we were successful in sending the second new thrust of this 9-month old Congress, a proposal to create this Wild and Scenic River proposal.

Because of your personal interests and your commitment to it, we were able to get the attention of the powers that be. You have helped us to bring it about, so we are grateful to you.

NEW RIVER GORGE OPTIONS

Senator ROBERT C. BYRD. Thank you.

I want to make it clear that at this point I do not automatically accept the Bureau of Outdoor Recreation's recommendations, nor do I discard any one of the alternatives. I want to keep all options open.

I certainly want to do everything I can to see that the New River Gorge is preserved and I think that there needs to be a Federal presence there in order to insure that. I think we will be in a better position to assess the wise and feasible approach once we can get a more accurate figure with respect to the mineral deposits in the area.

I want to thank you gentlemen and I certainly want to apologize for the imposition that the extended hearing has caused you today.

I want to thank the kind witnesses that we have had from the Fayette County area for the splendid presentations that they have made. I recognize their enthusiasm and their dedication to their viewpoint and certainly that viewpoint will have to be weighed by the authorizing committee. I think you have made a good presentation and you will be supplied with copies of the hearing as soon as they are printed.

The subcommittee will stand in recess until the hour of 3 p.m. today.

Secretary REED. Mr. Chairman?

Senator ROBERT C. BYRD. I withhold that directive.

Secretary REED. I have another meeting with the chairman of my legislative subcommittee in the House, which begins in an hour, and I could be a moment late, but the directors of the services will all be here.

If you can begin without my presence, it would be wonderful, but I will try to be back at the right time.

SUBCOMMITTEE RECESS

Senator ROBERT C. BYRD. We understand your situation. I appreciate the explanation and we will proceed as suggested. We stand in recess.

[Whereupon, at 1:30 p.m., Wednesday, October 1, the hearing was recessed, to reconvene at 3 p.m., the same day.]

(AFTERNOON SESSION, 3 O'CLOCK, WEDNESDAY, OCTOBER 1, 1975)

DEPARTMENT OF THE INTERIOR
LAND AND WATER CONSERVATION FUND
NATIONAL PARK SERVICE

STATEMENT OF GARY EVERHARDT, DIRECTOR

ACCOMPANIED BY:

NATHANIEL P. REED, ASSISTANT SECRETARY, FISH, WILDLIFE
AND PARKS

J. LEONARD NORWOOD, ASSOCIATE DIRECTOR—ADMINISTRA-
TION

W. C. QUICK, CHIEF, PROGRAMMING AND BUDGET DIVISION

PHILLIP O. STEWART, CHIEF, LAND ACQUISITION DIVISION

CHARLES R. RINALDI, CHIEF, BRANCH OF COORDINATION
AND CONTROL

BUDGET REQUEST

Senator ROBERT C. BYRD. The subcommittee will resume its hearing on the Land and Water Conservation Fund. We will go now to the National Park Service, if Director Everhardt and his colleagues will come forward.

The Park Service is requesting \$77.4 million for land acquisition, or nearly 66 percent of the total allocated to Federal programs. This is an increase of \$4.7 million over the 1975 appropriation, excluding the second supplemental.

Mr. Everhardt, your full statement will appear in the record and you may wish to highlight it briefly for the committee.

STATEMENT HIGHLIGHTED

Mr. EVERHARDT. Thank you, Mr. Chairman.

It is indeed an honor to appear before you today in support of our land acquisition program for fiscal year 1976 and the transitional period thereafter, in the amount of \$77,440,000 in 1976 and \$17,780,000 in the transition period. I would like to briefly highlight our budget request for fiscal year 1976 and the transition period. Our request is broken down into four major categories. First, \$1.5 million is requested to pay court costs or court awards on condemnation cases which exceed estimated value. \$680,000 is requested for the transitional period.

Second, \$15 million is requested for the acquisition of inholdings on an opportunity purchase basis. Since fiscal year 1969, we have pursued the acquisition of land in the older areas of the National Park System on an opportunity basis, and last year you established

a new experimental procedure and guidelines for this program. For this we are certainly grateful. Offers to sell obtained under \$150,000 need not be submitted for congressional approval prior to acceptance. We wholeheartedly request that this procedure remain in effect. \$3.5 million is also requested for inholdings for the transition period.

The sum of \$2 million is requested for the payment of relocation claims at areas authorized prior to the enactment of the Uniform Relocation Assistance and Land Acquisition Policies Act of 1970, which was enacted on January 1, 1971. During the transition period we are requesting \$500,000 in this category.

Lastly, \$58,940,000 is requested to continue acquisition programs in specific recently authorized areas and also to begin the acquisition programs at other areas. During the transition period, \$13.1 million is requested in this category.

PREPARED STATEMENT

That is a brief highlight, Mr. Chairman. You have our complete statement for the record. I would be pleased to respond to any questions you might have with regard to our land acquisition program.

[The statement follows:]

MR. CHAIRMAN:

It is indeed an honor for me to appear before you for the first time in support of our land acquisition program for 1976 fiscal year and the transitional period thereafter. Your support of the programs of the National Park Service during the past years has significantly preserved many areas from despoilation for the enjoyment of present and future generations.

I would like to add to what Assistant Secretary Reed stated earlier regarding the Opportunity Inholding Program and its success since its inception in fiscal year 1969, especially as it relates to the new processing procedures instituted last year. My Regional Directors have informed me of the many benefits that have been derived as a result of these innovations. Knowing that funds will be available immediately to consummate a transaction (especially those of modest cost) is the best tool we have to realize our mutual goal of early completion of this part of our land acquisition program. I commend you for your foresight.

I am very proud of the land acquisition record since the inception of the Land and Water Conservation Fund and as Assistant Secretary Reed pointed out, during this period the National Park Service has purchased 509,332 acres at a cost of \$494,205,000. An additional point I would like to mention is that in accomplishing the above, it involved the purchase of 19,890 tracts of land which is the real measure of workload for this program.

Briefly, I would like to highlight our budget request for 1976 fiscal year and the transition period.

Our request is broken down into four major categories. First, \$1,500,000 is requested to pay court awards on condemnation cases which exceed estimated value. This line item provides that immediate payments can be made at areas where funding does not remain immediately available, but where unappropriated balances remain. In addition, this fund is used to pay expenses such as appraisals, title, and survey work in connection with tracts in condemnation. \$680,000 is also requested for the Transition Period. These needs are becoming greater as more "ripening" of previously filed condemnations occur.

Second, \$15,000,000 is requested for the Acquisition of Inholdings on an Opportunity Basis. Since fiscal year 1969, we have pursued the acquisition of land in the older areas of the National Park System on an opportunity basis. As I mentioned earlier, last year you established new experimental procedures and guidelines for this program and for this, we are enormously grateful. Offers to Sell obtained under \$150,000 need not be submitted for congressional approval prior to acceptance. We wholeheartedly request that this procedure remain in effect. For the Transition Period, \$3,500,000 also is requested.

Third, \$2,000,000 is requested for the payment of relocation claims at areas authorized prior to enactment of the Uniform Relocation and Real Property Acquisition Policies Act of 1970, enacted January 1, 1971. These costs were not included in our original estimates for these areas since the actions by the Interior Committees preceeded the passage of the Uniform Relocation Act. Section 405 of the Act of October 26, 1974, (P.L. 93-477), provided that such costs may exceed previous congressionally defined monetary limitations. \$500,000 also is requested for the Transition Period.

Lastly, \$58,940,000 is requested to continue acquisition programs in specific Recently Authorized Areas and also to begin the acquisition programs at Lake Mead National Recreation Area, Point Reyes National Seashore, Rocky Mountain National Park, Big Cypress National Preserve, Indiana Dunes National Lakeshore, Boston National Historical Park, Lower St. Croix National Scenic Riverway, Voyageurs National Park, Morristown National Historical Park,

Martin Van Buren National Historic Site, Cape Lookout National Seashore, Moores Creek National Military Park, Knife River Indian Villages National Historic Site, Cuyahoga Valley National Recreation Area, John Day Fossil Beds National Monument, Fort Necessity National Battlefield, Big Thicket National Preserve, Colonial National Historical Park, Virgin Islands National Park, and Harpers Ferry National Historical Park. \$13,100,000 also is requested for the Transition Period.

I will be pleased to respond to any questions.

Thank you.

REALLOCATION OF THE 1975 FISCAL YEAR SECOND SUPPLEMENTAL

Senator ROBERT C. BYRD. Mr. Everhardt, the Congress, on this committee's recommendation, elected to appropriate \$7,492,000 in the second supplemental for three items in the Park Service budget request, Piscataway Park, Independence Park and Sleeping Bear Dunes, Lakeshore. The committee can take that amount out of the 1976 appropriation.

What is your recommendation?

Mr. EVERHARDT. That amount has been removed by the House, Mr. Chairman.

Senator ROBERT C. BYRD. It has been removed by the House?

Mr. EVERHARDT. Yes, in the House allowances for 1976.

Senator ROBERT C. BYRD. It hasn't been reallocated?

Mr. EVERHARDT. Yes, sir.

Senator ROBERT C. BYRD. Would you explain?

Secretary REED. It has been reallocated, Mr. Chairman.

Inside the House, seven areas within the National Park System, two areas within the Forest Service, one area within the Fish and Wildlife Service, and there was an additional add-on by the House Appropriations Committee, totaling \$9.761 million, which included also that reprogramming of the money the Director just spoke to.

Senator ROBERT C. BYRD. Do these various reprogrammings have your support?

Secretary REED. Yes, sir.

Senator ROBERT C. BYRD. Would you submit for the record here justifications for these reallocations?

Secretary REED. Yes, sir.

Senator ROBERT C. BYRD. Indicate the priority standing of each.

Secretary REED. I would be delighted to do that, sir.

JUSTIFICATION

Senator ROBERT C. BYRD. Also indicate other high priority acquisitions that the Park Service would fund if additional appropriations up to \$25 million were available together with pertinent estimates for the transition period.

Mr. EVERHARDT. Yes, sir, we will be glad to.

[The justification follows:]

Justification for recommended reallocations
of 1975 fiscal year supplemental appropriation

Biscayne NM	\$ 450,000
The Department of Justice has reached price agreement with landowners, on many cases in condemnation. Funds requested in fiscal year 1976 are inadequate to fund these settlements.	
Golden Gate NRA	2,500,000
These funds will be utilized to acquire key parcels of private lands within this urban recreational area serving more than 6 million people within a 250-mile radius.	
Canaveral NS	1,046,000
This project was authorized January 3, 1975. These funds will be utilized to begin the actual land acquisition for this project. Preacquisition work incident to the acquisition of land has already begun.	
Point Reyes NS	750,000
These funds will provide for the acquisition of some 309 acres of private land within the boundary change authorized for the area by the Act of December 26, 1974.	
Cuyahoga Valley NRA	2,500,000
These funds would be utilized to acquire lands where requests for early acquisition has been indicated; acquire lands threatened by adverse development; and maintain a viable land acquisition program.	
Cumberland Island NS	246,000
The funds, together with those deferred in fiscal 1975, will be utilized to provide a more viable park, consolidate Federal holdings, and prevent further development. This is a restoration of funds which were previously reprogrammed to initiate the land acquisition programs at Big Cypress and Tuskegee Institute.	
Total	\$ 7,492,000

Other Priority Items

- Big Cypress NPre. \$ 10,000,000
 The funds included in the 1976 fiscal year budget request will be committed early in the 1976 fiscal year. Moreover, it is anticipated that the \$40.0 million provided by the State of Florida will be committed by December 31, 1975. To avoid, in essence, a nine month void in the land acquisition program, the first priority need is \$10.0 million for Big Cypress to maintain the momentum gained.
- Biscayne NM 470,000
 These funds, coupled with those recommended for the reallocation of the 1975 fiscal year supplemental, will be utilized to pay off settlements at this area. Recent court awards have not been the "windfall" expected by many landowners. The Department of Justice has been able to reach price agreement with several landowners, thereby eliminating the delay in waiting for trial and court exposure.
- Canaveral NS 2,000,000
 These funds, together with those recommended for the reallocation of the 1975 fiscal year supplemental, are requested to continue this area's land acquisition program. It is believed if all these funds are provided at this time, it will be possible to complete the acquisitions within these amounts without needing to resort to additional appropriations in future years.
- Cuyahoga Valley NRA 1,500,000
 These funds will be allocated to the Corps of Engineers, which has the full capability to continue and accelerate the land acquisition program at this urban area that serves approximately 22 million people within a 250-mile radius of this national recreation area.

Everglades NP	\$ 2,000,000
<p>These funds are needed to acquire properties which had previously been in condemnation actions. Recent awards at this area have not been as anticipated by many landowners. The Department of Justice has been able to settle many tracts out of condemnation, which normally would have taken several years of court hearings to complete. The success has been so great that funds previously appropriated for this project are nearly exhausted.</p>	
Voyageurs NP	6,000,000
<p>At the time of preparation of the 1976 fiscal year budget request, appraisals prepared in 1973 were used as the base. However, due to the land cost escalation that had occurred during the period of delay of the donation of the State lands, it was necessary to update these appraisals. Based on updated appraisals for this park, the National Park Service can obligate an additional \$6.0 million against pending priority purchases.</p>	
Sleeping Bear Dunes NL	1,000,000
<p>These funds are requested to continue the momentum which has been gained toward consummation of this land acquisition program.</p>	
Grand Canyon NP	920,000
<p>The boundary adjustment authorized by the Act of January 3, 1975, included additional private land to be acquired. These funds, which constitute the balance of the monetary limitation, are requested to purchase these additional private lands.</p>	
Gulf Islands NS	100,000
<p>These funds represent the balance of the monetary limitation and will provide for the acquisition of properties within the seashore. This is a restoration of funds previously reprogrammed for Big Cypress.</p>	

Big Thicket NPre.	\$ 1,010,000
<p>These funds will enable the Corps of Engineers to acquire key tracts of private land at this newly authorized area abundant with outstanding natural and scenic qualities.</p>	
	<hr/>
Total	\$ 25,000,000
Priority Items - Transition Period	
Cuyahoga Valley NRA	\$ 1,500,000
<p>These funds will be utilized to acquire lands from landowners who request early acquisition, acquire lands threatened with adverse development, and maintain a viable land acquisition program.</p>	
Big Cypress NPre.	5,000,000
<p>The additional funds will be utilized to acquire properties and maintain the momentum gained in consummation of this program.</p>	
Big Thicket NPre.	3,500,000
<p>These funds will be utilized to acquire properties and continue this program without delays if negotiations are accomplished successfully.</p>	
Cape Lookout NS	1,000,000
<p>These funds will be utilized to continue the acquisition program at this area to expedite this program and thus preclude further escalation of land values.</p>	
	<hr/>
Total	\$ 11,000,000

DEFERRALS

Senator ROBERT C. BYRD. Largely because of the deferrals we discussed earlier, the Park Service has large unobligated balances for land acquisition at several areas for which you are now requesting additional appropriations. What are your reasons for deferring acquisition 1 year and accelerating it the next?

Secretary REED. As the Director pointed out this morning, sir, that was an Administration, not a National Park Service decision, which was a conscious decision to try to limit the amounts of Federal expenditure in 1 given year.

DELAWARE WATER GAP NRA

Senator ROBERT C. BYRD. Delaware Water Gap is an example. \$2 million was deferred for a year. \$3 million is being requested, another \$3 million.

Can you effectively obligate the total of \$5 million in fiscal 1976?

Mr. EVERHARDT. On July 31, 1975, the Delaware River Basin Commission comprised of the State Governors of New York, New Jersey, Pennsylvania and Delaware met and voted 3 to 1 against the construction of the dam and reservoir. The Corps of Engineers is proceeding to accomplish as much land acquisition as possible without revision of the statutory authority.

As a result of the July action, our regional office, in conjunction with the Corps of Engineers has reevaluated funding needs during fiscal year 1976 and the transitional period for Delaware Water Gap. It has been determined that \$2 million for fiscal year 1976 and \$300,000 for the transition period will be sufficient to accomplish the program.

In view of the fact that \$1.425 million of the 1975 fiscal year appropriation was deferred and is available for obligation during fiscal year 1976, our budget request could be reduced from the requested \$3 million to \$1 million, which would more than accommodate the revised needs of \$2.3 million through fiscal year 1976 and the transitional period.

ADDITIONAL FUNDS

Senator ROBERT C. BYRD. The House approved \$11.3 million for acquisition in areas that would generally appear to follow your priorities. Do you believe these additional amounts can be effectively obligated in fiscal year 1976?

Mr. EVERHARDT. Yes, sir.

GOLDEN GATE NRA

Senator ROBERT C. BYRD. What about the Golden Gate National Recreation Area? The House allowance makes a total of \$9 million available for acquisition there. Can you use all that funding?

Mr. EVERHARDT. No, sir. It is the Park Service's best judgment at this time that an additional \$2.5 million over the original budget request of \$4 million is all that is needed to complete the land acquisition program at Golden Gate National Recreation Area. So we would add \$2.5 million, rather than the \$5 million for fiscal year 1976.

Senator ROBERT C. BYRD. Was there any special reason why Golden Gate acquisition should be accelerated in the first place? What are the priorities in relation to other areas?

Mr. EVERHARDT. Due to its proximity to San Francisco, Golden Gate is under the strain of urban pressure; therefore, it is desirable to continue the momentum already gained at this area in order that the program can be completed at an early date. It is believed that \$2.5 million over the budget request of \$4 million can be obligated at this area during fiscal year 1976, as I mentioned.

POINT REYES NATIONAL SEASHORE

Senator ROBERT C. BYRD. What about the \$750,000 addition by the House for the Point Reyes National Seashore, mainly Inverness Ridge acquisitions? What is your capability there?

Mr. EVERHARDT. We could use that, Mr. Chairman.

Senator ROBERT C. BYRD. You need all of that?

Mr. EVERHARDT. Yes, sir.

BIG CYPRESS NATIONAL PRESERVE

Senator ROBERT C. BYRD. The budget request for Big Cypress National Preserve involves \$3 million for fiscal year 1976 and \$1.5 million for the transition period. Senator Chiles has informed the committee that the chances are excellent for full obligation of the State of Florida's \$40 million contribution to the acquisition program.

What is your capability for using additional Federal funding?

Mr. EVERHARDT. We can obligate it, Mr. Chairman. We think that the State of Florida's \$40 million which has been pledged is going to be utilized by the end of this calendar year.

Senator ROBERT C. BYRD. So you have the capability of using additional funding?

Mr. EVERHARDT. Yes, sir.

Senator ROBERT C. BYRD. Does it appear that the Big Cypress acquisition can be accomplished within the \$156 million limitation?

Mr. EVERHARDT. We would certainly hope so, Mr. Chairman, but it is a little too early for us to tell based on the acquisitions that have been made there to date.

Senator ROBERT C. BYRD. By what year do you think the acquisition can be accomplished?

Mr. EVERHARDT. The legislation that established Big Cypress gave us a 6-year time limit. In testifying before the committee at that time with respect to personnel ceilings or personnel needed to carry out this tremendous acquisition job of Big Cypress, we stated that it would take 100 man-years for 10 years and if this was followed down to its conclusion, it would look like about 166 man-years to do the job in 6 years.

We presently have onboard in Naples, Fla., in the land acquisition office there, 27 permanent people that are pursuing our obligations there for land acquisition. Without the additional manpower, I think we can see that it is going to take longer than the projection of the 6 years to carry out the completed land acquisition program.

Senator ROBERT C. BYRD. That comes out to about 27 men per year over a 6-year period.

Mr. EVERHARDT. 166 men per year.

Secretary REED. It is complicated, Mr. Chairman, because of the tremendous amount of absentee ownership. It was sold by swamp peddlers in small lots. A tremendous amount of ownership in northern and southern South America. To get the letters to these people in Spanish to explain to them that the Federal Government is taking this land is a very complicated procedure and because of the very strict manpower ceiling we are working under, we are going to have some problems. They are giving it a very good go and they have made a tremendous start by contacting some of the biggest land-owners, receiving consent on some of the purchases so we are going to be able to obligate the State's \$40 million this calendar year and we should be able to get aggressively into the smaller lots in this next fiscal year.

CANAVERAL AND GULF ISLANDS NATIONAL SEASHORES

Senator ROBERT C. BYRD. Senator Chiles also supports the House add-ons for Canaveral and Gulf Islands seashores. Can you accommodate those programs if the additional funds are appropriated?

Mr. EVERHARDT. Yes, sir. In fiscal year 1976, we could obligate \$3 million in pursuit of the purchase of Canaveral National Seashore and during the transitional period \$1 million.

LOWER ST. CROIX NSR

Senator ROBERT C. BYRD. What is the status of acquisition on the Lower St. Croix wild and scenic river where \$700,000 was deferred?

Mr. EVERHARDT. The development plans, which were a prerequisite to the obligation of Federal funds, were submitted to the appropriate congressional committees on September 19, 1975, for their required 90-day review period. As soon as this review is completed, we anticipate that the acquisition program for Lower St. Croix NSR will proceed in a timely fashion.

INHOLDINGS

Senator ROBERT C. BYRD. Supplemental data furnished the committee indicate the Park Service has nearly obligated all the \$66.7 million appropriated since 1969 for inholding acquisitions. Where do we stand on that program overall? What are the totals in acreage and dollar estimates yet to be acquired?

Mr. EVERHARDT. The acquisition of land under the opportunity inholding program has been a complete success since fiscal year 1969 when this program was initiated. Since that time, we have obligated essentially all of the \$66.7 million which has been appropriated for this program. I will submit the remaining land acquisition program after fiscal year 1975.

[The information follows:]

<u>Inholdings</u>	<u>Balance Acres to Acquire</u>	<u>Total Costs (thousands)</u>
Antietam	822	\$ 343
Badlands	3,384	527
Big Bend	(1,920)	4
Black Canyon of the Gunnison	349	33
Bryce Canyon	3	6
Chaco Canyon	(1,320)	10
Chiricahua	13	44
Colorado	13	100
Death Valley	4,678	122
Dinosaur	3,882	694
El Morro	319	45
Fredericksburg-Spotsylvania	1,714	7,461
Gettysburg	619	6,373
Glacier	1,295	4,571
Glacier Bay	198	76
Grand Teton	1,495	22,456
Great Sand Dunes	432	140
Guilford Courthouse	1	3
Hot Springs	1,718	4,594
Joshua Tree	6,117	3,214
Katmai	19	10
Kings Canyon	144	4,560
Lassen Volcanic	575	2,475
Manassas	140	886
Mesa Verde	316	165
Montezuma Castle	17	28
Mount Rainier	165	13
Olympic	1,304	7,520
Organ Pipe Cactus	345	2,723
Petersburg	159	916
Pinnacles	320	55
Rocky Mountain	905	5,621
Saguaro	39	22
St. Croix Island	13	227
Scotts Bluff	88	61
Sequoia	351	532
Theodore Roosevelt	656	104
Walnut Canyon	238	28
Yosemite	274	13,204
Zion	5,096	2,044
<hr/>		
Totals	38,216	\$92,010
Less 1975 FY Program	3,671	15,342
<hr/>		
Balance after FY 1975	34,545 1/	\$76,668 1/

1/ Does not include Blue Ridge Parkway, Natchez Trace Parkway, and JY Ranch at Grand Teton NP.

Senator ROBERT C. BYRD. At \$15 million a year, how long is this going to take?

Mr. EVERHARDT. At today's prices, it is estimated that it will take approximately 5 years to complete this program if \$15 million is made available each year.

VIRGIN ISLANDS NP

Senator ROBERT C. BYRD. Tell us about the Virgin Islands acquisition. What kind of property is involved and what benefit will it have for this park?

Mr. EVERHARDT. The Act of October 26, 1974, increased the statutory ceiling for Virgin Islands National Park to permit the acquisition of the waterfront properties. The acquisition of this property is necessary to assure public ownership of the entire waterfront in order that it may be enjoyed by the public in general.

CUYAHOGA VALLEY NATIONAL RECREATION AREA

Senator ROBERT C. BYRD. The Ohio Senators have proposed a total of \$4 million in additional funding for the Cuyahoga Valley National Recreation Area and the House has allowed that amount.

Do you have the capability to handle the total of \$5 million this year and in the transition period that would then be available?

Mr. EVERHARDT. Yes, sir. I think we should also say about Cuyahoga that we have gone into a contracting service with the Corps of Engineers to carry out the land acquisition at Cuyahoga. Recognizing the problems that we had with the numbers of personnel in our land acquisition program, we would not be able to meet the 6-year limit on Cuyahoga. So we have the Corps of Engineers doing that job for us. They have assured us that they can carry that out to completion with this funding.

VOYAGEURS NP

Senator ROBERT C. BYRD. Senators Humphrey and Mondale have expressed support for \$7 million in additional funding for Voyageurs National Park for which you are requesting \$8.6 million. What is the status of lands acquisition there?

Mr. EVERHARDT. Voyageurs National Park was authorized January 8, 1971, with a monetary limitation of \$26.014 million. To date, \$1,096,769 has been appropriated.

Enabling legislation contained a provision restricting the purchase of land by the National Park Service until lands owned by the State of Minnesota and its political subdivisions had been donated. Although a group of local citizens were opposed to its donation and filed a suit in Federal court to stop the action, the donation of lands was finally completed in the fall of 1974.

It is the intention of the National Park Service to give first priority to acquiring the largest tract of land in this area which is owned by the Boise-Cascade Corp. This property was appraised in 1973 in anticipation of earlier acquisition.

Our budget request for fiscal year 1976 was formulated based on that appraisal. However, due to the lands cost escalation that has occurred here and the periods of delay, it was necessary to update

this appraisal prior to negotiations with the landowner. Based on the updated appraisals, it appears that an additional \$6 million will be required in fiscal year 1976 to complete priority acquisitions at Voyageurs.

Senator ROBERT C. BYRD. Is this the total request for the Boise-Cascade properties, \$6 million?

Mr. EVERHARDT. The \$6 million is in addition to what is in the budget for 1976, in addition to \$5.104 million.

Senator ROBERT C. BYRD. What is the total request for these properties?

Mr. EVERHARDT. The total would be \$11.104 million.

Senator ROBERT C. BYRD. As to the Boise-Cascade properties.

Mr. EVERHARDT. That and some other priority properties.

Senator ROBERT C. BYRD. How much of the total request is for the Boise-Cascade properties?

Mr. EVERHARDT. We haven't concluded any negotiations with them so we don't know what the final price will be.

Senator ROBERT C. BYRD. Why has the price escalated so sharply?

Mr. EVERHARDT. Well, I think it probably is related to a couple of items. The prices are escalating annually, the price of land and also the price of timber, softwoods in that area.

BOISE-CASCADE ACQUISITION

Senator ROBERT C. BYRD. Please supply for the record the details of the Boise-Cascade acquisition, including the Park Service justification for accepting the increased purchase price.

Mr. EVERHARDT. We will be glad to, sir.

[The information follows.]

BOISE-CASCADE ACQUISITION, VOYAGEURS

We have held extensive negotiations with the Boise-Cascade Corp. but to date have not reached price agreement. These negotiations will continue in order to arrive at the lowest possible price for these holdings; at which time, the National Park Service will evaluate that offer with its appraisal and, considering the expenses involved in condemnation proceedings and exposure of adverse court awards, will determine whether to exercise the offer or seek to have the price established through eminent domain proceedings.

EVERGLADES NATIONAL PARK

Senator ROBERT C. BYRD. We understand there is a need for additional funding for the Everglades National Park. What about that?

Mr. EVERHARDT. Yes, sir. We could obligate an additional \$2 million. Early in fiscal year 1975, it became apparent to us that we had very nearly reached the end of our ability to acquire land in Everglades National Park through the negotiated process and it would be necessary to resort to condemnation to complete the land acquisition program at the park. By June, 1975, we had filed with the Department of Justice or had pending trial condemnations by complaints on some 1,209 tracts in its Northwest Extension area comprising about 11,047 acres at an estimated value of \$1,712,845.

In June, a trial by jury in the United States District Court for the Southern District of Florida held at Key West on a complaint action concerning 160 acres of land resulted in a verdict of \$12,000

which was most favorable to the Federal Government. Word of that very quickly got around and concerned many landowners who had previously refused to consider an offer for their properties at the Government's appraisal.

As a consequence, the Department of Justice has been able to negotiate settlements on many pending complaint actions that normally would have taken several years of court hearings to complete. It has been so successful in its negotiations that funds previously appropriated for this project are at this time nearly exhausted.

The statutory ceiling is \$22 million of which there remains to be appropriated some \$2 million. This sum is now needed to negotiate additional settlements as well as those that will be anticipated in the near future.

Senator ROBERT C. BYRD. Did you just say that it had become difficult to acquire land by the negotiated process?

Mr. EVERHARDT. I think it would be safe to say that not at \$150 an acre but at the court settlement of \$75, it is easy to get it.

BIG THICKET NATIONAL PRESERVE

Senator ROBERT C. BYRD. As to the Big Thicket acquisition, is the requested funding adequate for 1976 and the transition quarter?

Mr. EVERHARDT. Yes, sir.

BUFFALO NATIONAL RIVER

Senator ROBERT C. BYRD. You have a \$4.1 million request for Buffalo River acquisition in Arkansas, but there is a large unobligated balance for this unit, I understand. Will you be able to utilize the full request in 1976?

Mr. EVERHARDT. There is no unobligated balance at Buffalo, Mr. Chairman, and with the 1976 budget request of \$4.158 million, we could acquire 16,064 acres at Buffalo.

SLEEPING BEAR DUNES NL

Senator ROBERT C. BYRD. Why the sharp increase in acquisition funding for Sleeping Bear Dunes National Lakeshore?

Mr. EVERHARDT. Sleeping Bear Dunes National Lakeshore, as authorized by the Act of October 21, 1970, provided for an appropriation of \$19,800,000 for land acquisition. The Act of October 26, 1974, increased this appropriation ceiling to \$57,753,000. This legislation also requested that early and priority consideration be given to those landowners who, as a result of our acquisition, have been placed in a hardship position.

The Service has now been faced with requests from a large number of hardship owners. In fact, there were on hand early in June options totaling approximately \$750,000. While the supplemental appropriation permitted us to purchase those particular tracts, there are still a large number of hardship cases to be acquired. Moreover, a concerted effort is being made to purchase other property viable to the public enjoyment of the lakeshore. Furthermore, this area is subject to the same extensive economic pressure as other lakeshore and seashore areas near large urban centers, resulting in rapid price escalation. Therefore, the increase in acquisition funding is needed to make

a more aggressive attack on the land acquisition program than has been done in the past and thus assure the program can be completed within the new funding limitation.

HARPERS FERRY NHP

Senator ROBERT C. BYRD. Do you foresee any further acquisition needs at Harpers Ferry?

Mr. EVERHARDT. Yes, sir, we have in the 1976 budget, \$990,000 for land acquisition at Harpers Ferry. This would give us the opportunity to purchase 443 acres. During the transition period, \$300,000 is requested to buy 138 acres to continue the land acquisition program at Harpers Ferry.

I might mention about the \$990,000, it is important to purchase a piece of land there that would give us the opportunity to develop a parking area in conjunction with a transportation system proposed for the area. You are well aware, during the summer months, this becomes highly congested with cars, and we think a transportation system would be a good way to solve that congestion problem at Harpers Ferry.

Senator ROBERT C. BYRD. Do you have in mind a total acquisition of about 581 acres?

Mr. EVERHARDT. Yes, sir, there are 581 acres remaining to be purchased.

Senator ROBERT C. BYRD. Of which 443 acres would be utilized mainly for a parking area?

Mr. EVERHARDT. No sir, that would only be a portion of that \$990,000 for the fiscal year.

Senator ROBERT C. BYRD. How would you break that down?

Mr. EVERHARDT. I am advised, Mr. Chairman, about 50 acres are in the parking area.

Senator ROBERT C. BYRD. And the remaining 393 acres would be used how?

Mr. EVERHARDT. Mostly scenic protection of the historic district.

Senator ROBERT C. BYRD. How about the 138 acres?

Mr. EVERHARDT. I would think that would fall primarily in the same category, scenic protection.

Senator ROBERT C. BYRD. Will this amount, which comes out to about \$1.2 million—

Mr. EVERHARDT. \$1,290,000 in the 1976 and the transition period.

Senator ROBERT C. BYRD. Will this exhaust the authorization?

Mr. EVERHARDT. Yes, sir.

LAKE MEAD NRA

Senator ROBERT C. BYRD. What kind of land are you proposing to purchase with the \$2 million request for Lake Mead NRA? How much is in Nevada and in Arizona?

Mr. EVERHARDT. The Act of October 26, 1974, increased the ceiling for land acquisition at Lake Mead National Recreation Area from \$1.2 million to \$7.1 million. This increase was provided in order to complete the acquisition at this area which receives some 6 million visitors per year. The amount of the increase was necessary because of the rapid escalation of values in recent years of recreational proper-

ty. Lands to be acquired include recreational homesites, lands in which there has been speculative investment as having the potential for recreational use and unimproved grazing lands.

The land to be purchased with the \$2 million in the fiscal year 1976 budget request includes 619 acres in Nevada and 1,567 acres in Arizona.

MORRISTOWN NHP

Senator ROBERT C. BYRD. What is responsible for the high acquisition costs for Morristown National Historical Park in New Jersey?

Mr. EVERHARDT. There has been rapid growth in this area, and in particular, in Morris County based in part on its proximity to New York City. This has created considerable pressure for development. The land we are acquiring, located just outside the community of Morristown, can be readily developed and its cost simply reflects the high cost of land in typical suburban areas near large cities.

TRANSITION PERIOD REQUEST FOR COLONIAL NHP

Senator ROBERT C. BYRD. Your transition request appears to accelerate land acquisition at Colonial National Historical Park. Why is this?

Mr. EVERHARDT. The Act of October 26, 1974, increased the monetary limitation from \$2,777,000 to \$10,472,000. It took several years to get this new legislation passed. In previous years we had conducted the land acquisition at this very important Revolutionary War site on an opportunity basis within the earlier monetary ceiling picking up only a few key parcels of land until that monetary ceiling was exhausted.

The park experiences a very large volume of visitation; in fact, about 9 million visitors in 1974. The land we plan to acquire with the additional appropriation authorization is of utmost importance to the proper interpretation of the area for the visiting public. Of special import to this interpretation is the land along Surrender Road, the route down which the British forces marched from Yorktown to their surrender at Surrender Field. It is essential, therefore, that we move out sharply on the land acquisition program for Colonial before constantly increasing land values prevent us from completing the program.

Senator ROBERT C. BYRD. What is responsible for the high land costs at Colonial?

Mr. EVERHARDT. Because of the park's proximity to the metropolitan areas such as Washington, D.C., and Richmond, Va., land costs are high, particularly lots for residential and commercial building purposes.

We plan to acquire a large number of small lots in Yorktown including waterfront lots, some along Surrender Road, and in the areas as well as land along Surrender Road and in the area including waterfront land that could be readily parceled into such lots. In addition, the access right-of-ways to be acquired along the Colonial Parkway will be costly.

Senator ROBERT C. BYRD. Will the existing authorization ceiling be adequate for Colonial?

Mr. EVERHARDT. Assuming that the appropriations are timely, we are of the opinion that this land acquisition program can be completed within the current monetary ceiling.

ACQUISITION OF PUBLIC LANDS

Senator ROBERT C. BYRD. Does the Park Service acquisition program for 1976 and the transition quarter involve any purchase of public lands such as State or county property? If so, please provide the details and justification.

Mr. EVERHARDT. There are no public lands involved in the Park Service land acquisition program for fiscal 1976 and the transition quarter.

PERSONNEL CEILINGS

Senator ROBERT C. BYRD. The committee has been aware for some time of the problems created by personnel ceilings imposed by OMB on the Park Service. Senator Chiles has indicated this limitation on personnel is hindering your land acquisition program, particularly in Big Cypress, as we discussed earlier. His letter will be included in the record. Will you comment further on the problem?

[The letter follows:]

United States Senate

COMMITTEE ON APPROPRIATIONS
WASHINGTON, D.C. 20510

May 9, 1975

Honorable Robert C. Byrd
Chairman, Interior Appropriations
Subcommittee
Committee on Appropriations
United States Senate
Washington, D. C. 20510

Dear Mr. Chairman:

I am attaching testimony from the House Subcommittee on Appropriations Recreation-Wildlife Overview, from Representative Frank Evans concerning Park Service land acquisition.

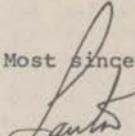
It is my understanding from this testimony and from my questioning of Secretary Nat Reed that the National Park Service land acquisition program is being seriously hindered by manpower shortage. Although the Park Service has 273 positions authorized for land acquisition personnel, ceilings imposed by OMB have held the acquisition staff to 168. I sincerely hope that you agree that if the land acquisition service is to meet their needs in an orderly and timely manner, some means must be devised to assure that the Service fills the full 273 positions.

I think it is extremely important that land acquisition in park areas already authorized proceed as expeditiously as possible.

I would sincerely appreciate your consideration of this request.

Best regards.

Most sincerely,


LAWTON CHILES

PARK SERVICE LAND ACQUISITION

Mr. Evans. What are your plans for land acquisition in newly authorized units of the National Park System, such as Big Cypress National Park? What are your plans for the Big Thicket National Preserve in Texas and the Cuyahoga NRA in Ohio? What are the land acquisition personnel assigned to meet each of these authorized requirements? What about Voyageurs National Park in Minnesota, Sleeping Bear Dunes National Lakeshore in Michigan, and the Lower St. Croix of Wisconsin?

Mr. Everhardt. These questions relating to National Park Service Land Acquisition can best be answered in total perspective first, then by covering each area mentioned separately. During the last days of the 93d Congress, there was authorized to be acquired in either totally new areas to the System or by amendatory legislation to existing areas, some 698,637 acres of privately owned land having an estimated value of \$381,110,000. Most importantly, this additional workload comprises the acquisition of at least 45,000 or more individual properties. As a comparison, the Service's land acquisition team, over the past 10 years, has purchased some 19,850 individual properties which is the second largest program by any Federal Agency in land acquisition, but only approximately half of what our added workload has become.

In testifying before the Legislative Committees, the Service pointed out that to accomplish Big Cypress National Preserve, it would require 1,000 man-years. This equates into 100 people for 10 years. The Congress, in passing the Big Cypress Act of October 11, 1974, 88 Stat. 1253, stipulated that the area would be substantially acquired within 6 years from the date of enactment. This same provision was written into two other major laws, the Act also of October 11, 1974, authorizing the Big Thicket National Preserve, 88 Stat. 1254, and the Act of December 27, 1974, authorizing the Cuyahoga Valley National Recreation Area, 88 Stat. 1784.

The manpower previously authorized by this Committee for the National Park Service land acquisition effort consists of 273 positions. Because the National Park Service has always made maximum use of contracting for mapping, appraisals, titles, and other technical services where possible, we at the current time have only 168 of these positions filled with people actively engaged in land acquisition. To properly meet the exigencies of the problem, we would need to fill all of the remaining authorized positions and obtain an additional 142 new positions, according to our best estimates. However, because of personnel constraints of the Department, we are unable to fill any positions at the present time. Moreover, with the new energy requirements placed on the Department, it does not appear that this situation will change appreciably within the next few years.

In connection with this problem we have explored all avenues and have recommended several possible alternative courses of action. First, we explored with the Corps of Engineers the possibility of their taking on the Big Cypress. They were unwilling to do so without 200 personnel spaces from Interior, which, of course, is out of the question. However, it appears that they may be willing to take over Big Thicket and possibly Cuyahoga Valley within their own manpower resources. If they will take over both, we are going to attempt to reorganize by combining certain of our Regional land staffs and free perhaps 20-22 people who might form the cadre for Big Cypress. Then, by concentrating on the major landowners for the next 2 years, those owning 1,200 acres or more, we can probably spend the State's \$40 million and possibly accommodate some of the hardship cases which are bound to arise in such a large acquisition. I caution that this has very distinct disadvantages.

The major consequence is that it merely postpones the inevitable day when the issue of the multitude of landowners will have to be faced in even a shorter period of time. However, perhaps at the end of the 2 years if manpower relief is not in sight, we can utilize term appointments, not to exceed 4 years, to complete the project. As far as Voyageurs is concerned, we are committed to the acquisition of the Boise Cascade property as a first priority. This single transaction will probably consume most, if not all, of the funds in the 1976 and transition budget. Sleeping Bear Dunes and Lower St. Croix remain a problem as do numerous smaller areas such as Colonial, Lake Mead, Knife River, Canaveral, and the like. Here, since we do not have the mandate to substantially complete within 6 years, we may simply have to either defer acquisition or proceed more slowly than we would like. For example, we currently have three people at Sleeping Bear Dunes. When the funds appeared to be close to exhaustion, we started moving personnel from there to other locations within the Service until only the three remain. Then, unexpectedly, on October 20, 1974, the Congress included an increase in the statutory ceiling which caught us with only a caretaker lands staff. Lower St. Croix, which the Administration opposed, likewise was enacted. Our Upper St. Croix staff simply cannot handle the added work without some additional people. We are continuing to explore other alternatives.

LAND ACQUISITION

Mr. EVERHARDT. I think the Big Cypress situation certainly is an example of the problem that we have with personnel ceilings and our land acquisition program. The Department testified that to acquire the ownership within this project would require 1,000 man-years and that is, as we said, about 100 people for 10 years. Congress, in the authorizing legislation, said this program should be substantially completed in 6 years. This means that 166 people are needed to acquire the properties that we had initially estimated would take us 10 years with 100 people a year. So to meet this situation with respect to those three areas, Cuyahoga, Big Thicket and Big Cypress, we turned to the Corps of Engineers and they were kind enough to help us out in Cuyahoga and they are helping us out at Big Thicket.

The problem still remains at Big Cypress, with only 27 people onboard. The facts are, Mr. Chairman, that Big Cypress represents about 39,000 individual tracts, which in the history of the National Park Service is about twice what we have purchased in our entire land acquisition program. So there is a tremendous amount of work that has to be done in Big Cypress.

Also, other areas of land acquisition are being affected because of the number of people that we have engaged in the land acquisition program throughout the National Park Service. To put these 27 people at Big Cypress, it was necessary to make some adjustments in our personnel at our regional offices and in some of the parks where we did have land acquisition people. The personnel ceilings are having an effect on how quickly we can move with the wishes of Congress in these three areas and with a 6-year limitation on the purchase and on carrying out our backlog of land acquisition throughout the National Park system.

FEDERAL PROGRAMS ALLOCATION ACCOUNT

Senator ROBERT C. BYRD. The BOR recently furnished the committee staff a breakdown of the Federal programs allocation account under the fund. This information will be included in the record at this point along with the Park Service statement explaining the personnel figures.

[The information follows:]

BUREAU OF OUTDOOR RECREATION, LAND AND WATER CONSERVATION FUND

AUTHORIZED PERMANENT POSITIONS IN ALLOCATION ACCOUNTS

	Fiscal year 1975 Filled June 30	Fiscal year 1976 President's Budget
National Park Service not suballocated	¹ 168	273
Suballocation to Corps of Engineers	² 27	44
Total, National Park Service	195	317
Forest Service	200	200
Fish and Wildlife Service	30	40
Bureau of Land Management	10	14
Total, Allocation Accounts	435	571

¹ This figure is in error and should be 153. (Footnote added to original table.)

² Best available figure at this time.

EXPLANATION OF POSITIONS COUNTED AGAINST LAND AND WATER CONSERVATION FUND FOR FISCAL 1976

There are 317 positions proposed to be funded from the Land and Water Conservation Fund allocation to the National Park Service for fiscal 1976 of which 44 are in the Corps of Engineers through a suballocation of funds for Big Thicket National Preserve, Cuyahoga Valley National Reserve Area, and Delaware Water Gap National Recreational Area. These 44 positions, while funded from the Land and Water Conservation Fund, are counted against the employment ceiling of the Corps. The balance of 273 positions are proposed to be utilized by the National Park Service and are chargeable against its personnel ceiling.

CORPS OF ENGINEERS SUBALLOCATION

Senator ROBERT C. BYRD. Now, it appears from these statements that the Park Service is budgeted for 317 permanent positions, of which 44 positions are suballocated to the Corps of Engineers. Please explain this personnel arrangement.

Mr. EVERHARDT. According to established procedures, when funding is authorized and allocated to the Corps of Engineers from appropriations realized by the National Park Service for areas of the system, these allocations provide funding to cover personnel costs associated with the acquisition of lands on behalf of the National Park Service by the Corps. It is, however, the responsibility of the Corps of Engineers to budget for the necessary personnel positions and such positions apply against personnel ceilings of the Corps of Engineers.

NUMBER OF POSITIONS FILLED

Senator ROBERT C. BYRD. How many of the 44 Corps positions were filled on June 30?

Mr. EVERHARDT. Of the 44 positions?

Senator ROBERT C. BYRD. Of the 44 Corps of Engineers positions.

Mr. EVERHARDT. Twenty-eight positions were filled.

Senator ROBERT C. BYRD. What was the average throughout the year?

Mr. EVERHARDT. The average was 32.

Senator ROBERT C. BYRD. How many of the 273 Park Service positions were filled on June 30?

Mr. EVERHARDT. 153 positions were filled.

Senator ROBERT C. BYRD. What was the average number filled throughout 1975?

Mr. EVERHARDT. The average number was 166.

PERMANENT POSITIONS

Senator ROBERT C. BYRD. Please state in summary how many full-time permanent positions the Park Service is allowed to maintain for its land acquisition program under the OMB ceiling.

Mr. EVERHARDT. Would you like that furnished for the record, Mr. Chairman?

Senator ROBERT C. BYRD. Yes, unless you have it right there. Would you like to furnish it for the record?

Mr. EVERHARDT. Yes, sir.

[The information follows:]

PERMANENT POSITIONS

There is no specific personnel ceiling assigned to the land acquisition program of the National Park Service. Conversely, the ceiling is placed on employment with the National Park Service as a whole. However, due to the fact that the number of full-time employees on the roles exceed the personnel ceiling for the National Park Service, very limited new employment is occurring. This has the effect of establishing a new low for the land acquisition program every time an employee leaves for reason of transfer, resignation, retirement, etc. For instance, as of December 31, 1974, there were 168 full-time employees actually engaged in land acquisition. As of June 30, 1975, this number had decreased to 153.

FUNDS FOR FULL STAFFING

Senator ROBERT C. BYRD. What additional funding would be needed to fill your full authorization of 273 Park Service positions?

Mr. EVERHARDT. The cost of providing for full staffing is \$264,000; however, no additional funds are required since sufficient funds are already contained in the budget request.

Senator ROBERT C. BYRD. What is wrong with utilizing the acquisition services of the Corps as you have been doing in several areas?

Mr. EVERHARDT. We have no objection to the use of the Corps of Engineers in the acquisition of land for the National Park Service as long as it has a sufficient staff to handle the workload. The problem we experienced, however, is that in attempting to utilize the Corps on the Big Cypress project, it was unable to undertake the acquisition program because of the lack of sufficient staff. The Corps of Engineers has its own mission to be concerned with and, in fact, the only acceptable cooperative agreement which could be negotiated with the Corps of Engineers was one that included an "escape clause" in the event its primary mission required the use of the personnel assigned to the National Park Service program. Therefore, it is believed that the use of the Corps of Engineers is a stopgap measure at best.

Senator ROBERT C. BYRD. Do you believe you will have any real difficulty in obligating the 1976 acquisition program with existing manpower?

Mr. EVERHARDT. We believe that the 1976 program can be obligated within the existing manpower because we have structured our resources to accomplish this by complementing our permanent staff with the use of temporary and less than full-time personnel, and making maximum utilization of contractual services.

HUMAN KINDNESS DAY

Senator ROBERT C. BYRD. Since the Park Service last appeared before this committee an unfortunate event took place on the Mall which I believe requires some comment and examination. I am speaking of the so-called Human Kindness Day, an event sponsored mainly by the Park Service.

This event, which was something of a rock concert near the Washington Monument last May, went completely out of control so far as the lives and safety of citizens were concerned. It became clear that the sponsors and organizers were not prepared to handle the lawlessness that occurred in the large crowd attracted to its concert. Does the Park Service have any explanation for the apparent collapse of law enforcement at that event?

Mr. EVERHARDT. I would like to call on Jack Fish, Regional Director of the National Capital Parks in Washington.

After that last experience, I sat down with him and some of his staff and we have decided there will not be another Human Kindness Day experience, as you referred to.

Senator ROBERT C. BYRD. I think there has been a decision here on this committee to that effect, too.

Secretary REED. Also at the Assistant Secretary level, Mr. Chairman.

Senator ROBERT C. BYRD. Yes, I am glad to hear that.

Mr. EVERHARDT. I would like to call on Jack Fish to give you some details about the event and answer any other questions you might have, Mr. Chairman.

Senator ROBERT C. BYRD. Fine. I would like to hear from Mr. Fish.

Mr. FISH. Mr. Chairman, we had had some problems the year before at Human Kindness Day and we went into planning for this year's event right after last year's event. We did things like raising the stage and improving the sound system. The sound system went out the year before and it caused problems within the crowd. The stage was too low; people couldn't see.

We put in some very intensive planning. Frankly, we felt that we had done all the planning that we could and had looked at all the contingencies. Our idea of security was to have the police force surrounding the crowd. We had about 400 officers, most of our force here in Washington. There were to be 800 civilian marshals within the crowd. Actually there were not all the marshals within the crowd that we had expected.

When an incident occurred, the police went into the crowd. They tried to apprehend the violators. By the time they got into the crowd they were not able to do it.

Senator ROBERT C. BYRD. Why was the expected number of marshals not on hand?

Mr. FISH. I really can't say. We had assurances that they would be there on that particular day and they were not there.

Since the event, we have had a couple hundred thousand people out on the Washington Monument grounds for the Fourth of July; there were no incidents. We had close to a million people attend the Festival of American Folk Life. We had one incident of purse snatching and the violator was apprehended immediately.

We have worked with Mayor Washington and his staff in almost weekly meetings since then to preclude anything like this happening again.

Senator ROBERT C. BYRD. The best way to preclude it from happening is just not to stage it. Don't you think so?

Mr. FISH. I agree with you, Mr. Chairman.

Senator ROBERT C. BYRD. You spoke of assurances that there would be 800 marshals. Who gave you the assurances?

Mr. FISH. We were working with community groups and the local Government.

Senator ROBERT C. BYRD. Who gave you the assurances?

Mr. FISH. That would have been with the local Government.

Senator ROBERT C. BYRD. Did they have any explanation as to why they didn't come through on their assurance?

Mr. FISH. No, sir.

Senator ROBERT C. BYRD. Did you ask them?

Mr. FISH. Yes, sir, we did. A number of them were volunteers. It is really hard to say why they didn't show up at that time.

Senator ROBERT C. BYRD. Who was primarily responsible for the planning?

Mr. FISH. We were, in conjunction with Compared to What, Inc., Mr. Chairman.

Senator ROBERT C. BYRD. We and they, Compared to What?

Mr. FISH. Compared to What, Inc., is a private group we have worked with over the years in various educational and arts and crafts programs.

COSTS OF HUMAN KINDNESS DAY

Senator ROBERT C. BYRD. How much did Human Kindness Day cost the Park Service?

Mr. FISH. \$122,000.

Senator ROBERT C. BYRD. How did that compare with the outlay the previous year?

Mr. FISH. The previous year's cost was \$67,000.

Senator ROBERT C. BYRD. How did it compare with the budget allocation?

Mr. FISH. We had planned on \$40,000 for that event. As we got into the plan, we found that we would need another \$34,000 for some of the activities. When we had the problems we had to pay for some damage and overtime police costs totaling about \$48,000.

Senator ROBERT C. BYRD. How was this budgeted?

Mr. FISH. It is budgeted in our normal operating program and part of our Parks-for-all-Seasons, Summer-in-the-Parks program.

Senator ROBERT C. BYRD. It was in what item?

Mr. FISH. Our operating program.

Senator ROBERT C. BYRD. Did you indicate to either committee of Congress what you were going to do in this regard?

Mr. FISH. Not as a specific item; no, sir. It was part of our overall Summer-in-the-Parks program.

Senator ROBERT C. BYRD. In view of the previous year's problems, why did you not be more explicit when you came up before the committees?

Mr. FISH. I can't answer that, Mr. Chairman. But we felt in the planning sessions that we had done everything we could and that there would be no particular problem.

Senator ROBERT C. BYRD. How did you cover the overrun?

Mr. FISH. That was covered through funds that had not been obligated in the construction program and under a provision, Mr. Chairman, that would allow us to utilize unobligated funds for un-budgeted law and order emergencies, and then to replace the deferred projects at a later date.

Senator ROBERT C. BYRD. Have you replaced them so far?

Mr. FISH. I do not know that.

Senator ROBERT C. BYRD. Is there any money in this budget for such overruns from last year?

Mr. FISH. No, sir, I don't think so.

Senator ROBERT C. BYRD. Was the District of Columbia available to help out?

Mr. FISH. Very much so and we worked very closely with the Metropolitan Police Department and their role, according to our plans, was to be further up along Constitution Avenue and within the city. But it was preconceived where they would be and they had their special operations force there in the area.

HUMAN KINDNESS DAY INCIDENTS

Senator ROBERT C. BYRD. How many arrests were made?

Mr. FISH. I believe there were 18 arrests, Mr. Chairman.

Senator ROBERT C. BYRD. How many incidents were there?

Mr. FISH. 637 complaints.

Senator ROBERT C. BYRD. 637 and how many arrests?

Mr. FISH. Eighteen.

Senator ROBERT C. BYRD. How do you explain the fact that there were only 18 arrests in connection with 637 complaints?

Mr. FISH. As I mentioned, Mr. Chairman, the fact that the trouble would occur in a crowd of 125,000 people, by the time the uniformed officers would get there, the culprits were gone and so it was impossible. Some of them were not reported until later and it was just impossible to get into the crowd and apprehend them.

Senator ROBERT C. BYRD. When complaints were later filed, were there identifications of persons who were being complained against?

Mr. FISH. It was difficult to make identification. In any case that we could, we would certainly follow it up.

Senator ROBERT C. BYRD. What happened in connection with the 18 arrests?

Mr. FISH. Well, I believe they were apprehended right there on the site, Mr. Chairman.

Senator ROBERT C. BYRD. What happened to them afterward; do you know?

Mr. FISH. I do not know that.

Senator ROBERT C. BYRD. You don't know whether they were let loose to commit further attacks on people?

Mr. FISH. I don't know, Mr. Chairman.

Senator ROBERT C. BYRD. Could you find out?

Mr. FISH. Yes, sir, I will be glad to.

[The information follows:]

DISPOSITION OF 18 ARRESTS ON HUMAN KINDNESS DAY

Robbery—case is pending.....	1
Failure to obey lawful order—forfeited collateral.....	1
Abduction—case is pending.....	1
Disorderly conduct—2 forfeited collateral and 1 was sentenced to 5 days in jail and \$50 fine.....	3
Juveniles—warned and released or turned over to D.C. Receiving Home.....	12
Total.....	18

BREAKDOWN OF COMPLAINTS REGISTERED

Senator ROBERT C. BYRD. Also submit for the record, if you can do so, some details concerning the 637 complaints. We might as well have it in the record because there may be some effort at some future time to put on such a so-called Human Kindness Day and it might be useful for the committee at that time to go back and see what happened on this occasion. I don't think you should just brush over it so quickly and forget about it, because as I say there may be some effort in the future to do this again.

Do you have some details on these 637 complaints and arrests?

Mr. FISH. Yes, sir, we do. We are certainly not going to brush over what had happened. I think that because of the event, we are working closer with the District Government on activities like this and on being better prepared for large events in that area. We were quite concerned at the time about 4th of July and the Festival of American Folk Life. As I mentioned we had relatively no incidents in those two events.

[The information follows:]

DETAIL OF 637 CASES HANDLED BY U.S. PARK POLICE ON HUMAN KINDNESS DAY

Robberies.....	468
Assaults.....	21
Other offenses.....	16
Non-Human Kindness Day related offenses in other areas of NCP including Rock Creek Park, George Washington Parkway, etc.....	132
Total.....	637

INNER CITY GOVERNMENT RESPONSIBILITY

Senator ROBERT C. BYRD. Isn't an event of this magnitude aimed solely at the inner city Government more suitably handled by the local Government?

Mr. FISH. We in National Capital Parks in the City of Washington have an obligation to the city by the fact that we have about 20 percent of the usable land in the city. We are located right within the community and Human Kindness Day is typical of community programs that we do have. It is a culmination of a number of programs spread throughout the city and a program of trying to bring people together.

Senator ROBERT C. BYRD. You also have a responsibility for the safety of people who attend these events and I should think that responsibility would be overriding.

Mr. FISH. I agree with you.

Senator ROBERT C. BYRD. That responsibility was not carried out on this occasion; was it?

Mr. FISH. We made a mistake, Mr. Chairman. We thought we had prepared for it and we did not.

Senator ROBERT C. BYRD. How much is budgeted in the National Capital Parks for this kind of event each year?

Mr. FISH. We have a Summer-in-the-Parks Program, Mr. Chairman, that totals about \$1.7 million. It includes National Symphony concerts and a Shakespeare Festival that travels to park areas, such as Prince William Forest Park, Antietam, Harpers Ferry, and others. Environmental education programs, and cultural programs at Wolf Trap, Ford's Theater, and Carter Barron. So this is a part of that overall Summer-in-the-Parks Program.

Senator ROBERT C. BYRD. How much is in the budget this year?

Mr. FISH. The same amount, Mr. Chairman, \$1.7 million.

BREAKDOWN OF SUMMER-IN-THE-PARKS COSTS

Senator ROBERT C. BYRD. Supply for the committee a breakdown then. Also break down the 1975 costs for Human Kindness Day.

Mr. FISH. Yes, sir.

[The information follows:]

"Summer In The Parks"/"Parks For All Seasons"

FISCAL YEAR 1976

Environmental Education: 10%

Youth Garden Workshops: Public information services, Washington experimental youth gardens	106,000.00
Camping Programs, outdoor recreation (food and some supplies supported by D.C. Government)	<u>60,000.00</u>
Subtotal	166,000.00

Performing Arts: 66%

Wolf Trap Foundation	150,000.00
Wolf Trap Farm Park-Cultural Enrichment	28,000.00
National Symphony	275,000.00
Carter Barron	270,000.00
Shakespeare Summer Theatre	111,000.00
D.C. Black Repertory Company	35,000.00
Ford's Theatre Society	175,000.00
Back Alley Theatre	12,000.00
Noon Hour Concerts	25,000.00
New York Pantomime Circus	<u>67,000.00</u>
Subtotal	1,142,000.00

Community Programs and Park Services: 24%

Park Festivals, Special Events and concerts	167,000.00
National Capital Parks-East	75,000.00
George Washington Memorial Park	52,000.00
Rock Creek Park	10,000.00
National Library Theatre and Reading is Fundamental	44,000.00
American Amusements and Associates, Inc.	<u>60,000.00</u>
Subtotal	408,000.00

TOTAL	\$1,716,000.00
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HUMAN KINDNESS DAY

In Fiscal 1975, an amount of \$40,000, was programmed by National Capital Parks for Human Kindness Day as one of many special events of the Parks-for-all-Seasons (formerly, Summer-in-the-Parks) program.

In previous years, as in 1975, Human Kindness Day featured a well known artist and a rock music concert in an all-day event on the Washington Monument Grounds. The events in 1973 and 1974 were on a smaller scale than the 1975 event. A comparison of those years follows:

<u>Year</u>	<u>Amount</u>	<u>Visitation</u>
1973	\$ 25,000	60,000
1974	67,000	80,000
1975	122,022	125,000

When the Fiscal 1976 budget was being formulated, an amount of \$40,000 was earmarked for Human Kindness Day in 1976. However, as a result of management review of the 1975 event, the National Park Service has decided that it will not sponsor a large Human Kindness Day gathering on the Mall in 1976. The funds will be programmed for other smaller programs and events throughout the National Capital Parks area under auspices of the Parks-for-all-Seasons program. The potential events and activities of this program in a given year far exceed the dollars available. Therefore, during the year adjustments are made to the remaining programs as a result of savings, under programming, changes in scope and/or new requirements.

The Parks-for-all-Seasons program approximates \$1.7 million in total and includes support for the performing arts activities at Wolf Trap Farm Park, Ford's Theatre, Carter Barron Amphitheatre, and Sylvan Theatre. The program also includes camping and community parks programs and environmental education activities. Another aspect of Parks-for-all-Seasons is the sponsoring of special events such as Human Kindness Day, the Jousting Tournament, and the Festival of American Folklife. For Fiscal 1976, \$300,000 is earmarked for special events.

HUMAN KINDNESS DAY

Responses to questions concerning Human Kindness Day,
May 10, 1975, Washington Monument Grounds

1. Cost - Tabulation attached
2. Source of Funds - All costs of National Capital Parks related to Human Kindness Day were charged to the appropriation for "Operation of the National Park System."
3. Authority for Involvement - Human Kindness Day is one of the events under the Summer in the Parks program sponsored by National Capital Parks. The need for such a program has been discussed numerous times with the Appropriation Subcommittees, especially the House Subcommittee. During the last six years (since Fiscal 1969), there have been appropriation requests approved for Summer in the Parks programs for National Capital Parks which were justified on the basis of not only providing park facilities, but also the contracting for performing groups as part of the recreational programs. Additionally, specific reference was made to programs such as this in appropriation language for National Capital Parks when funds were partially received through the District of Columbia Appropriation Act through Fiscal Year 1970. The appropriation language in those acts stated, in part:

". . .placing and maintaining portions of the parks in condition for outdoor sports, erection of stands, furnishing and placing of chairs, and services incident thereto in connection with national, patriotic, civic, and recreational functions held in the parks, including the President's Cup Regatta, and expenses incident to the conducting of band concerts in the parks."

The partial funding of certain Federal agencies in the District of Columbia Appropriation Act was discontinued in Fiscal Year 1970, and funds from that point on were totally placed in the operating expense budget of the National Park Service for National Capital Parks. Events such as this have historically been a regular activity of the park program whether wholly sponsored by National Capital Parks or in cooperation with other organizations or agencies. In this instance, the National Capital Parks was the co-sponsor, along with a non-profit organization under the name of "Compared to What."

4. The costs were shared - National Capital Parks made arrangements for setting up the grounds, provided facilities such as stage and comfort station facilities, provided clean-up and security. The cooperating organization made arrangements for and paid the expenses of the performers.

Approximate Costs

<u>Category of Expense</u>	<u>Amount</u>
Setting Up	\$ 19,200
(Purchase and installation of snow fencing, placement of chairs, garbage containers, etc. and salaries of employees)	
Stage	11,000
(Rental, delivery, setup and take down)	
Comfort Facilities	4,700
(Rental payments for portable toilets)	
Public Address System	6,000
(Rental payments and set up)	
Electrical Service	4,700
(Payment for bringing in primary service, connections, transformer, laying of lines, and current usage)	
Clean Up	18,200
(Removal of snow fence and containers, gathering of litter, disposal, and salaries of employees)	
Damage	7,000
(Replacement of 20 trees and sod)	
Subtotal	<u>\$ 70,800</u>
Park Police	
Regular time	10,125
Overtime payments	38,500
Vehicles for Police transportation	1,992
Lunches (provided under emergency conditions for officers who could not leave post of duty)	635
Subtotal	<u>\$ 51,252</u>
TOTAL	<u><u>\$ 122,052</u></u>

RECURRENCE OF HUMAN KINDNESS DAY EVENTS

Senator ROBERT C. BYRD. Do you anticipate in any of these events that are planned that something such as happened last year, this year at the so-called Human Kindness Day, can or will happen?

Mr. FISH. We are planning that it will not happen, Mr. Chairman.

Senator ROBERT C. BYRD. What plans do you have?

Mr. FISH. Well, I think the type of activity and the location is extremely important and I think that the large free rock concert where there are over 100,000 people is—well, I guess the history of it has shown that there are problems with those type of activities.

Senator ROBERT C. BYRD. You are not going to have any more rock concerts?

Mr. FISH. We are not going to have any more free open air rock concerts.

LIST OF FREE PUBLIC EVENTS

Senator ROBERT C. BYRD. Please provide a listing of free public events sponsored or underwritten by National Capital Parks and their cost for 1974 and 1975 and plans for 1976.

Mr. FISH. I have a brochure. It does not have any dollars in there, but it would be helpful to the committee to show the types of programs.

Senator ROBERT C. BYRD. Suppose you submit something that can be included in the hearing.

[The information follows:]

Park Festivals, Special Events and Concerts Funded under Summer-in-the-Parks

Fiscal Year 1976

New Games Tournament	7,480.00
Spanish Heritage Day	8,072.00
African Heritage Day	6,654.00
Compared To What, Inc. (Title I project-P Street Beach)	17,580.00
Bob and Judy Brown Puppets Theatre, Etc.	25,050.00
Archaesus Productions	10,341.00
Blue Sky Puppets, Inc.	7,500.00
4th of July	14,150.00
Palisade Theatre	11,970.00
Evening Concerts - P Street Beach	5,900.00
Moon Walk and Pony Rides	2,300.00
D.C., Bicentennial - State Days	34,000.00
Sr. Citizens' Festival	2,300.00
	<u>9,703.00</u>
Total	\$162,000.00

Fiscal Year 1975

Human Kindness Day	41,000.00
4th of July	5,700.00
Pagent of Peace	2,000.00
Spanish Heritage Day	<u>3,800.00</u>
Total	\$ 52,500.00

Fiscal Year 1974

Summer Hut	6,808.00
Concerts on the Mall	28,000.00
4th of July	4,980.00
Human Kindness Day	29,430.00
Pagent of Peace	<u>2,000.00</u>
Total	\$ 71,218.00

FUTURE PLANS FOR HUMAN KINDNESS DAY

Senator ROBERT C. BYRD. You have already answered this question but I want to ask it again. What are your future plans for Human Kindness Day?

Mr. FISH. We have no future plans.

Senator ROBERT C. BYRD. If you ever do have any future plans, I want you to let this committee know in advance. Will you do that?

Mr. FISH. Yes, sir, I will.

Senator ROBERT C. BYRD. I guarantee I will do everything I can to keep the plans from being implemented.

In the future, whenever the Park Service is planning to get involved in an event of this magnitude, I suggest it be clearly indicated in the budget justifications. Do you agree with that?

Mr. FISH. I think it would be a very good idea, Mr. Chairman.

Senator ROBERT C. BYRD. How about you, Mr. Secretary?

Secretary REED. I agree wholeheartedly, Mr. Chairman.

Senator ROBERT C. BYRD. Particularly when you plan to use such public places as the Mall and such revered places as the Washington Monument.

I compliment you on your decision not to have any future Human Kindness Day, because if the plans had been otherwise, your part in the hearings would not be over so soon.

We will go to the Forest Service.

DEPARTMENT OF AGRICULTURE

FOREST SERVICE

STATEMENT OF RUSSELL P. McROREY, ASSOCIATE DEPUTY CHIEF,
NATIONAL FOREST SYSTEM

ACCOMPANIED BY:

WILLIAM A. CAMPBELL, DIRECTOR, PROGRAM DEVELOPMENT
AND BUDGET

WILLIAM T. TOBIN, STAFF ASSISTANT, LANDS STAFF UNIT

Senator ROBERT C. BYRD. I am told that Chief McGuire, who was here earlier, had other Senate commitments this afternoon. In his absence the Associate Deputy Chief of the National Forest System, Russ McRorey will be testifying. Will all the witnesses for the Forest Service please come forward.

The Forest Service portion of the Land and Water Conservation Fund totals \$29,980,000, a reduction of \$904,000 from the fiscal year 1975 appropriation.

Mr. McRorey, do you have a statement?

Mr. McROREY. May I extend the Chief's personal regrets, Senator. He regretted very much that he was not able to be here.

Senator ROBERT C. BYRD. That is understandable.

PREPARED STATEMENT

Mr. McROREY. I would ask that his statement be included for the record.

Senator ROBERT C. BYRD. His statement will be inserted in the record at this point.

[The statement follows:]

STATEMENT OF JOHN R. MCGUIRE, CHIEF, FOREST SERVICE
U. S. DEPARTMENT OF AGRICULTURE

Mr. Chairman and Members of the Committee.

Each year that we have testified on the Land and Water Conservation Fund appropriations we have commented on the rapidly increasing use being made of the National Forests and our concern that key properties within the National Forests need to be acquired to adequately meet those needs.

The rising trend in outdoor recreation use continues. During calendar year 1974 public use of the National Forest System reached a new high of 193 million visitor-days. This represents an increase in the past five years of 30 million visitor-days. There continues to be a growing need for acquiring additional lands within the National Forests to meet the increasing demands. Although the energy crisis may eventually slow the rate of recreation use in a few places, the overall recreation use in many locations has increased. We continue to be concerned about new demands on public use areas and the need to provide for an ever expanding use. The greatest need for additional recreation opportunities is in the National Forests of the Eastern United States where public landownership is limited but where large population centers exist. While there are extensive areas of public lands in the Western United States, acquisition of private lands within the Wilderness System, National Recreation Areas, Wild and Scenic Rivers, and other key tracts remains a high priority.

The Land and Water Conservation Fund Act provides the means of acquiring the needed lands to round out the public recreation estate within the National Forest System. As of January 1, 1975, we have acquired, or placed under contract to acquire, nearly 810,000 acres of quality recreation lands within the National Forest System. This represents nearly 60 percent of all Federal lands acquired under the Act, utilizing about 25 percent of the funds available for Federal agencies at an average cost of \$240 per acre. The amount of desirable land needed for public recreation purposes within the National Forests and the flexibility of selecting between equally desirable properties are, in large measure, the reasons for this.

If the accomplishments over approximately the first ten years of the Land and Water Conservation Fund Act are obvious, the needs for the future are equally clear. While a good start has been made much more needs to be done. More and more of the available private lands are being closed to public use. In order to provide additional areas needed for existing and future public use and minimize adverse development and the inherent higher cost, purchase of key recreation tracts requires immediate action.

The Forest Service has, and will continue to make, a concerted effort to acquire the lands needed to effectively manage the National Recreation Areas, the Wild and Scenic Rivers, and other areas specially authorized by the Congress. The lands that are needed within these areas have been identified in current acquisition plans for the Land and Water Conservation Fund program. In addition to acquisition within areas specially authorized by Congress, the plans have highlighted many other significant opportunities for acquisition of high quality public recreation land within the National Forests. Total need identified in current plans for acquisition of recreation land within the National Forest System is approximately 3,200,000 acres.

The program proposed for fiscal year 1976 before you contains a total of \$29,980,000 for Forest Service acquisitions. This consists of \$16,598,000 for purchases within areas specially designated by the Congress, i.e., National Recreation Areas, Wilderness and Primitive Areas, National Wild and Scenic Rivers, and the National Trail System. In addition, \$11,382,000 is proposed for purchase of key recreation lands within areas of the National Forests specially designated as having quality public use recreation attributes and \$2,000,000 primarily to cover deficiency awards for condemnation actions.

More precisely, the program includes a total of 718 individual tracts containing nearly 56,000 acres. The Land and Water Conservation Fund Act limits Forest Service acquisition in the West to 15 percent of the acreage added to the National Forest System. The program proposed for 1976 includes 39 percent of the acreage in the West; however, cumulative purchases for the first ten years of the fund will aggregate about 11 percent of the total acreage acquired.

Mr. Chairman, this concludes my opening remarks. I would appreciate the opportunity to respond to any questions you might care to ask or furnish whatever additional information you desire.

INTRODUCTION OF ASSOCIATES

Mr. McROREY. With your permission, I will highlight it.

Senator ROBERT C. BYRD. Go ahead.

Mr. McROREY. Before I do that, I would like to introduce the gentlemen who accompany me. Mr. William Campbell, our Budget Officer. Mr. Tobin, Staff Assistant, Lands Staff Unit.

NEED FOR ACQUIRING RECREATION LAND

The rising trend in outdoor recreation use continues. During calendar year 1974 the public use of the National Forest System reached a new high of 193 million visitor days. This represents an increase in the past 5 years of 30 million visitors per day. There continues to be a great need for acquiring additional land within the National Forests to meet increasing demand.

The Land and Water Conservation Fund Act provides a means of acquiring the needed land to round out the public recreation estate within the National Forest System. The Forest Service has and will continue to make a concerted effort to acquire the land needed to effectively manage the National Recreation Areas, the Wild and Scenic Rivers and other areas specially authorized by the Congress. Our total needs in and out of those areas have been identified at approximately 3,200,000 acres.

BUDGET REQUEST

The program you have before you for fiscal year 1976 contains a total of \$29,980,000. It consists of \$16,598,000 for purchases within areas specially designated by the Congress. In addition, \$11,382,000 is proposed for purchase of the key recreation lands within areas of the National Forests specially designated as having quality public use recreation attributes.

Mr. Chairman, we would be very happy to attempt to answer any questions you might have.

1975 DEFERRALS

Senator ROBERT C. BYRD. Mr. McRorey, is the total \$4.8 million that was deferred in the 1975 program now available for obligation?

Mr. McROREY. Yes, it is, Mr. Chairman. We intend to obligate it this year.

Senator ROBERT C. BYRD. Can you indicate at this time when the various amounts that were deferred can be obligated?

Mr. McROREY. Our reading on that, Senator, is that we will obligate them all within the upcoming year.

1975 UNOBLIGATED BALANCE

Senator ROBERT C. BYRD. Is there any unobligated balance in addition to the deferrals?

Mr. McROREY. There was an additional \$4 million, Senator. That, too, we will obligate this year.

Senator ROBERT C. BYRD. How did that occur?

Mr. McROREY. Senator, the outlay ceilings that were handed down caused a considerable slowdown in operations. As a result, the \$4

million was not obligated. Now the money is available and we are stepping up our operations.

SAWTOOTH NATIONAL RECREATION AREA

Senator ROBERT C. BYRD. What is the status of the Sawtooth NRA deferral of \$1.5 million? I understand that acquisition program has been delayed by a lawsuit.

Mr. McROREY. The \$1.5 million that was deferred in the 1975 fiscal year has now been made available for obligation in the current year. The lawsuit that was filed by a group of landowners in the National Recreation Area initially caused a slowdown of the land acquisition program. However, the Forest Service has been advised by our Department legal staff to proceed with planned acquisition.

Senator ROBERT C. BYRD. You are asking for \$4.8 million for Sawtooth land acquisition in fiscal 1976. Will you be able to obligate all funds in 1976 plus the \$1.5 million in the transition period?

Mr. McROREY. Mr. Chairman, the Forest Service has now increased the land acquisition effort in this very important area. Appraisals and negotiations are progressing on schedule and we anticipate that the amounts requested for fiscal 1976 and the transition period will be substantially obligated at the beginning of the 1977 fiscal year.

SPRUCE KNOB-SENECA ROCKS DEFERRAL

Senator ROBERT C. BYRD. Would you explain why \$800,000 in acquisition funds were deferred at the Spruce Knob-Seneca Rocks National Recreation Area?

Mr. McROREY. Senator, as with our sister agencies, we sometimes are unable to anticipate precisely court awards in those few condemnation cases we have. We had awards of over and above the money that had been allocated to that, and it was necessary then to request a reprogramming to meet the award of the court.

STATUS OF ACQUISITION

Senator ROBERT C. BYRD. In response to a staff request, the Forest Service provided statements on the status of acquisition for national recreation areas, rivers and trails. Please include copies of these statements in the record at this point along with similar estimates on the status of specially designated recreation area and wilderness acquisitions.

Mr. McROREY. The statements and related tables were furnished in response to several questions the Forest Service received from your committee. We would be happy to furnish that information for the record.

[The information follows:]

The areas administered by the Forest Service and specifically authorized by the Congress consist of National Recreation Areas, National Wild and Scenic Rivers, Lake Tahoe Basin, National Trails System, Cascade Head Scenic Research Area, and Wilderness and Primitive areas. The Congress has recognized these areas as possessing outstanding combinations of outdoor recreation opportunities, esthetic attractions, and a potential for accommodating present and future public recreation use. These have been established by various acts of the Congress which authorize the Secretary of Agriculture to administer the areas. The Congress in directing management of the specifically authorized areas also provided authority to acquire private lands within the areas in order to carry out the management objectives.

In addition to those areas specifically authorized by the Congress, other areas within the National Forest System have been designated in recreation composite planning. The purpose of the recreation composite program, developed by the Forest Service and the Bureau of Outdoor Recreation, is to identify needed outdoor recreation opportunities within National Forest boundaries for concentrated priority land purchases using moneys provided under the Land and Water Conservation Fund Act.

Each area so designated recognizes outstanding recreation resources and potential to meet the present and future demands of the public along with priorities and alternatives to meet those demands. The key to this planning system is delineation of recreation resources, such as present or future intensive recreation development areas (singularly or in groups), dispersed type recreation areas, special biological management situations, and deficit hunting and fishing base areas. For example, a scenic recreation way and the interrelated recreation activities including specific intensive use recreation areas, vistas, lakes and trails, would be a recreation composite. Another example would be a stretch of river as it flows through the National Forest along with the area to accommodate public recreation uses related to the river.

Following in Table I is our current estimate of land acquisition needed within the areas specifically authorized by the Congress. Table II illustrates those areas designated in the composite program.

TABLE I

<u>Area</u>	<u>Acres</u>	<u>Dollars</u>
National Recreation Areas	86,175	\$ 81,470,000
Rivers	25,671	15,690,000
Lake Tahoe Basin	33,200	51,200,000
National Trails	61,400	29,710,000
Cascade Head	3,900	4,000,000
Wilderness & Primitive	117,298	59,842,000
TOTAL	327,644	\$241,912,000

TABLE II

	<u>Acres</u>	<u>Dollars</u>
Specially Designated Areas	1,943,795	\$1,024,623,000
	<u>Acres</u>	<u>Dollars</u>
TOTAL TABLES I & II	2,271,439	\$1,266,535,000

In addition to the above identified needs there is an estimated 930,000 acres of private inholdings possessing high quality public recreation attributes. The cost to acquire these lands is estimated at \$232.5 million.

COST OF ACQUISITION

Senator ROBERT C. BYRD. At the current rate of funding, can you estimate when acquisitions in these national areas could be completed?

Mr. MCROREY. Funding available to the Forest Service for the past three years has been approximately \$30 million annually. If all the available funding at this level was obligated for needed land acquisition in the congressionally authorized areas it would take about 8 years to complete those areas now authorized.

Senator ROBERT C. BYRD. It is clear from the figures that have been supplied that acquisitions are far short of authorized or intended goals. What funding did the Forest Service request for 1976 land acquisition, and how does that request compare to the departmental and OMB allowances?

Mr. MCROREY. Mr. Chairman, the initial fiscal year 1976 programing request for the Forest Service was based on an available funding level of \$50 million. This level was based on judgments of the Land Planning Group that it might be possible to program against a part of the unappropriated balance in the Land and Water Fund. The Land Planning Group is a program review body in the Department of the Interior; the Forest Service is represented on the group and provided input for the \$50 million proposal. The \$29,980,000 proposed for the 1976 fiscal year represents the departmental and OMB allowances and is the same dollar amount appropriated for the 1975 fiscal year.

PRIORITIES

Senator ROBERT C. BYRD. What would be your acquisition capabilities and priorities if an additional \$25 million were available? Please submit a listing for the record including acreage and estimated acquisition costs.

Mr. MCROREY. The Forest Service has the organizational capability to effectively handle an additional \$25 million in land acquisitions. We would be happy to provide a listing representing that amount.

[The information follows:]

ACQUISITION PROJECTS

<u>State and Management Unit</u>	<u>Estimated Acres</u>	<u>Dollars</u>
Alabama		
Talladega N. F.	700	\$ 200,000
Bankhead N. F.	800	300,000
Arizona		
Coconino N. F.	350	300,000
California		
Cleveland N. F.	400	600,000
Angeles N. F.	260	400,000
Eldorado-Tahoe N. F.	3,210	5,000,000
Colorado		
Arapaho-Roosevelt N. F.	280	700,000
Florida		
Ocala N. F.	200	300,000
Illinois		
Shawnee N. F.	450	100,000
Indiana		
Hoosier N. F.	700	200,000
Kentucky		
Daniel Boone N. F.	1,900	500,000
Michigan		
Hiawatha N. F.	800	400,000
Huron-Manistee N. F.	10,000	4,500,000
Ottawa N. F.	1,400	200,000
Minnesota		
Chippewa N. F.	1,600	400,000
Superior N. F.	400	100,000
Montana		
Deerlodge-B'head N. F.	20,000	2,100,000
Gallatin N. F.	4,600	1,000,000
Nevada		
Toiyabe N. F.	400	800,000
New Hampshire		
White Mountain N. F.	2,500	1,000,000

New Mexico		
Cibola N. F.	750	700,000
North Carolina		
Nantahala N. F.	5,400	2,000,000
Pennsylvania		
Allegheny N. F.	580	200,000
Vermont		
Green Mountain N. F.	1,600	800,000
Virginia		
George Washington N. F.	680	200,000
West Virginia		
Monongahela N. F.	2,500	1,000,000
Wisconsin		
Chequamegon N. F.	1,300	200,000
Wyoming		
Bighorn N. F.	<u>280</u>	<u>800,000</u>
TOTAL	64,040	\$25,000,000

DEFICIENCY AWARDS

Senator ROBERT C. BYRD. The committee recently approved a reprogramming. Will that funding together with the 1976 estimates be adequate for your deficiency awards?

Mr. McROREY. A direct answer, Senator, is no. Again, court awards are currently being made. They were underestimated and we will need money in addition to that.

Senator ROBERT C. BYRD. Why are the court awards running so far above your estimates?

Mr. McROREY. In all instances, where we go into condemnation, we go in with appraisals made by outside independent qualified people. The courts in those instances did not see fit to agree with our original estimates.

Senator ROBERT C. BYRD. I wonder why that is. Why is it that the appraisals always come out below the court estimates?

Secretary REED. There is also a certain feeling on the jury that the money is coming from a faceless Government, not really from them, the taxpayers. We run into this across the board.

The Everglades price that Mr. Stewart testified to was from a very, very active, very aggressive U.S. attorney's office which made the case very strongly that this was the taxpayers' money.

We have had a couple of very tough settlements, both Fish and Wildlife Service and also Forest Service, that we have not been able to project to the jury that this is their money. It is not paper or leaves off the trees. Those juries sometimes can be moved by the fact that Uncle Sam can afford anything and we get taken badly.

Senator ROBERT C. BYRD. How much funding do you estimate will be left over for your regular inholding acquisition program?

Mr. McROREY. Are you referring—

Senator ROBERT C. BYRD. After covering the deficiencies.

Mr. McROREY. None.

Senator ROBERT C. BYRD. What additional appropriation do you estimate would be needed to cover deficiencies and permit a reasonable inholding acquisition program to continue?

Mr. McROREY. \$4 million, Senator.

WILDERNESS

Senator ROBERT C. BYRD. How is the acquisition of wilderness and primitive areas progressing under the prohibition on condemnation?

Mr. McROREY. Although negotiations for properties within the wilderness and primitive areas has been slow, the Forest Service has acquired nearly 16,000 acres through June 30, 1975. The moneys appropriated in past years have been substantially obligated. This is due primarily to the ability of the Forest Service to move on acquisition opportunities when private properties are placed on the market.

MT. HAGIN AND GOODRICH

Senator ROBERT C. BYRD. Proposals have been made to this committee to add \$2.1 million and \$950,000 respectively for acquisition of the scenic Mt. Hagin ranch and Goodrich properties in Montana. The House has allowed \$1 million for Mount Hagin. What priorities do these acquisitions hold from the Forest Service point of view?

Mr. McROREY. The properties were not included in the program proposal of \$30 million, however both of the tracts possess quality recreation attributes. The properties have been included in the Forest Service 5 year plan for acquisition and are considered to be relatively high on our priority schedule.

LAKE TAHOE

Senator ROBERT C. BYRD. The House also added \$5 million for acquisition in the Lake Tahoe Basin of California. What acreage would this acquire, and how much of it is lake frontage?

Mr. McROREY. A \$5 million program for the Lake Tahoe Basin of California would purchase about 3,200 acres. This would include about 1½ miles of lake frontage.

Senator ROBERT C. BYRD. Please provide the committee with details of purchase plans within the \$5 million.

[The information follows:]

The Forest Service has long had a program of acquiring private land in the Lake Tahoe Basin for public use through land exchange, purchase and acceptance of donations. Past efforts, mainly through land exchange but more recently through purchase programs, have added many significant key areas for public use.

It is generally recognized that the public lands in the Lake Tahoe Basin are inadequate to meet the needs of the general public for outdoor recreation opportunities. Much of the public land is in the rugged backdrop areas of the basin and 90 percent has been classified as high hazard land on which recreation facilities should not be developed. Public access to the shoreline of Lake Tahoe is significantly limited. While 24 miles of the 75-mile shoreline is in public ownership, only about 6 miles is capable of moderate to intensive use and access by the public. If the public is to have a fair share of the opportunities to enjoy the recreational attractions of the basin, there is a need to acquire high capability lakeshore and other key tracts for use and development. In addition, some lands now in private ownership are classified as high hazard for development. These sensitive lands should be acquired to provide needed protection of their watershed, wildlife habitat, and scenic values.

The Forest Service has maintained contact with many of the private landowners in the Lake Tahoe area. A \$5 million program would accommodate purchase of nine properties with a total of 3,210 acres. This would provide over 1½ miles of lake frontage on Cascade and Fallen Leaf Lakes. In addition, the purchases would provide over 2½ miles of stream and river frontage for public use.

WESTERN LIMITATION

Senator ROBERT C. BYRD. The committee is aware, of course, of the Land and Water Conservation Fund Act limitation on Forest Service purchases west of the 100th meridian. Where do you stand at this time with respect to that limitation and how will the 1976 program affect that standing?

Mr. McROREY. Mr. Chairman, as of January 1, 1975 the Forest Service acquired, or placed under contract to acquire, in excess of 800,000 acres. About 11 percent of this acreage is west of the 100th meridian. When the 1976 fiscal year program is accomplished, the Forest Service will have acquired nearly 13 percent west of the 100th meridian.

SPECIALLY DESIGNATED AREAS

Senator ROBERT C. BYRD. Why is the proposed funding for specially designated recreation areas concentrated in the three Western States of California, Colorado, and New Mexico? Some \$4.3 million is for those States, I am advised.

Mr. McROREY. The purchases proposed for California within the Cleveland and San Bernardino National Forests are contiguous to tracts that have already been purchased. They tie in with National Forest ownership and are needed to effectively manage the area for public recreation purposes. The properties in Colorado and New Mexico are high priority acquisitions within approved composite areas. The tracts have been offered for sale and, in our judgment, will be sold to the private sector if not purchased. Acquisition of all the properties by the Forest Service will provide for access and additional public use area in locations where facilities are limited.

Senator ROBERT C. BYRD. I am also advised the cost per acre of the western acquisitions is much higher than other areas. Why is this?

Mr. McROREY. It is our feeling that the high cost per acre in the West is due to the scarcity of available quality recreation land within the National Forests. There are many things that establish market value but it appears the short supply of land and an active market competing for the available land have resulted in higher unit costs.

Senator ROBERT C. BYRD. Last year, I recall, the appropriation for specially designated areas was more than \$18 million. Why are you budgeting a reduction?

Mr. McROREY. The program last year did not include an amount for purchases within the National Wild and Scenic Rivers. The Wild and Scenic Rivers Act had not been amended to increase the dollar limitation on land acquisition. The act has now been amended and the 1976 fiscal year proposal includes \$3,648,000 for purchases within the river boundaries. An additional amount is also requested in this program for purchases within the Sawtooth National Recreational Area in Idaho. We feel, Mr. Chairman, that continuation of the purchase program in these areas authorized by the Congress is very important. Within the \$30 million budget authorized it was not possible to accommodate additional amounts for purchases in the specially designated areas.

OAK CREEK CANYON

Senator ROBERT C. BYRD. Why is the land acquisition cost so high in the Oak Creek Canyon proposal in Arizona?

Mr. McROREY. The Oak Creek Canyon is a highly unique area in Arizona. It is located about 100 miles north of the Phoenix metropolitan area and, due to the climatic relief and cool waters, receives heavy public use from the desert area. All of the private land is suitable for subdivision, which would severely limit the capacity of the area to accommodate public use. The high value of the remaining private land in the canyon reflects the going rate for subdivision tracts.

TRANSITION

Senator ROBERT C. BYRD. Why is transition funding under National Recreation Areas requested only for Sawtooth and Oregon Dunes?

Mr. McROREY. We anticipate that the amounts requested for other National Recreation Areas plus the unobligated dollars that carried

over from last fiscal year will accommodate the Forest Service purchase program until the 1977 fiscal year.

Senator ROBERT C. BYRD. Why is so much of your transition request for specially designated areas—\$1.2 million—designated for Michigan?

Mr. McROREY. The request for purchases in Michigan is for acquisition of 11 properties. The owners have offered the tracts for sale and want to sell at an early date. All of the tracts are located either on high quality recreation lakes or rivers. If the purchases are not funded we feel the owners will sell elsewhere and the land would be lost for public recreation purposes.

Senator ROBERT C. BYRD. Overall, your transition request is substantially less than one-fourth your 1976 request. Does that indicate you will be seeking a reduced acquisition program for fiscal 1977?

Mr. McROREY. Mr. Chairman, the total of the transition request is \$7.6 million. This approximates 25 percent of the \$29,980,000 requested for the 1976 fiscal year. At this time we do not anticipate that the Forest Service will be seeking a reduced program for fiscal 1977.

Senator ROBERT C. BYRD. Why are not transition funds requested for National Trails, Wilderness and Primitive areas and inholdings?

Mr. McROREY. The transition request includes \$150,000 for Wilderness and Primitive area acquisition and \$1 million for deficiencies and inholdings. The deficiency and inholding item is primarily to provide for payment of anticipated court awards in condemnation cases with the balance, if any, for purchase of inholdings. The total of \$7.6 million requested for the transition period was just not sufficient to accommodate additional acquisitions for the National Trails System. However, we do anticipate that the \$2.6 million requested for the 1976 fiscal year and the unobligated dollars carried over from last year will handle the Forest Service acquisition program until fiscal 1977.

PERSONNEL CEILINGS

Senator ROBERT C. BYRD. As to the personnel ceiling problem, what limitations, if any, are imposed on the positions budgeted for land acquisition service.

Mr. McROREY. At the present time, Senator, we are able to operate; we will be able to operate the proposed program within that limitation.

POSITIONS FILLED

Senator ROBERT C. BYRD. How many of the 200 positions were actually filled on June 30?

Mr. McROREY. 165.

Senator ROBERT C. BYRD. What was the average during the year?

Mr. McROREY. I think that would possibly be a good average, too, Senator.

Senator ROBERT C. BYRD. Do you consider the 200 positions adequate if you were permitted to fill them?

Mr. McROREY. They are adequate to meet our projected program, yes, sir.

Senator ROBERT C. BYRD. Are all the positions funded under this land acquisition account used entirely for that purpose?

Mr. McROREY. Those that are funded under Land and Water, yes, sir.

Senator ROBERT C. BYRD. We will now go to the Fish and Wildlife Service. Thank you, Mr. McRorey.

DEPARTMENT OF THE INTERIOR

U.S. FISH AND WILDLIFE SERVICE

STATEMENT OF LYNN A. GREENWALT, DIRECTOR

ACCOMPANIED BY:

WALTER R. M'ALLESTER, CHIEF, DIVISION OF REALTY
NORM JOHNSON, PROGRAM COORDINATOR-ANIMAL DAMAGE
CONTROL

BUDGET REQUEST

Secretary REED. Director Greenwalt is here supported by Mr. McAllester.

Senator ROBERT C. BYRD. The Fish and Wildlife Service is requesting \$8.5 million for land acquisition, \$1 million less than the 1975 appropriation.

Mr. Greenwalt, do you have a statement?

PREPARED STATEMENT

Mr. GREENWALT. Mr. Chairman, I have a statement which has been provided and I shall highlight it, if I may, sir.

[The statement follows:]

Mr. Chairman:

The President's fiscal year 1976 Land and Water Conservation Fund budget request for the Fish and Wildlife Service totals \$12.2 million, including \$3.7 million for the transition period.

The major portion of the request, \$8.9 million, is to be used to buy habitat critical to the survival of endangered species under the Endangered Species Act of 1973 (PL 93-205). Specifically, acquisition of habitat will continue for the Attwater greater prairie chicken in Texas, the dusky seaside sparrow, southern bald eagle and brown pelican in Florida, and endangered waterbirds in Hawaii. This request will also initiate acquisitions for the Mississippi sandhill crane in Mississippi and the Santa Cruz salamander in California. Both of these species are completely dependent on a very limited habitat which are immediately threatened with destruction from development for residential or commercial uses.

Public Law 92-330 authorized the establishment of the San Francisco Bay National Wildlife Refuge. This 21,662 acre refuge will provide benefits to three endangered species, migratory birds, harbor seals, and marine fin and shellfish. The open space and public use values are extremely important. An appropriation of \$400,000 is requested to continue acquisition of this refuge.

Acquisition of the Tinicum National Environmental Center which is partially within the City of Philadelphia was authorized by PL 92-326. The \$300,000 requested will utilize the remaining funding authorization available for land acquisition without completing the Center.

Public Law 93-402 authorized the establishment of the Great Dismal Swamp National Wildlife Refuge in Virginia and North Carolina. An amount of \$500,000 is being requested within the transition fiscal year 1976 budget for the initial purchases within this area.

Under authority of the 1962 Refuge Recreation Act, \$2,100,000 is requested to acquire lands adjacent to Mason Neck National Wildlife Refuge, Virginia; National Elk Refuge, Wyoming; San Bernard National Wildlife Refuge, Texas; Great Swamp National Wildlife Refuge, New Jersey; Desert National Wildlife Range, Nevada; and Santa Ana National Wildlife Refuge, Texas. These acquisitions will enhance the public use opportunities for wildlife-oriented experiences. The Nature Conservancy has rendered assistance in negotiating and holding properties on Mason Neck, National Elk, and San Bernard refuges to protect them against the threats of subdivision development. The North Jersey Wildlife Federation is also acquiring tracts adjacent to the Great Swamp as they are for sale to forestall development.

I believe that all these additions to the refuge system will yield special benefits to our citizenry, both in terms of environmental preservation and recreational and educational opportunity.

I should be pleased to answer any questions the committee may have.

BUDGET HIGHLIGHTS

Mr. GREENWALT. Briefly, the total for the Land and Water Conservation Fund for the Fish and Wildlife Service is \$12.2 million including \$3.7 million for the transition period. The greater part of this is to be used for the purchase of habitats for endangered species under the Endangered Species Act of 1973.

In addition, Public Law 92-330 authorized the San Francisco Bay National Wildlife Refuge and as a part of the 1976 appropriation request, we are asking for \$400,000 to continue acquisition in this area. The Tinicum National Environmental Center, which is a legislatively authorized project partially within the City of Philadelphia will be using \$300,000 of this funding authorization and the Great Dismal Swamp National Wildlife Refuge in Virginia and North Carolina will be using \$500,000 of this authorization from the transition year.

Under the 1962 Refuge Recreation Act we are asking for \$2,100,000 for the acquisition of lands adjacent to several National wildlife refuges throughout the nation in order to enhance public use opportunities in those areas.

Mr. Chairman, I would be delighted to answer any more specific questions you may have.

REDUCED ACQUISITION BUDGET

Senator ROBERT C. BYRD. Why is the Service in for a reduced acquisition budget?

Secretary REED. That is a decision that I guess I better speak to, because I have to sign off on the final division between the three Federal entities, Mr. Chairman. On a priority basis, with the amount of funds available and the priorities and the emergencies that were involved, and there were a number of emergencies this year, that is the way I sliced the bacon.

Senator ROBERT C. BYRD. Bacon comes pretty high right now.

Secretary REED. Yes, and it is really tough because the Fish and Wildlife Service has got legitimate claim to a number of emergencies. They have gotten a tremendous amount of newly authorized activity by the Congress and every year the juggling between the three agencies and the BLM as well, who all have absolutely legitimate projects, Mr. Chairman, all of them carefully screened by the BOR, all with a national interest attachment, all with a constituency, it is very hard. But somebody has to do it and I think that is what I got appointed for. Then the Congress takes my recommendations or the Administration's recommendations and they accept them or change them as they see fit.

ESTIMATED ACQUISITION NEEDS

Senator ROBERT C. BYRD. What are your estimated acquisition needs in total? Do you have estimates in dollars and acres?

Mr. GREENWALT. I will ask Mr. McAllester who has this at his fingertips to provide the information.

Mr. McALLESTER. We have a list of potential projects that totals up to \$453 million. These are not all authorized projects. Of the total there is \$24 million in authorized projects. Then there is the endangered species areas where we have estimates of about \$143

million and have allowed about \$100 million contingency fund more or less because the endangered species program is a new and developing program. The rest is for specially authorized areas that we anticipate will be coming before the Congress in the foreseeable future, so that this is almost a future log rather than a backlog.

Senator ROBERT C. BYRD. So your estimates in dollars and acreages are what?

Mr. MCALLESTER. \$453 million.

Mr. GREENWALT. Mr. Chairman—

Senator ROBERT C. BYRD. How many acres?

Mr. GREENWALT. I was just about to say the uncertainty in terms of acres is a function of the impact of the Endangered Species Act because we do not advocate the purchase of land to benefit an endangered species unless it is abundantly clear that habitat is what is required. So the total number of acres in the future is highly problematic.

SAN FRANCISCO BAY NWR AND TINICUM ENVIRONMENTAL CENTER

Senator ROBERT C. BYRD. \$700,000 is requested for San Francisco Bay Preserve and Tinicum Environmental Center, which is substantially under the \$7.2 million budget last year. Where do you stand on these acquisition programs?

Mr. GREENWALT. The \$700,000 requested is comprised of \$400,000 for the acquisition of the San Francisco Bay National Wildlife Refuge and \$300,000 for acquisition on the Tinicum Environmental Center.

Public Law 92-330, establishing the San Francisco Bay National Wildlife Refuge authorized, through June 30, 1977, the appropriation of \$9 million. Of this total \$8 million was to be Land and Water Conservation Funds and \$1 million from the Migratory Bird Conservation Account. In fiscal year 1975, \$6 million was appropriated, but \$5 million of this was deferred until fiscal year 1976. The \$400,000 request leaves \$1.6 million of the LWCF authorization with one year until expiration of the authority. Thus far, \$250,000 of the \$1 million from the MBCA has been expended. To date, only donated lands totaling 164 acres have been acquired. Tideland title problems have now been largely resolved, and the surveys and negotiations are nearing completion. Hopefully by the end of this fiscal year a major portion of this refuge will be acquired.

The \$300,000 requested for the acquisition of the Tinicum National Environmental Center will complete the funds authorized by Public Law 92-326 for land acquisition. In fiscal year 1975, the \$1.2 million was appropriated, but \$1 million of this was deferred until fiscal year 1976. Currently, the Fish and Wildlife Service has acquired 233 acres by transfer and donation. Preliminary appraisals of the remaining private properties indicates the \$1.5 million authorized for acquisition is insufficient to complete the project.

ENDANGERED SPECIES ACREAGE ACQUISITION

Senator ROBERT C. BYRD. The bulk of your funding, \$6.9 million, is for endangered species, but do the justifications contain the information on the request? How many acres are programed for acquisition and what are the locations?

Mr. GREENWALT. Mr. Chairman, we have answered that question generally in our statement. I am sure you are aware that the House action on this same appropriation resulted in some changing of the allocation of funds within the whole category of Land and Water Conservation funding and reduced certain of the projects in the endangered species area, the Mississippi sandhill crane, reduced by \$1 million in House action and the Hawaiian water bird proposal, which in the transition year was reduced by \$1 million as well.

Now, as to the specifics, the Mississippi sandhill crane proposal which is in Mississippi, Jackson County, is proposed for 2,765 acres at an original proposed cost of \$3,400,000. But, as I say, the House has adjusted that figure somewhat so the acreage figure will be down accordingly. In transition 1976 we propose to buy 900 acres for about \$1 million.

In terms of the dusky seaside sparrow, which is on the Saint Johns National Wildlife Refuge in Florida, we anticipate 127 acres purchased there for a cost of \$300,000. Hawaiian water birds, all within the State of Hawaii, the requested fiscal 1976 appropriation is 235 acres for \$2,300,000. We had originally proposed \$1 million to be spent to buy 695 acres in the transition year. That, as reflected in House action, would not be available.

Now, to go to the Santa Cruz salamander, which is in California, we propose to acquire 122 acres at a cost of \$500,000. In Texas it would be 250 acres for the Attwater prairie chicken at a cost of \$300,000. For the southern bald eagle at the Great White Heron Refuge, in Florida, we propose to purchase 185 acres for the sum of \$100,000.

Senator ROBERT C. BYRD. Does that complete the list?

Mr. GREENWALT. For the endangered species program, yes, sir.

SPECIAL AUTHORIZED AREAS

There are three areas authorized by special legislation. At the Tincum Environmental Center in Pennsylvania, we propose to buy 25 acres in that project for \$300,000. At San Francisco Bay, we propose to buy 895 acres for \$400,000. We are at present negotiating with a major landowner for a substantial acreage which would enable us to use an unobligated, as a matter of fact deferred, balance of about \$5 million which remains for that project.

In connection with the Great Dismal Swamp in North Carolina and Virginia, we propose to buy 2,500 acres for \$500,000 in the transition period. The House in its action increased the amount to an additional \$2,500,000 in the regular fiscal year. The acquisition that might be undertaken with that amount of money is something on the order of 14,000 acres.

WILDLIFE RECREATION AREAS

In the category of wildlife recreation areas, those acreages that are added to provide for wildlife oriented recreation without impinging on the basic purchase of the refuge area includes the San Bernard refuge for which we request \$300,000 for 816 acres in fiscal year 1976 plus \$500,000 in the transition year for 1,000 acres.

Mason Neck, close to where we are here today, sir, down in Virginia, we propose to add 102 acres for \$400,000 listed.

National Elk Refuge in Wyoming, we propose to add 26 acres for \$200,000.

In its transition year, in Great Swamp we propose to buy 133 acres for \$400,000. At the Desert National Wildlife Range just outside Las Vegas, Nev., we propose to add 100 acres to that project at the cost of \$100,000 and at Santa Ana National Wildlife Refuge, Texas, to add 182 acres at a cost of \$200,000.

GREAT DISMAL SWAMP

Senator ROBERT C. BYRD. The House, as you know, added \$2.5 million for the Great Dismal Swamp. What could the Service accomplish with this additional funding?

Mr. GREENWALT. The Nature Conservancy has been acquiring property within the boundary of the Great Dismal Swamp for subsequent repurchase to the Service to forestall further timber cutting, drainage, and general clearing of the swamp for agricultural use. To date, they have acquired approximately 20,000 acres at a cost of \$3 million. With an appropriation of \$2.5 million the Service would acquire a major portion of The Nature Conservancy's holdings.

Senator ROBERT C. BYRD. What is the priority you would assign to the Great Dismal Swamp acquisition as compared, say, to endangered species?

Mr. GREENWALT. The Great Dismal Swamp is an ecologically unique area continually diminishing in size and viability. Each year drainage is altering the flora composition and destroying the swamp's unique attributes. It is a priority acquisition, but when compared to an endangered species it must, in the Service's opinion, follow in priority to the extinction of a species. Once extinct, a species cannot be reclaimed as can the Dismal Swamp by water manipulation and proper management.

Senator ROBERT C. BYRD. Under Public Law 92-534 you are requesting \$900,000 for purchase of recreation lands. Yet your budget has been constrained on recreation development. Why do you need the proposed purchases at Mason Neck, National Elk and San Bernard refuges?

Mr. GREENWALT. Monetary needs far outweigh the available resources for the Service. The Service's budget by necessity constrained costly recreational developments in favor of direct mission-oriented functions, but we also recognize that environmental education, wildlife-oriented recreation are current demands upon the National Wildlife Refuge System. The three recreational purchases proposed do not require substantial development to provide the desired public use. In all three cases, the acquisition would prevent adverse private developments which would destroy any future recreational usage by the public. The acquisition of these areas without any development can provide these needs.

PURCHASE DETAILS

Senator ROBERT C. BYRD. Please provide more details on these purchases for the record.

Mr. GREENWALT. We will be glad to.
[The information follows:]

Mason Neck—102 acres, \$400,000. In addition to lands being acquired with fiscal year 1975 funding, there are another 102 acres of private land adjacent to the refuge which is zoned for development into five acre parcels and is being offered for sale. It is well suited for wildlife-oriented recreation as well as of benefit to endangered species. It is also bounded by State owned park lands and Gunston Hall. It should be preserved as a part of the Federal-State-Regional cooperative recreational complex on Mason Neck.

National Elk—26 acres, \$200,000. This is part of 530 acres of private land adjacent to the refuge on the east and the only privately owned land between the refuge and Teton National Forest. This land originally was used for ranching purposes and did not mar the grand natural scenic vista, nor was it detrimental to the management of the refuge. Recently a 160-acre tract transferred ownership and has been subdivided. A real estate development would severely damage the aesthetic value of this vista and degrade the recreational experience for visitors. After five lots were sold, The Nature Conservancy purchased the remainder to hold for repurchase by the Service. These acquisitions will also permit better elk management, which provides a major visitor attraction.

San Bernard—816 acres, \$300,000. The total proposal consists of 5,200 acres of tidal lakes, salt marsh and seven miles of beach, fronting on the Gulf of Mexico. It lies between the Gulf and the San Bernard National Wildlife Refuge. Preservation of this natural area is highly desirable for wildlife-oriented recreation. It lies close to Galveston and Houston and while still free of development, proposed construction to improve accessibility could drastically increase property values and eliminate public recreational opportunities. A Florida based development company has offered to buy the property; it is only a matter of time before development will take place.

NATIONAL ELK REFUGE

Senator ROBERT C. BYRD. What land acquisition programs are projected for the National Elk Refuge in Wyoming?

Mr. GREENWALT. The Service's acquisition program is to acquire private holdings lying between the refuge and the Teton National Forest to prevent subdivision and development and destroy this valley's natural scenic vista. There is currently about 440 acres of private land, of which 26 acres are under imminent threat of development.

Senator ROBERT C. BYRD. Please explain briefly how this program is progressing, how much money has been spent on this program to date and how much is projected for fiscal year 1976.

Mr. GREENWALT. The Service's acquisition program has thus far curtailed construction except on one property. However, there are still three private properties which could be developed at any time. The Nature Conservancy has been of invaluable assistance. They purchased the remaining unsold subdivision lands from the developer for repurchase by the Service as funding was available. There is only 52 acres remaining to be acquired within the 160-acre subdivision, 26 of which is still held by TNC.

To date \$1,600,000 has been appropriated for acquisition on National Elk Refuge and this has acquired 202 acres. The fiscal year 1976 request is for \$200,000 to acquire 26 acres, being the remainder of The Nature Conservancy holdings. This leaves approximately half of the remaining subdivision unacquired, which will require an additional \$300,000.

Senator ROBERT C. BYRD. The level of your proposed transition funding would indicate an acceleration in land acquisition next year. Is that the anticipation?

Mr. GREENWALT. The Fish and Wildlife Service was hopeful that land acquisition would accelerate in fiscal year 1977. Our Land and Water Conservation Fund acquisition backlog is \$453 million. At the

fiscal year 1976 level this would require approximately 50 years to complete. Once again, because of the prevailing fiscal climate we are reconciled to an acquisition rate at approximately the same level as the current year.

Senator ROBERT C. BYRD. What do you plan to do with the \$2 million requested in the transition period for endangered species?

Mr. GREENWALT. The \$2 million for endangered species is programmed at \$1 million for endangered Hawaiian waterbirds and \$1 million for the Mississippi sandhill crane acquisitions.

TRANSITION PERIOD ESTIMATES

Senator ROBERT C. BYRD. Please supply more detail on your transition estimates as you did for the 1976 program.

Mr. GREENWALT. Yes, sir.

[The information follows:]

U.S. FISH AND WILDLIFE SERVICE, LAND AND WATER CONSERVATION FUND, LAND ACQUISITION PROGRAM, FISCAL YEAR TRANSITION 1976

Great Dismal Swamp NWR—2,500 acres, \$500,000. Public Law 93-402 authorized the establishment and acquisition of the Great Dismal Swamp NWR. Approximately 123,000 acres of the swamp are necessary to the continued existence of the Dismal Swamp as an ecological entity. The swamp once covered about 500,000 acres, but drainage and conversion to agricultural use has steadily reduced this unique area. The animals, song birds and plant communities associated with the swamp's undeveloped nature, its national history and close proximity to urban areas will provide needed recreational, environmental and educational benefits. This proposal will provide for the initial acquisition following the 49,097 acre donation. The Nature Conservancy is acquiring properties within the proposed boundaries for resale to the Department of the Interior.

Endangered Species—1,595 acres, \$2,000,000. Acquisitions are planned on two projects where habitat needs are critical to the survival of the Mississippi sandhill crane and Hawaiian waterbirds. There are threats of losing the habitat to other competing uses.

Great Swamp—133 acres, \$400,000. This proposal represents a portion of a 1,067 acre addition. Black Brook, a tributary adjacent to the south refuge boundary, comprises the major feature of the 1,064 acre unit. The habitat is almost identical to that of the refuge and will provide environmental education, interpretation and other wildlife-oriented needs without diminishing wildlife needs on the refuge. Current public use is over 225,000 annual visitors, exceeding the accommodating capacity of the refuge. Tremendous pressure exists to develop the proposed lands for industry, residences, and multi-family units. A 3-acre parcel is also proposed to provide a vehicle turn-around, parking area and public use entrance to the 3,750-acre wilderness area. This 1,067 acre proposal is a unique and extremely important natural area in the shadow of a megalopolis. The North Jersey Conservation Federation is presently acquiring properties as they come on the market to forestall development until funding is available.

Desert National Wildlife Range—100 acres, \$100,000. This is the initial acquisition of a 320 acre proposal located 10 miles north of Las Vegas. The projected 200,000 annual recreational visitations to the wildlife range is proportional to the population growth of Las Vegas. High levels of public use cannot be sustained on interior lands of the wildlife range if the primitive wild qualities of this desert area are to be preserved. The Corn Creek Station adjacent to the proposed acquisition is designed to handle a volume of human activity without conflict with the range objectives. The 320-acre acquisition will allow additional capacity for wildlife-oriented recreation. The commercial and private development of this acreage, completely surrounded by the wildlife range, would detract from the open space aesthetic values that now prevail. Additionally, the private development of this acreage and the associated water usage would jeopardize the water supply essential for existence of the endangered pahump killifish, the only population of which is located within spring fed pools in this watershed.

San Bernard NWR—1,000 acres, \$500,000. This area lies close to Galveston and Houston and is highly desirable for wildlife-oriented recreational use. It consists of tidal lakes, salt marsh and beach, fronting on the Gulf of Mexico, and is in danger of being developed.

Santa Ana NWR—182 acres, \$200,000. This proposal is part of a 300-acre acquisition to accommodate increasing visitation at the refuge. The total proposal includes five areas of fast disappearing native habitat in the Rio Grande Valley, which provide habitat for some of the most exotic and unusual birds found anywhere in the United States and will provide an optimum opportunity for tourists, local residents, and school children for wildlife viewing, study, environmental education, photography and related wildlife-oriented experiences.

REPROGRAMING OF FUNDS FOR COYOTE CONTROL

Senator ROBERT C. BYRD. While the Fish and Wildlife Service is present, I would like to ask a few questions on a reprogramming proposal that was sent to the committee in July. This involved \$570,000 which would be added to the coyote control funding for fiscal year 1976. Who is available to speak on that?

Mr. GREENWALT. I am, sir, and I have with me Mr. Norm Johnson who is our Program Coordinator for Animal Damage Control.

Senator ROBERT C. BYRD. As I understand it, this reprogramming would make a total of \$2.2 million in additional funding available when combined with program funds from the Department of Agriculture and the Environmental Protection Agency.

Mr. GREENWALT. That is correct.

REPROGRAMING REQUEST

Senator ROBERT C. BYRD. The reprogramming request will be included in the record at this point.

[The information follows.]

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

JUL 25 1975

In Reply Refer To:
FWS/AP

Dear Mr. Byrd:

The U. S. Fish and Wildlife Service proposes reprogramming \$570,000 within the fiscal year 1976 Resource Management appropriation. This change would occur within the Animal Damage Control Program of the Wildlife Resources Activities and be used to increase the Service's operational mammal damage control program for livestock protection through the use of mechanical methods, and to allow experimentation and development of economically feasible and environmentally acceptable, chemical methods. Protection of the domestic livestock resource and its associated environment is a high priority objective of the Animal Damage Control Program under the Act of March 2, 1931.

The total increased cost of this expanded program is \$2,270,000. Of this amount it is anticipated that the Department of Agriculture will transfer \$1,400,000 to the Fish and Wildlife Service. In addition, the Environmental Protection Agency will contribute \$300,000 to this effort. The remaining \$570,000 will be realized through this reprogramming proposal.

The livestock industry is suffering serious losses from coyote depredation in many areas of the Western States. For example, losses run as high as 30 percent annually due to coyotes for some sheep producers. The Service's current damage control program can reduce livestock losses in most damage situations. However, our efforts with methods such as trapping, shooting, and aerial hunting have not been effective where rough terrain or heavy ground cover are limiting factors. This proposal will significantly improve our ability to cope with these difficult depredation problems through increased manpower and development of more effective techniques. We will implement an expanded experimental program for research on environmentally safe methods for using sodium cyanide for predator control and at the same time strengthen conventional control programs. We expect to have these expanded programs implemented by September 1, 1975. We will employ 140-200 additional temporary employees to administer this effort in the field.

The focus will be on improving selective methods of control which kill only actively predating animals. In particular, we will expand testing of toxic collars placed on target sheep which release a lethal dose of sodium cyanide when a coyote bites the collar. Under an experimental use permit from EPA we would test this device in a wide variety of conditions in Western States. Sodium cyanide is a highly unstable and non-persistent chemical which has little environmental impact and possesses no secondary kill capacity.

Of the \$570,000 in Wildlife Resource funds proposed for reprogramming, small mammal damage control research activities would be reduced by \$170,000 and bird and small mammal operations would be reduced by \$400,000.

To realize the \$170,000 from small mammal damage control research, we propose to reassign six people and their supporting funds now associated with agricultural rodent research projects. Because of the serious coyote depredation situation in the West we must target a greater portion of our research on that problem.

The \$400,000 reprogramming of direct rodent and bird control operations will reduce expenditures for that effort by approximately two-thirds. Most of our future effort in animal damage control, other than livestock protection, will be to provide extension services and technical assistance rather than direct control operations. It is important that the Federal government remain active in advising public and private organizations on environmentally acceptable control methods, but not in direct control operations.

This is being transmitted to you in accordance with the arrangement and understanding the Department has with the House and Senate Committees on Appropriations in regard to reprogramming funds. The Office of Management and Budget has no objection to this proposal.

An identical letter is being sent to the Honorable Sidney R. Yates, Chairman, Subcommittee on Interior and Related Agencies Appropriations, House of Representatives.

Sincerely yours,

Assistant

Rayston C. Hughes
Secretary of the Interior

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

Resource Management
Wildlife Resources

Statement concerning proposed reprogramming for animal damage control.

General

The objectives of the \$2,270 million reprogramming effort are: 1) to provide improved livestock protection from predation, especially in areas where mechanical damage control techniques have been ineffective; and 2) to further develop and refine the use of sodium cyanide for predator damage control.

Through this reprogramming effort, the Service will: 1) increase the use of mechanical damage control techniques; 2) increase manpower in the field; and 3) expand the experimental use of sodium cyanide for predator damage control.

The overall emphasis of the Service program will still be on the use of mechanical control methods. It has been shown that these techniques are effective in resolving livestock depredation problems in most situations. The mechanical techniques include: aerial hunting, trapping, snaring, den hunting, calling and shooting, and the use of hunting dogs. In addition to these mechanical methods, however, the M-44 cyanide ejector and the cyanide collar will be used on an experimental basis. The major thrust of the reprogramming effort will be increasing aerial hunting, increasing manpower on the ground in problem areas, and developing and refining the use of sodium cyanide. The increased effort will be directed toward those areas where current attempts at coyote damage control have not been effective. Particularly troublesome areas are high mountain pastures with steep terrain and other areas with heavy ground cover where aerial hunting and the application of other mechanical methods are difficult or excessively time consuming.

Executive Order 11643, which restricted the use of toxicants on Federal lands and in Federal programs, had its greatest impact on the Service's livestock protection effort. Toxicants had been a significant part of the Service's predator damage control effort--both operational and research. The decision to increase operational funding is based on the Service's inability with present techniques and funding to resolve depredation in certain situations. The decision to increase research funds stems directly from the need to have a better technique to deal with the above situations.

Our preliminary research findings indicate that without effective coyote damage control, sheep losses can be significant and important economic factors to the industry. Studies we have conducted in areas without any coyote damage control have shown verified losses in excess of 30%, while losses in areas with coyote damage control generally range between 1 and 4%. Additional replications of these studies are needed.

USDA

That USDA \$1.4 million proposed for reprogramming would be used to increase the funding of the Service's cooperative operational program for control of wildlife predation on livestock. (Current Service funding of this effort in the West is \$4.2 million, includes proportionate regional overhead. Current cooperative funding of this effort in the West is approximately \$4.2 million.) The reasons for reprogramming the USDA funds are presented in paragraph four. It is our understanding that the authority for using USDA funds for animal damage control operations is contained in the USDA appropriations legislation for FY 76.

EPA

The EPA \$300,000 proposed for reprogramming would be used to: 1) increase pen test capability for developing effective prototype toxic collars for field evaluation; 2) develop a safety procedure for field testing the collars; 3) develop and test targeting procedures for effective application of the collars (this would include studies to determine how the chances of a coyote attacking a collared sheep could be increased.); 4) develop training procedures for

collar field trials by research personnel, experimental use by operational personnel, and evaluation techniques; 5) develop procedures for determining the effectiveness of the collar; 6) expand and continue research for alternatives to the toxic collar; and 7) to collect data on the impact of damage control on livestock losses and the impact of damage control on coyote populations.

Without the above information, registration of sodium cyanide tools will not be possible, and the ultimate use of any damage control tool will remain a controversy. The authority for using EPA funds for animal damage control research is contained in Section 136r of the Federal Environmental Pesticide Control Act, FEPCA (7 U.S.C. 136-136y).

FWS

The Service's \$570,000 proposed reprogramming would be utilized in the following fashion: \$50,000 would be utilized for increased predator damage control research (along with the \$300,000 in EPA funds), and \$520,000 would be utilized for increased cooperative operational predator damage control services. The \$570,000 is derived by reprogramming \$170,000 of the \$580,000 originally budgeted for rodent damage control research and by reprogramming \$400,000 of the \$1.2 million originally budgeted for rodent and bird operation and extension damage control services. The Service will prorate the within-Service reprogramming by the fraction of the fiscal year remaining.

The Service can accept funds from the Department of Agriculture and the Environmental Protection Agency under the Economy Act (31 U.S.C. 686).

In addition, PL 89-473 authorizes charges to be made against an appropriation temporarily, with an accounting adjustment to the appropriation finally to be charged with the expenditure.

Summary of FWS Reprogramming
(funds)

Research (\$'s in thousands)*

	before	decrease	after
Rodent damage control research	580	170	410

Nonresearch (\$'s in thousands)*

Region	before		decrease		after	
	A	B	A	B	A	B
1	100	100	75	50	25	50
2	154	27	80	0	74	27
3	108	190	0	30	108	160
4	70	99	20	0	50	99
5	67	140	30	0	37	140
6	50	55	22	28	28	27
WO**	-	65	-	65	-	0
	549	676	227	173	322	503
	1225		400		825	

* The amounts shown include overhead costs, except for W.O.

A= non-livestock protection mammal damage control
(e.g. rodent damage control, big game protection, rabies vector control)

B= bird damage control (excludes the \$10.0 for eagle control for livestock protection)

** These Washington Office funds were intended for starling and blackbird control in the 3 eastern regions later this fiscal year.

(manpower)

Research

6 persons reassigned
1 person RIF'ed

Nonresearch

1 person reassigned
4 persons reassigned or RIF'ed
1 person RIF'ed

Research details

	before	decrease	after
Forest rodent	195	25	170
Olympia, WA			
Hawaiian sugarcane	133	55	78
Hilo, HI	(88)	(35)	(53)
Denver Wildlife Research Center	(45)	(20)	(25)
Florida sugarcane	35	35	0
Gainesville, FL			

Nonresearch details (some major individual actions)

Colorado*	30.0**	30.0	0
(rodent-blackbird/75% - 25%)			
West Virginia*	17.5**	17.5	0
(rodent-bird/30% - 70%)			
South Carolina*	8.0**	8.0	0
(rodent-bird/40% - 60%)			
Ohio	80.0**	30.0	50.0
(would reduce migratory game bird depredation control and blackbird damage control)			
Idaho	25.0	25.0	0
Calif.	25.0	25.0	0
(would eliminate bird depredation control at fish hatcheries)			
Calif.	20	15	5
(rabies vector control)			
Idaho			
Nevada	25.0	25.0	0
Oregon			
(big-game protection)			

* station closures

**total ADC nonresearch funding for State

AGRICULTURE AND EPA COYOTE CONTROL CONTRIBUTIONS

Senator ROBERT C. BYRD. Do the Agriculture and EPA contributions depend on this Fish and Wildlife reprogramming?

Mr. GREENWALT. No, sir. The EPA contribution is presently available. The Department of Agriculture contribution is contingent upon the passage of their appropriation.

Senator ROBERT C. BYRD. The Fish and Wildlife funding, the \$570,000, would come out of rodents and bird control?

Mr. GREENWALT. And some basic research, yes, sir.

AREAS AFFECTED BY REPROGRAMING PROPOSAL

Senator ROBERT C. BYRD. What geographical areas would be affected by that?

Mr. GREENWALT. There would be several. Principally in the eastern United States. I might say also, Mr. Chairman, that in our calculations, since about a third of the fiscal year has transpired, our present calculations are for a reprogramming of \$400,000, \$300,000 of which would come from animal damage control programs, rodent control and this sort of thing, and about \$99,000 from animal damage control research programs bringing the total to about \$400,000.

The specific distribution of the reprogramming is related fundamentally to those programs in the eastern United States which are not directly related to livestock protection, particularly as represented by the coyote and would be involved with some programs in Hawaii, which have to do with sugarcane and rat control, but principally among the programs which are fundamentally concerned with bird damage and extension work which for us is largely in the east.

REPROGRAMING IMPACT ON RODENT AND BIRD CONTROL

Senator ROBERT C. BYRD. Would you please supply for the record a detailed statement on the impact this reprogramming would have on the rodent and bird control program.

Mr. GREENWALT. I certainly will, sir.

[The information follows:]

FISH AND WILDLIFE SERVICE

Resource Management
Wildlife Resources
Animal Damage Control (ADC)

Statement concerning the impact of the Service's proposed reprogramming on the Service's rodent and bird damage control program.

The impacts of the reprogramming on the Service's non-livestock protection animal damage control effort are presented separated below by research and nonresearch, by mammal and bird damage control, and by geographic area. The amounts indicated would be reduced by the amount of the fiscal year which has transpired.

The impact of the reprogramming on the Service's research ADC efforts not related to livestock protection would be as follows:

First, the reprogramming would reduce the Service's forest rodent damage control research, centered in the Pacific Northwest, from \$195,000 to \$170,000 (12%). Second, the reprogramming would reduce the Service's Hawaiian sugar cane rodent damage control research from \$133,000 to \$78,000 (41%). Third, the reprogramming would eliminate the Service's Florida sugar cane rodent damage control research, total of \$35,000. These reductions would delay development and registration of appropriate damage control tools.

The impact of the reprogramming on the Service's nonresearch ADC efforts not related to livestock protection would be as follows in the West.

First, the reprogramming would virtually eliminate all the Service's cooperatively funded predator control for wildlife protection; \$25,000 in Service funds would be reprogrammed. Second, the reprogramming would reduce the Service's cooperatively funded field rodent damage control work; approximately \$100,000 of the \$175,000 in Service funds budgeted for this purpose would be reprogrammed. Third, the reprogramming would halt the Service's cooperatively funded bird damage control work to protect fish hatcheries from depredating migratory birds; \$50,000 in Service funds would be reprogrammed. Fourth, the reprogramming would reduce the Service's cooperatively funded bird damage control effort for crop protection purposes by about 35 percent; \$20,000 of \$55,000 in Service funds would be reprogrammed. Fifth, the reprogramming would reduce the Service's cooperatively funded rabies vector control and other disease vector control operations by approximately one-half; \$15,000 in Service

funds would be reprogrammed. Sixth, the reprogramming would reduce the Service's cooperatively funded nuisance and urban animal damage control effort by approximately 60 percent; \$15,000 of \$25,000 would be reprogrammed. Seventh, the Service would close its Colorado State office; \$30,000 in Service funds would be reprogrammed. The Colorado office deals almost exclusively with non-livestock protection work, since that State has unilaterally taken over the responsibility for predator control.

The impact of the reprogramming on the Service's nonresearch ADC efforts would be as follows in the East:

First, the reprogramming would halt almost all of the Service's operational blackbird damage control and some extension blackbird damage control in the State of Ohio; \$30,000 of the State's \$80,000 Service allocation would be reprogrammed. The work is basically corn protection. Second, the Service would close the West Virginia State office and reduce funding to other State offices in the northeast. This action would reduce the Service's capability to provide mammal and bird damage control assistance in this area. Third, the Service would close the South Carolina State office and would reduce the funding of the Louisiana State office. This action would reduce the Service's capability to provide mammal and bird damage control assistance in these States..

CLOSURE OF WEST VIRGINIA RESEARCH STATION

Senator ROBERT C. BYRD. I am told this reprogramming would force the closure of a research station in West Virginia. Is that correct?

Mr. GREENWALT. It would mean the closure of the State office which is located in Elkins, W. Va., sir.

Senator ROBERT C. BYRD. What would this do to your program, there?

Mr. GREENWALT. It would sharply reduce the ongoing program which in West Virginia is related to extension services for agricultural animal damage control and some bird control activities. It would require the closing of a station presently manned by one person.

Senator ROBERT C. BYRD. This would be the station at Elkins.

Mr. GREENWALT. Yes, sir.

Senator ROBERT C. BYRD. How much does this station cost annually?

Mr. GREENWALT. \$24,000, sir. We would propose, in order to avoid depriving the citizens of West Virginia of the services that we offer, to handle as much as possible from similar stations in Pennsylvania and elsewhere.

Senator ROBERT C. BYRD. You are not very optimistic about this; are you?

Mr. GREENWALT. Not really, no. There is a great deal of work to be done by all of our personnel.

Secretary REED. I pointed that out at the time, sir, before this was offered over. I pointed out the difficulty of reprogramming. Nevertheless, that was the determination that was made and so we faithfully executed that determination.

Senator ROBERT C. BYRD. Well, I am going to give you an A-plus for carrying a straight face. Why didn't you seek a budget allowance instead of taking funds from an ongoing program?

Secretary REED. That was a political decision that was made, sir, and it was decided there was a very justifiable need to increase the coyote protection control and there was a decision made by the Administration that bird and rodent control was not of the same priority as coyote control and therefore wanted to institute a reprogramming of the lower priority areas.

CRITICAL IMPORTANCE OF COYOTE CONTROL FUNDING

Senator ROBERT C. BYRD. How critical is the added coyote control funding?

Secretary REED. It is to its people that are having problems. The lamb crop is in or basically in. We have a major job to do on aerial trapping, and denning. We have a great deal of research that is accelerating right now, was accelerated by the Executive orders of the President and the President's keen interest in trying to find some answers as quickly as possible. We have got a maximum effort going and to sustain that maximum effort, we absolutely must have these additional funds, sir.

Senator ROBERT C. BYRD. What is the timing involved in this proposal?

Secretary REED. The funds would be utilized throughout the fiscal year.

Senator ROBERT C. BYRD. Do you have any alternative funding proposals that would not adversely affect the rodent and bird control programs?

Secretary REED. No, sir—I shouldn't say no, sir. If the committee said that it was unwilling to reprogram, obviously the Administration would have to at that time reconsider its request and if it is a priority, a national priority, we would have to make an adjustment obviously.

CORRESPONDENCE

Senator ROBERT C. BYRD. I will include in the record at this point letters from Senator Inouye and Senator Fong protesting this reprogramming proposal. Other questions will be submitted for responses for the record and among these will be questions that will go to the Bureau of Land Management.

Mr. Secretary, thank you.

[The letters follow:]

LETTER FROM SENATOR INOUYE

September 22, 1975

Dear Senator Byrd:

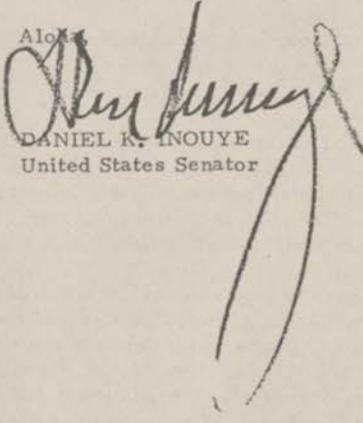
I wish to express to you my concern over the proposed reprogramming by the Fish and Wildlife Service to \$570,000 within the fiscal year 1976 Resource Management appropriation for the purpose of adding funds to the animal damage control program for coyote control at the expense of rat control efforts. It is my understanding that the effect of this reprogramming would reduce the funds for rodent control by a \$170,000. This would reduce the funds requested for the USDI wildlife damage research station at Hilo, Hawaii from \$88,000 to \$53,000-- a reduction of more than 40%. Such a reduction would be a severe blow to the rat control program which is of vital importance to the Hawaiian sugar industry.

Rat damage to sugar cane fields in Hawaii is currently estimated to cause sugar losses to the tune of 8 to 10 million dollars annually. In addition rat caused losses in macadamia nuts were estimated at 5% of our annual crop.

While progress has been made in the control of the Polynesian rat with zinc phosphide and the results have been good, the efforts to control the Norway rat with zinc phosphide has been less effective. New techniques are needed for the species predominates as it does on the island of Kauai and the island of Hawaii. The proposed reduction in the rat control program of some \$35,000 in Hilo and another \$20,000 of the support laboratory in Denver would seriously cripple this effort.

For these reasons it is my hope that you can find a more acceptable source of funds for coyote control in the process of your consideration of the 1976 appropriations.

Aloha


DANIEL K. INOUYE
United States Senator

LETTER FROM SENATOR FONG

September 29, 1975

Dear Mr. Chairman:

In connection with your Subcommittee hearings scheduled for October 1, I am writing to express my concern over the reprogramming of Animal Damage Control program funds proposed by the U. S. Fish and Wildlife Service, which, if carried out, would reduce the rodent control program by \$170,000 in FY 1976.

Nearly 46 per cent (\$78,000) of this reduction would come out of the already-tight amount budgeted for rodent laboratory research and field control programs for Hawaii.

While I am not at this time interposing objection to increased funding for the mammal damage control program to protect livestock (such funding to be derived from various sources), I am strenuously objecting to the deep cuts proposed in the rat control program for Hawaii.

The proposed transfer of funds would have a very adverse impact on the USDI Wildlife Damage Research Station at Hilo, Hawaii, and on the support laboratory in Denver, Colorado, as can be seen from the following figures I obtained from the Fish and Wildlife Service.

At Hilo, for rodent control, the proposed change is:

	\$88,000	original budget request to be cut by reprogramming to:
	<u>53,000</u>	-- which is a reduction of
	\$35,000	or 39.7 per cent

At Denver, for rat control research related to Hawaiian sugarcane, the proposed change is:

	\$45,000	original budget request to be cut by reprogramming to:
	<u>25,000</u>	-- a reduction of
	\$20,000	or 44 per cent

Further, I am advised that the Hilo team of two professionals and two technicians would be reduced by reprogramming to only one professional and one technical person. This is indeed paring into the bone of services vital to Hawaii's rat control programs, particularly in the sugarcane and macadamia nut industries.

Rat damage to sugarcane fields in Hawaii is estimated to cause sugar losses of 25,000 tons annually, at a cost of about \$8 to \$10 million. Annual losses suffered by the macadamia nut industry total an estimated \$300,000, about 7 1/2 per cent of the \$3,986,000 cash value of the 1974 crop. Once the macadamia nut orchards are in full production, the losses will be even greater unless headway is made in controlling rat damage.

To understand the full import of such sharp curtailment of rodent research and control services for Hawaii, let me explain that in my State, agriculture is our second largest private industry, surpassed only by tourism. Our leading agricultural crop in terms of dollar-value is sugar, which industry provides year-round employment for about 9,000 workers. Without question, sugar is a mainstay crop in Hawaii's economy, and it is a principal export of my State. To survive in the highly competitive U. S. sugar market, Hawaii's sugar industry must cut its losses wherever possible. Rodent control offers hope of substantial savings.

Commercial growing of macadamia nuts is a younger and much smaller industry, but it has potential for growth and is being encouraged. It, too, is an export crop for Hawaii.

The Hawaiian Sugar Planters Association has long endeavored, using its own resources, to provide effective rat control programs. The USDI Wildlife Damage Research Station at Hilo, Hawaii, with laboratory support service in Denver, provides vitally needed research information on which HSPA bases its rat control programs. The Federal facility in Hilo provides the only information on rodenticide toxicity to Hawaiian aquatic and bird life.

In Hawaii, sugar growers face problems from both the Polynesian rat and the Norway rat and, because their characteristics differ, countermeasures differ. I am informed control of the Polynesian rat with zinc phosphide has been good, with data for sugarcane registration of zinc phosphide obtained jointly by USDI and HSPA. But I am advised, a need exists for additional registration for waste areas where a continuing reservoir of rats exists.

Control of the Norway rat with zinc phosphide has been less effective. New techniques are needed where this species predominates on the Islands of Kauai and Hawaii and where species changes may occur.

According to Mr. Roger Sullivan, Vice President, HSPA, the proposed reduction of funds "will decimate the Hilo laboratory and drastically curtail Denver support."

In the case of macadamia nuts, a much newer industry to Hawaii than sugar, present control programs by the industry are based on findings of the USDI Wildlife Damage Research Station at Hilo. According to Mr. Robert Grimmer, of Brewer Orchards, Inc., "continued viability" of the macadamia nut industry's rat control programs depends on the Hilo USDI Station "because of the need for Station assistance in gathering data for registration with EPA of zinc phosphide and other rodenticides effective for rat control in macadamia nut orchards."

Mr. Grimmer went on to say, "As it is now, the Station is understaffed and any further curtailment of funds would be a devastating blow to rat control here."

The problem of rodent control is not easy. Experience in Hawaii has shown that, even when an effective and environmentally acceptable control program is found, it does not remain permanently effective. Rats have developed immunity to a particular rodenticide so another must be developed or other control measures devised.

Because of the need for continuing countermeasures against rodent damage in Hawaii and because of the serious losses incurred annually in my State, I respectfully request that your Subcommittee not approve the proposed transfer of \$78,000 from the Hawaii rodent control programs.

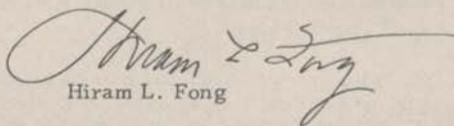
In closing, may I note that, subsequent to the Fish and Wildlife reprogramming proposal of July 1, the Environmental Protection Agency approved use of certain cyanide guns by ranchers against livestock predators. Perhaps now the Fish and Wildlife Services does not need the total proposed to be reprogrammed for large mammal control. Savings could be applied to offset the proposed reduction in the rodent control program for Hawaii.

I would appreciate inclusion of my letter in your hearing record at the appropriate place, together with the September 17 memorandum by Mr. Roger Sullivan, HSPA, entitled "H.R. 8773, Shift of Funds from USDI Control Program in Hawaii," and the September 23 letter by Mr. Robert G. Grimmer, from which I quoted with reference to macadamia nuts.

Thank you very much for your consideration of this matter of considerable importance to Hawaii's agriculture industry.

With warm personal regards and aloha,

Sincerely yours,



Hiram L. Fong

LETTER FROM SENATOR FONG

United States Senate

COMMITTEE ON APPROPRIATIONS

WASHINGTON, D. C. 20510

October 14, 1975

The Honorable Robert C. Byrd
Chairman
Subcommittee on Interior
Senate Committee on Appropriations
Washington, D. C. 20510

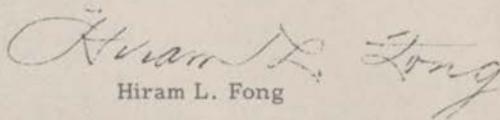
Dear Mr. Chairman:

With further reference to our previous correspondence on the U. S. Fish and Wildlife Service's proposed reprogramming of Animal Damage Control funds, which you indicated would be disapproved, I am enclosing a copy of a letter (dated October 6, but just received) from Mr. Dale W. Anderson, President of Hawaii Macadamia Producers' Association.

This will help round out the Committee's records on this matter insofar as Hawaii is concerned. If the hearing deadline has not elapsed, Mr. Anderson's letter could be included in the printed hearings.

With kind regards and warm aloha,

Sincerely yours,



Hiram L. Fong

LETTER FROM DALE W. ANDERSON

October 6, 1975

Senator Hiram Fong
1313 Dirksen Senate Office Bldg.
Washington, D.C. 20510

Dear Senator Fong:

It has come to our attention, albeit belatedly, that the Senate Appropriations Committee has been reviewing expenditures of the USDI Wild Life Damage Research Program and that reductions in appropriations to this agency may be contemplated.

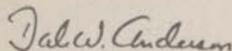
Rat damage in macadamia orchards in Hawaii is responsible for losses estimated to be some \$300,000 annually and will surely increase to a much greater figure as more and more of our presently planted acres come to maturity.

This is a problem facing big and small growers alike and the control measures presently in use as well as the hope for better control in the future rests with the work being done by the USDI Life Damage Research Station in Hilo, Hawaii.

The investigative work underway at the Hilo station is already restricted for lack of personnel and further reduction in funding can only delay the crop in Hawaii's agricultural scene.

Our association will gladly furnish any additional information requested in support of this valuable research project.

Sincerely,



Dale W. Anderson
President, HMPA

DWA:kk

QUESTIONS SUBMITTED BY SENATOR ROBERT C. BYRD

BUREAU OF LAND MANAGEMENT

Q. For the Bureau of Land Management, the request is for \$2 million mostly for the Rogue River in Oregon. Please summarize the BLM request.

A. Our Rogue River request of \$1,903,000 will provide for the purchase of 39 tracts containing 922 acres. Our Pacific Crest Trail request of \$97,000 will provide for the purchase of trail easements on 16 tracts containing about 70 acres.

ROGUE RIVER

Q. Please supply more details on the Rogue River purchase proposal including per/acre costs and a justification of the program.

A. As mentioned previously the request of \$1,903,000 would provide for purchase of 922 acres along the Rogue River. Immediate acquisition is necessary to preserve the attributes for which the Rogue Wild and Scenic River was created in October 2, 1968. Within the past several years, we have experienced land costs rising at a rate in excess of 20 percent per year for Rogue River properties. A delay in acquisitions will necessitate an increase of authorized ceiling or a reduction of acres planned for inclusion into the Rogue River area. At present, there is sufficient authorized ceiling to acquire all or almost all of the best tracts along the river.

The average cost per acre to date is \$803. However, much of these costs came from purchases in excess of 40 acres each. The larger parcels are usually less expensive, depending on remoteness and proximity to river frontage. As the acquisitions progress up the Rogue, away from the Wild Area and into the Scenic portion, the price per acre increases due to more desirable and suitable building sites along the river. These tracts are usually smaller in size (one to twenty acres) which also aids in commanding a higher price. Recent sales of river frontage property of one and two acre tracts have been as high as \$12,000 per acre.

To protect the scenic qualities of the Rogue River from new construction, the fiscal year 1975 acquisition program concentrated on key parcels under 30 acres, many with river frontage. The acquisitions averaged 11 acres each and cost about \$2,400 per acre.

In fiscal year 1976 we plan to continue similar acquisition of river frontage, especially those which could be slated for development, as well as acquire several tracts in excess of 150 acres each.

PACIFIC CREST

Q. Where do you stand on Pacific Crest Trail acquisition?

A. To date, we have acquired 2.13 miles of trail easements involving 4.4 acres in Oregon. We expect to acquire all (26 acres) easements necessary for the Oregon portion of the trail by the end of fiscal year 1976.

Preliminary trail work was initiated in California with the fiscal year 1975 Appropriations. No easements have been acquired to date as all work is toward ownership identification, preliminary negotiations, and appraisal of land values. We anticipate acquiring all easements (estimated at 240 acres) in California by fiscal year 1978.

Lack of condemnation authority has seriously hampered our Pacific Crest Trail acquisition efforts. We are hampered by the fact that easements across key tracts cannot be condemned but must be obtained before other sections of the trail are acquired. When a key tract cannot be negotiated, the trail location is rerouted sometimes to existing roads. We do not believe that routing a scenic trail along an existing road is within the intent of the National Trails System Act, but since condemnation is specifically prohibited for the Pacific Crest Trail, we will have to live with the restriction.

TRANSITION PERIOD

Q. Aside from continuing funding on the two areas we have discussed your transition request also includes \$25,000 to resume King Range acquisition in California. What is the status of King Range, and why wasn't funding included in 1976?

A. Funding for King Range is no longer requested for fiscal year 1976 transition period. We now request the \$25,000 be added to our Pacific Crest Trail program. This change was made recognizing the fact that additional legislation is necessary to change the King Range boundary before we could use these funds for acquisitions. The status of the King Range is that we have acquired 6,716 acres to date. The cost to the Land and Water Conservation program has been only \$176 per acre

as most of the acquisitions are made by exchange of lands which are excess to Bureau program needs. Most of the costs are for outright purchase, equalizing payments, and fee appraisals for land and timber values.

SUBCOMMITTEE RECESS

Senator ROBERT C. BYRD. Thank you, gentlemen, for your appearance today.

Secretary REED. Thank you, Mr. Chairman.

Senator ROBERT C. BYRD. The subcommittee will meet again on October 6, at which time the subcommittee will hear the representatives of the Energy Research and Development Administration. The subcommittee's hearing stands in recess until that time.

[Whereupon, at 4:30 p.m., Wednesday, October 1, the subcommittee was recessed, to reconvene at 10 a.m., Monday, October 6.]

DEPARTMENT OF THE INTERIOR AND RELATED
AGENCIES APPROPRIATIONS FOR FISCAL YEAR
1976

MONDAY, OCTOBER 6, 1975

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, D.C.

The subcommittee met at 10 a.m., in room 1114, Everett McKinley Dirksen Office Building, Hon. Robert C. Byrd (chairman) presiding.
Present: Senators Byrd, Mansfield, Young, Hatfield, and Bellmon.

ENERGY RESEARCH AND DEVELOPMENT
ADMINISTRATION

STATEMENT OF DR. ROBERT C. SEAMANS, JR., ADMINISTRATOR

ACCOMPANIED BY:

DR. PHILIP C. WHITE, ASSISTANT ADMINISTRATOR FOR FOSSIL
ENERGY

AUSTIN N. HELLER, ASSISTANT ADMINISTRATOR FOR ADMIN-
ISTRATION

M. C. GREER, CONTROLLER

DR. WILLIAM JACKSON, ACTING DIRECTOR, DIVISION OF MHD
JAMES McKEOWN, CHIEF, BUDGET AND FISCAL MANAGEMENT
BRANCH

DR. RAYMOND ZAHRADNIK, DIRECTOR, DIVISION OF COAL
CONVERSION AND UTILIZATION

BUDGET REQUEST

Senator ROBERT C. BYRD. The subcommittee will be in order.

This is the time schedule to hear the budget estimates of the Energy Research and Development Administration for fiscal year 1976 and for the July-September transition period. This hearing is being held later than most hearings so that the complete budget presentation, as recently amended, can be covered.

Those portions of the ERDA budget that fall within this subcommittee's jurisdiction include fossil energy development, advanced energy systems, research and related programs under the conservation research and development activity. Until ERDA was created last year, most of these programs were funded in the Interior and related agencies bill as part of the Interior Department.

For the activities funded in this bill, the fiscal 1976 request totals \$484.4 million in new budget authority, according to the various tables

(2461)

submitted to the committee. These tables indicate that this request is an increase of \$140.2 million over appropriations for these functions in fiscal 1975.

For the transition period, the request totals \$125.7 million in new budget authority. Within these totals, \$65.4 million was requested for fiscal 1976 and \$14.9 million for the transition period in the President's July 21 budget amendment.

The additional funds requested in the budget amendment are based, we are told, on ERDA's national plan for energy research and demonstration, an assessment of energy R. & D. program needs required by the act that created ERDA. The plan will be adopted for the record by reference.

JUSTIFICATION

The justification for ERDA's original budget request has been printed in part 2 of the hearing record. To make the record complete, we will include the justification for the budget amendment in the record at this point, along with budget authority tables for the entire budget request that were prepared at the committee's request.

[The justification follows:]

Justification

U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION

FY 1976 Budget Estimates
 Energy Research and Development Amendment
 GENERAL STATEMENT FOR OPERATING EXPENSES

(Dollars in thousands, except whole dollars in narrative material)

Estimate of Appropriation

The amended budget estimates for Direct Program Operating Expenses for FY 1976 provide for total obligations of \$4,316,407,000 to be funded by (1) a new appropriation of \$3,624,237,000 and (2) an estimated \$692,170,000 to be received as revenues from non-Federal sources during the fiscal year.

Estimates of Costs and Obligations

The budget estimates for this appropriation are stated in terms of accrued costs for each of the ERDA's 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 section entitled "Increase or Decrease in Selected Resources" and include inventories and goods and services on order.

From total obligations are deducted the revenues estimated to be obtained from non-Federal sources in order to arrive at the amount of appropriations required. These revenues include income from the sale and lease of products and materials, from services performed for others, and from other miscellaneous sources. These revenues are identified and summarized under the tab "Revenues Applied".

This section also includes a statement of ERDA's 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 table summarizes the accrued costs and total obligations for ERDA's Direct and Reimbursable Programs for fiscal years 1974, 1975, 1976 and the Transition Period. The detailed justifications for Direct Program activities are presented in the same order as they appear in this summary table.

SUMMARY OF ACCRUED OPERATING COSTS
BY PROGRAM RECONCILED TO NET OBLIGATIONS

(Dollars in thousands, except whole dollars in narrative material)

Accrued Costs by Activity: Direct Program:	FY 1974		FY 1975		FY 1976		Transition Period	
	Actual	Estimate	Estimate	Amend.	Previous Estimate	Amended Estimate	Previous Estimate	Amended Estimate
	FY 1974	FY 1975	to Congress	to Congress	to Congress	to Congress	to Congress	to Congress
Fossil Energy Development	\$ 73,270	\$ 194,920	\$ 311,267	\$ 12,400	\$ 323,667	\$ 55,830	\$ 3,700	\$ 59,530
Coal	62,613	174,199	279,473	4,900	284,373	46,300	1,300	47,600
Petroleum & Natural Gas	7,877	17,267	23,647	4,700	28,347	7,230	1,500	8,730
Oil Shale	2,780	3,454	8,147	2,800	10,947	2,300	900	3,200
Solar, Geothermal, and Advanced Energy Systems Development	267,153	316,454	421,143	22,410	443,553	101,730	6,892	108,622
Solar Energy Development	3,937	8,770	57,100	9,600	66,700	14,500	2,900	17,400
Geothermal Energy Development ..	6,231	13,800	28,370	2,800	31,170	3,050	800	3,850
Advanced Energy Systems Research	4,160	12,284	23,173	9,900	33,073	3,880	3,150	7,030
Physical Research	252,825	281,600	312,500	110	312,610	80,300	42	80,342
Conservation Research and Development	4,720	16,662	32,170	18,000	50,170	7,883	5,217	13,100
Electric Energy Systems	1,531	6,372	11,830	4,170	16,000	2,673	1,427	4,100
Industry Conservation Buildings	0	0	1,200	800	2,000	400	100	500
Conservation	0	0	1,200	3,500	4,700	400	800	1,200
Transportation	1,500	4,490	8,240	1,760	10,000	2,060	640	2,700
Cross-Sectoral Conservation ...	1,689	5,800	9,700	7,770	17,470	2,350	2,250	4,600

Accrued Costs by Activity: Direct Program:	FY 1974		FY 1975		FY 1976		Transition Period	
	Actual	Estimate	Estimate	Amend.	Amended	Previous	Amended	Estimate
	FY 1974	FY 1975	FY 1975	Amend.	Estimate	Estimate	Estimate	to Congress
Nuclear Energy Development	\$1,034,274	\$1,320,498	\$1,633,915	\$ 106,956	\$1,740,871	\$ 472,439	\$ 7,141	\$ 479,580
Fusion Power R&D	52,968	85,030	120,000	0	120,000	37,000	0	37,000
Fission Power Reactor								
Development	286,301	384,088	643,675	-37,216	406,459	130,745	-19,157	111,588
Naval Reactor Development	154,122	167,000	186,200	0	186,200	52,900	0	52,900
Space Nuclear Systems	26,237	26,600	30,900	0	30,900	8,000	0	8,000
Nuclear Materials	511,374	646,080	828,940	142,772	971,712	236,494	25,898	262,392
Advanced Isotope Separation								
Technology	3,272	11,700	24,200	1,400	25,600	7,300	400	7,700
National Security	827,092	867,260	938,460	12,734	951,194	242,031	3,672	245,703
Weapons	785,874	819,997	873,515	1,734	875,249	223,925	672	224,597
Laser Fusion	36,853	41,400	54,000	10,000	64,000	15,100	3,000	18,100
Nuclear Explosives								
Applications	a/	a/	a/	0	0	0	0	0
Nuclear Materials Security	4,365	5,863	10,945	1,000	11,945	3,006	0	3,006
Environmental & Safety Research								
Biomedical & Environmental								
Research	106,260	132,215	156,515	0	156,515	40,500	0	40,500
Waste Management	16,606	29,570	36,000	4,000	40,000	10,100	1,300	11,400
Operational Safety	2,124	3,210	5,160	0	5,160	1,400	0	1,400

a/ Included under Fossil Energy Development.

	Actual FY 1974	Estimate FY 1975	FY 1976		Transition Period	
			Previous Estimate to Congress		Previous Estimate to Congress	
			Amend.	Amended Estimate to Congress	Amend.	Amended Estimate to Congress
Accrued Costs by Activity:						
Direct Program:						
Program Support	\$ 150,434	\$ 175,898	\$ 11,150	\$ 211,168	\$ 52,488	\$ 55,566
Program Direction	129,020	148,343	11,150	179,764	44,547	47,625
Community Operations	5,619	8,065	0	7,650	1,914	1,914
Security Investigations	8,276	9,460	0	12,290	2,825	2,686
Information Services	6,213	8,180	0	9,480	2,886	2,825
EEO Assigned Facilities	1,306	1,650	0	1,984	516	516
Cost of Work for Others	17,104	11,690	0	12,660	3,095	3,095
Other Costs and Credits	7,790	0	0	0	0	0
Total Accrued Costs -	2,506,827	3,068,377	187,650	3,934,958	987,496	1,018,496
Direct Program						
Increase or Decrease in						
Selected Resources	239,096	385,919	49,100	381,449	124,505	152,305
Total Obligations for						
Direct Program	2,745,923	3,454,296	236,750	4,316,407	1,112,001	1,170,801
Less: Revenues Applied	-798,232	-625,190	-16,500	-692,170	-94,700	-112,400
Net Obligations (Financed by						
Appropriated Funds)	\$ 1,947,691	\$ 2,832,106	\$ 220,250	\$ 3,624,237	\$ 1,017,301	\$ 1,058,401

	Actual FY 1974	Estimate FY 1975	FY 1976		Transition Period	
			Previous Estimate to Congress	Amend. Congress	Previous Estimate to Congress	Amend. Congress
Reimbursable Program:						
Unobligated balance, beginning of year	\$ 250,483	\$ 246,455	\$ 0	\$ 0	\$ 0	\$ 0
Revenues from Other Federal Agencies	302,647	256,874	391,868	0	106,680	106,680
Total Available for Obligation	553,130	503,329	391,868	0	106,680	0
Less: Unobligated Balance, end of year	246,455	0	0	0	0	0
Unobligated Balance lapsing	2	0	0	0	0	0
Total Obligations Incurred ...	\$ 306,673	\$ 503,329	\$ 391,868	\$ 0	\$ 106,680	\$ 106,680

SUMMARY OF ACCRUED OPERATING COSTS
BY PROGRAM RECONCILED TO NET OBLIGATIONS

(Dollars in thousands, except whole dollars in narrative material)

Expenditures for Operating Expenses

Expenditures from the "Operating Expenses" appropriation for FY 1976 are estimated at \$3,245,044,000, of which \$171,150,000 is related to the amendment. The estimated amounts available for expenditure in 1974, 1975 and 1976, the remaining unexpended balances and the expenditures for each year are shown in the following table:

SUMMARY OF FINANCING

	Actual FY 1974	Estimate FY 1975	FY 1976		Transition Period					
			Previous Estimate to Congress	Amend.	Amended Estimate to Congress	Previous Estimate to Congress	Amend.	Amended Estimate to Congress		
Funds Available for Expenditure:										
Direct Program:										
Unexpended Balance, beginning of year:										
Obligated	\$ 920,971	\$1,113,657	\$1,555,479	\$ 0	\$1,555,479	\$1,885,572	\$ 49,100	\$1,934,672		
Unobligated	225,119	90,783	36,100	0	36,100	0	0	0		
New Appropriation	1,827,726	2,792,423 ^{a/}	3,403,987	220,250	3,624,237	1,017,301	41,100	1,058,401		
Transfer to Other Accounts	-14,338	-15,000	0	0	0	0	0	0		
Total Funds Available for Expenditure	\$2,959,478	\$3,981,863	\$4,995,566	\$ 220,250	\$5,215,816	\$2,902,873	\$ 90,200	\$2,993,073		
Unexpended Balance, end of year:										
Obligated	-1,113,657	-1,555,479	-1,885,572	-49,100	-1,934,672	-2,003,257	-76,900	-2,080,157		
Unobligated	-90,783	-36,100	-36,100	0	-36,100	0	0	0		
Unobligated balance lapsing ..	-33	0	0	0	0	0	0	0		
Total Expenditures	\$1,755,005	\$2,390,284	\$3,073,894	\$ 171,150	\$3,245,044	\$ 899,616	\$ 13,300	\$ 912,916		

^{a/} Includes \$5,681,000 pay raise, approved June 12, 1975 (P.L. 94-32, Second Supplemental Appropriations Act, 1975)

	Actual FY 1974	Estimate FY 1975	FY 1976		Transition Period	
			Previous Estimate to Congress	Amend. to Congress	Previous Estimate to Congress	Amend. to Congress
Reimbursable Program:						
Unexpended Balance, beginning of year:						
Obligated	\$ -290,241	\$ -314,240	\$ -67,785	\$ 0	\$ -67,785	\$ 0
Unobligated	250,483	246,455	0	0	0	0
Total Available for						
Expenditure	\$ -39,758	\$ -67,785	\$ -67,785	\$ 0	\$ -67,785	\$ 0
Unexpended Balance, end of year:						
Obligated	314,240	67,785	67,785	0	67,785	0
Adjustment in expired accounts	-3	0	0	0	0	0
Unobligated	-246,455	0	0	0	0	0
Unobligated balance lapsing ..	-2	0	0	0	0	0
Total Expenditures	\$ 28,022	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

SUMMARY STATEMENT OF OPERATING PROGRAMS FOR THE TRANSITION PERIOD

The budget estimates for the Transition Period (July 1, 1976 thru September 30, 1976) are being requested and have been developed pursuant to the provisions of Section 502 of P.L. 93-344, the Congressional Budget and Impoundment Control Act of 1974 and regulations provided by the Director of the Office of Management and Budget. Basically, the funding being requested for the Transition Period will provide for the orderly continuation of on-going ERDA operating programs. These estimates are considered to be the essential funding levels required to maintain the progress in achieving the objectives of ERDA's various energy research and development, production, and national defense programs. There are no new operating programs planned for initiation in the Transition Period.

Energy Research and Development Amendment

EXPLANATION OF 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.

ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION

OPERATING EXPENSES

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; official entertainment expenses (not to exceed \$30,000); reimbursement of the General Services Administration for security guard services; hire of passenger motor vehicles; \$3,624,237,000 and any moneys (except sums received from disposal of property under the Atomic Energy Community Act of 1955 and 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 (42 U.S.C. 2301; 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.

For "Operating expenses" for the period July 1, 1976, through September 30, 1976, \$1,058,401,000, to remain available until expended. (42 U.S.C. 5801, 5875; additional authorizing legislation to be proposed for fiscal year 1976, and for the period July 1, 1976, through September 30, 1976.)

FY 1976 Budget Estimates
Energy Research and Development Amendment
GENERAL STATEMENT FOR PLANT AND CAPITAL EQUIPMENT

(Dollars in thousands, except whole dollars in narrative material)

Summarization of estimated FY 1976 Obligations by program follows:

SUMMARY OF FY 1976 OBLIGATIONS

	Funding for Projects Fully Authorized in Prior Years	Funding for Projects Included in the FY 1976		Capital Equipment Not Related to Construction		Total Obligations from New Appropriation
		Authorization Request Previous Estimate to Congress	Amend.	Previous Estimate to Congress	Amend.	
Fossil Energy Development	\$ 0	\$ 20,000	\$ 0	\$ 425	\$ 0	\$ 20,425
Coal	0	20,000	0	0	0	20,000
Petroleum and Natural Gas	0	0	0	100	0	100
Oil Shale	0	0	0	325	0	325
Solar, Geothermal, and Advanced Energy Systems Development	11,800	10,000	6,500	32,920	0	61,220
Solar Energy Development	0	0	0	0	0	0
Geothermal Energy Development	0	0	0	620	0	620
Advanced Energy Systems Research	0	0	0	0	0	0
Physical Research	11,800	10,000	6,500	32,300	0	60,600
Conservation Research and Development	0	0	0	2,450	900	3,350
Electric Energy Systems	0	0	0	1,700	300	2,000
Industry Conservation	0	0	0	0	0	0
Buildings Conservation	0	0	0	0	0	0
Transportation	0	0	0	0	400	400
Cross-Sectoral Conservation	0	0	0	750	200	950

	Funding for Projects Included in the FY 1976 Authorization Request		Capital Equipment Not Related to Construction		Total Obligations from New Appropriation
	Previous Estimate to Congress	Amend.	Previous Estimate to Congress	Amend.	
	Funding for Projects Fully Authorized in Prior Years				
Nuclear Energy Development	\$ 83,950	\$ 31,700	\$ 110,100	\$ 0	\$ 641,050
Fusion Power Research and Development	0	20,300	16,000	0	44,700
Fission Power Reactor Development	80,450	0	51,400	0	159,500
Naval Reactor Development	0	0	8,800	0	14,700
Space Nuclear Systems	0	0	2,600	0	2,600
Nuclear Materials	3,500	10,700	28,100	0	416,350
Advanced Isotope Separation Technology	0	0	3,200	0	3,200
National Security	6,800	88,650	67,870	4,000	182,920
Weapons	6,800	78,250	61,150	0	161,800
Laser Fusion	0	9,600	4,500	4,000	18,100
Nuclear Explosives Applications	0	0	0	0	0
Nuclear Materials Security	0	800	2,220	0	3,020
Environmental and Safety Research	0	13,920	14,380	0	28,300
Biomedical and Environmental Research	0	7,400	10,150	0	17,550
Waste Management	0	6,520	3,350	0	9,870
Operational Safety	0	0	880	0	880
Program Support	0	450	4,202	650	5,302
Program Direction	0	450	3,452	650	4,552
Community Operations	0	0	0	0	0
Security Investigations	0	0	0	0	0
Information Services	0	0	750	0	750
EEO Assigned Facilities	0	0	0	0	0
Construction Planning and Design	0	6,000	0	0	6,000
Total Obligations from New Appropriation	\$ 102,550	\$ 554,820	\$ 232,347	\$ 5,550	\$ 948,567

SUMMARY OF TRANSITION PERIOD OBLIGATIONS

(Dollars in thousands, except whole dollars in narrative material)

Summarization of estimated Transition Period Obligations by program follows:

	Funding for Projects Fully Authorized in Prior Years or in FY 1976 Authorization Request	Funding for Projects Included in the Transition Period		Capital Equipment Not Related to Construction		Total Obligations from New Appropriation
		Previous Estimate to Congress	Amend.	Previous Estimate to Congress	Amend.	
Fossil Energy Development	\$ 0	\$ 8,000	0	\$ 200	0	\$ 8,200
Coal	0	8,000	0	0	0	8,000
Petroleum and Natural Gas	0	0	0	100	0	100
Oil Shale	0	0	0	100	0	100
Solar, Geothermal, and Advanced Energy Systems Development	0	2,725	0	8,200	0	10,925
Solar Energy Development	0	0	0	0	0	0
Geothermal Energy Development	0	0	0	200	0	200
Advanced Energy Systems Research	0	0	0	0	0	0
Physical Research	0	2,725	0	8,000	0	10,725
Conservation Research and Development	0	0	0	500	240	740
Electric Energy Systems	0	0	0	200	280	480
Industry Conservation	0	0	0	0	0	0
Buildings Conservation	0	0	0	0	0	0
Transportation	0	0	0	0	40	40
Cross-Sectoral Conservation	0	0	0	300	-80	220

	Funding for		Funding for		Capital Equipment		Total Obligations from New Appropriation
	Projects Fully Authorized in Prior Years or in FY 1976 Authorization Request		Projects Included in the Transition Period Authorization Request		Not Related to Construction		
	Request	to Congress	Amend.	Amend.	Previous Estimate	Congress to Amend.	
Nuclear Energy Development	\$ 27,800	\$ 76,825	\$ 2,500	\$ 26,325	\$ 0	\$ 133,450	
Fusion Power Research and Development	0	3,250	2,500	4,100	0	9,850	
Fission Power Reactor Development	0	3,500	0	8,600	0	12,100	
Naval Reactor Development	0	675	0	1,325	0	2,000	
Space Nuclear Systems	0	0	0	650	0	650	
Nuclear Materials	27,800	69,400	0	10,850	0	108,050	
Advanced Isotope Separation Technology	0	0	0	800	0	800	
National Security	8,200	5,300	0	16,681	500	30,681	
Weapons	8,200	5,300	0	14,870	0	28,370	
Laser Fusion	0	0	0	1,200	500	1,700	
Nuclear Explosives Applications	0	0	0	0	0	0	
Nuclear Materials Security	0	0	0	611	0	611	
Environmental and Safety Research	0	1,350	0	3,700	0	5,050	
Biomedical and Environmental Research	0	1,000	0	2,640	0	3,640	
Waste Management	0	350	0	840	0	1,190	
Operational Safety	0	0	0	220	0	220	
Program Support	\$ 0	\$ 100	\$ 0	\$ 1,070	\$ 60	\$ 1,230	
Program Direction	0	100	0	940	60	1,100	
Community Operations	0	0	0	0	0	0	
Security Investigations	0	0	0	0	0	0	
Information Services	0	0	0	130	0	130	
EEO Assigned Facilities	0	0	0	0	0	0	
Construction Planning and Design	0	1,500	0	0	0	1,500	
Total Obligations from New Appropriation	\$ 36,000	\$ 95,800	\$ 2,500	\$ 56,676	\$ 800	\$ 191,776	

(Dollars in thousands, except whole dollars in narrative material)

Summary of Obligations

The following table summarizes the total obligations for each of the programs for FY 1974, FY 1975, FY 1976, and the Transition Period.

SUMMARY OF PLANT AND CAPITAL EQUIPMENT OBLIGATIONS BY PROGRAM

	Actual FY 1974	Estimate FY 1975	FY 1976			Transition Period		
			Previous Estimate to Congress	Amend.	Amended Estimate to Congress	Previous Estimate to Congress	Amend.	Amended Estimate to Congress
Fossil Energy Development	\$ 159	\$ 13,260	\$ 20,425	\$ 0	\$ 20,425	\$ 8,200	\$ 0	\$ 8,200
Coal	0	13,150	20,000	0	20,000	8,000	0	8,000
Petroleum & Natural Gas	134	35	100	0	100	100	0	100
Oil Shale	25	75	325	0	325	100	0	100
Solar, Geothermal, and Advanced Energy Systems Development	57,205	42,391	54,720	6,500	61,220	10,925	0	10,925
Solar Energy Development	15	60	0	0	0	0	0	0
Geothermal Energy Development	234	975	620	0	620	200	0	200
Advanced Energy Systems Research	0	0	0	0	0	0	0	0
Physical Research	56,956	41,356	54,100	6,500	60,600	10,725	0	10,725
Conservation Research and Development	190	550	2,450	900	3,350	500	240	760
Electric Energy Systems	80	340	1,700	300	2,000	200	280	480
Industry Conservation	0	0	0	0	0	0	0	0
Buildings Conservation	0	0	0	0	0	0	0	0
Transportation	0	0	0	400	400	0	40	40
Cross-Sectoral Conservation	110	210	750	200	950	300	-80	220

	FY 1976			Transition Period				
	Actual FY 1974	Estimate FY 1975	Previous Estimate to Congress	Amend.	Amended Estimate to Congress	Previous Estimate to Congress	Amend.	Amended Estimate to Congress
Nuclear Energy Development	\$ 457,740	\$ 513,962	\$ 609,850	\$ 31,200	\$ 641,050	\$ 130,950	\$ 2,500	\$ 133,450
Fusion Power R&D	4,492	20,300	24,200	20,500	44,700	7,350	2,500	9,850
Fission Power Reactor								
Development	148,588	205,619	159,500	0	159,500	12,100	0	12,100
Naval Reactor Development	62,983	19,201	14,700	0	14,700	2,000	0	2,000
Space Nuclear Systems	8,277	3,575	2,600	0	2,600	650	0	650
Nuclear Materials	233,158	262,367	405,650	0	416,350	108,050	0	108,050
Advanced Isotope Separation Technology	242	2,900	3,200	10,700	3,200	800	0	800
National Security	137,480	206,715	163,320	19,600	182,920	30,181	500	30,681
Weapons	128,879	179,826	146,200	15,600	161,800	28,370	0	28,370
Laser Fusion	8,014	20,714	14,100	4,000	18,100	1,200	500	1,700
Nuclear Explosives								
Applications	0	0	0	0	0	0	0	0
Nuclear Materials Security	587	4,175	3,020	0	3,020	611	0	611
Environmental & Safety Research								
Biomedical & Environmental Research	12,890	40,618	28,300	0	28,300	5,050	0	5,050
Waste Management	10,052	29,305	17,550	0	17,550	3,640	0	3,640
Operational Safety	2,778	10,518	9,870	0	9,870	1,190	0	1,190
Program Support	60	795	880	0	880	220	0	220
Program Direction	\$ 4,042	\$ 4,546	\$ 4,652	\$ 650	\$ 5,302	\$ 1,170	\$ 60	\$ 1,230
Community Operations	3,366	3,829	3,902	650	4,552	1,040	60	1,100
Security Investigations	0	0	0	0	0	0	0	0
Information Services	676	717	750	0	750	130	0	130
EEO Assigned Facilities	0	0	0	0	0	0	0	0
Construction Planning and Design	660	2,444	6,000	0	6,000	1,500	0	1,500
Total Obligations	\$ 670,366	\$ 822,486	\$ 889,717	\$ 58,850	\$ 948,567	\$ 188,476	\$ 3,300	\$ 191,776

(Dollars in thousands, except whole dollars in narrative material)

Financing of Obligations

The financing of the estimated total obligations of \$948,567,000 proposed in the amended budget estimates for FY 1976, together with comparable data for FY 1974, FY 1975 and the Transition Period is summarized in the following table:

	SUMMARY OF FINANCING							
	Actual FY 1974	FY 1975		FY 1976		Transition Period		Amended Estimate to Congress
		Estimate	Previous Estimate to Congress	Amend.	Amended Estimate to Congress	Previous Estimate to Congress	Amend.	
Funds Available:								
Unobligated Balance, beginning of year	\$ 25,037	\$ 20,505	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Recovery of Prior Year Obligations	3,918	269	0	0	0	0	0	0
Appropriation	648,146	801,712	889,717	58,850	948,567	188,476	3,300	191,776
Transfers from Other Accounts ..	13,770	0	0	0	0	0	0	0
Total Amount Available for Obligation	\$ 690,871	\$ 822,486	\$ 889,717	\$ 58,850	\$ 948,567	\$ 188,476	\$ 3,300	\$ 191,776
Less: Unobligated Balance, end of year	20,505	0	0	0	0	0	0	0
Total Obligations	\$ 670,366	\$ 822,486	\$ 889,717	\$ 58,850	\$ 948,567	\$ 188,476	\$ 3,300	\$ 191,776

Energy Research and Development Amendment

EXPLANATION OF 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.

ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION

PLANT AND CAPITAL EQUIPMENT

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; purchase of not to exceed three hundred and thirty-four for replacement only, and hire of passenger motor vehicles; purchase of not to exceed two, acquisition without reimbursement of not to exceed two, and hire of aircraft; \$948,567,000 to remain available until expended.

For "plant and capital equipment," except for purchase of motor vehicles and aircraft, for the period July 1, 1976, through September 30, 1976, \$191,776,000 to remain available until expended. (42 U.S.C. 5801, 5875; additional authorizing legislation to be proposed for fiscal year 1976, and for the period July 1, 1976, through September 30, 1976.)

BUDGET AMENDMENT
(In Thousands of Dollars)

Heading	FY 1976 Request Pending	FY 1976 Proposed Amendment	FY 1976 Revised Request
Operating Expenses	3,403,987	220,250	3,624,237
Plant and Capital Equipment	889,717	58,850	948,567
		<u>For the Period July 1, 1976 thru September 30, 1976</u>	
Operating Expenses	1,017,301	41,100	1,058,401
Plant and Capital Equipment	188,476	3,300	191,776

OPERATING EXPENSES
Program and Financing (In Thousands of Dollars)

Identification code 19-00-0100-5-1-999	19 76	19 76	19 76
Program by activities:	Request Pending	Proposed Amendment	Revised Request
Direct program:			
1. Fossil energy development:			
(a) Coal.....	279,473	4,900	284,373
(b) Petroleum and natural gas....	23,647	4,700	28,347
(c) Oil shale.....	8,147	2,800	10,947
2. Solar, geothermal, and advanced energy systems development			
(a) Solar energy development.....	57,100	9,600	66,700
(b) Geothermal energy development	28,370	2,800	31,170
(c) Advanced energy systems research.....	23,173	9,900	33,073 ^{a/}
(d) Physical research.....	312,500	110	312,610
3. Conservation research and development			
(a) Electric energy systems. ^{b/} ...	11,830	4,170	16,000
(b) Industry conservation... ^{b/} ...	1,200 ^{c/}	800	2,000
(c) Buildings conservation... ^{b/} ...	1,200 ^{c/}	3,500	4,700
(d) Transportation..... ^{b/} ...	8,240	1,760	10,000
(e) Cross-sectoral conservation..	9,700 ^{d/}	7,770	17,470 ^{a/}
4. Nuclear energy development			
(a) Fusion power research and development.....	120,000	.....	120,000
(b) Fission power reactor development.....	443,675	-37,216	406,459
(c) Naval reactor development....	186,200	.....	186,200
^{a/} Reflects transfer to Cross-sectoral conservation of \$1,750 thousand which was included in Advanced energy systems research in original request.			
^{b/} Represents revised structure from original request.			
^{c/} Included in End-use in original request.			
^{d/} \$600 thousand included in End-use in original request.			

Program and Financing (In Thousands of Dollars)

Identification code	1976	1976	1976
19-00-0100-5-1-999	Request Pending	Proposed Amendment	Revised Request
<u>Program by activities - continued:</u>			
(d) Space nuclear systems.....	30,900	.....	30,900
(e) Nuclear materials.....	828,940	142,772	971,712
(f) Advanced isotope separation technology.....	24,200	1,400	25,600
5. National security			
(a) Weapons.....	873,515	1,734	875,249
(b) Laser fusion.....	54,000	10,000	64,000
(c) Nuclear materials security...	10,945	1,000	11,945
6. Environmental and safety research			
(a) Biomedical and environmental research.....	156,515	.....	156,515
(b) Waste management.....	36,000	4,000	40,000
(c) Operational safety.....	5,160	.....	5,160
7. Program support.....	200,018	11,150	211,168
8. Cost of work for others.....	12,660	.....	12,660
Total direct program costs....	3,747,308	187,650	3,934,958
Reimbursable program.....	383,093	.....	383,093
Total program costs, funded...	4,130,401	187,650	4,318,051
Change in selected resources (undelivered orders and inventories).....	341,124	49,100	390,224
10. Total obligations.....	4,471,525	236,750	4,708,275

Financing and Outlays (In Thousands of Dollars)

Identification code 19-00-0100-5-1-999	1976	1976	1976
	Request Pending	Proposed Amendment	Revised Request
Financing: Receipts and reimbursements from:			
11. Federal funds.....	-391,868	.....	-391,868
14. Non-Federal sources.....	-675,670	-16,500	-692,170
21. Unobligated balance available, start of year.....	-36,100	.....	-36,100
24. Unobligated balance available, end of year.....	36,100	.....	36,100
Budget authority.....	3,403,987	220,250	3,624,237
Budget authority:			
40. Appropriation.....	3,403,987	220,250	3,624,237
41. Transferred to other accounts..	.....	.....	.....
43. Appropriation (adjusted)...	3,403,987	220,250	3,624,237
Relation of obligations to outlays:			
71. Obligations incurred, net.....	3,403,987	220,250	3,624,237
72. Obligated balance, start of year	1,487,694	.....	1,487,694
74. Obligated balance, end of year.	-1,817,787	-49,100	-1,866,887
90. Outlays.....	3,073,894	171,150	3,245,044

PLANT AND CAPITAL EQUIPMENT
Program and Financing (In Thousands of Dollars)

Identification code	1976	1976	1976
19-00-0103-5-1-999			
<u>Program by activities:</u>	Request Pending	Proposed Amendment	Revised Request
Capital outlay (facilities and equipment) for:			
1. Fossil energy development:			
(a) Coal	20,000	.....	20,000
(b) Petroleum and natural gas ...	100	.....	100
(c) Oil shale	325	.....	325
2. Solar, geothermal, and advanced energy systems development:			
(a) Solar energy development ....	.....	.....	.....
(b) Geothermal energy development	620	.....	620
(d) Physical research	54,100	6,500	60,600
3. Conservation research and development:			
(a) Electric energy systems	1,700	300	2,000
(b) Industry conservation .....	.....	.....	.....
(c) Buildings conservation .....	.....	.....	.....
(d) Transportation .....	.....	400	400
(e) Cross-sectoral conservation .	750	200	950
4. Nuclear energy development:			
(a) Fusion power research and development	24,200	20,500	44,700
(b) Fission power reactor development	159,500	.....	159,500
(c) Naval reactor development ...	14,700	.....	14,700
(d) Space nuclear systems	2,600	.....	2,600
(e) Nuclear materials	405,650	10,700	416,350
(f) Advanced isotope separation technology	3,200	.....	3,200
5. National security:			
(a) Weapons.....	146,200	15,600	161,800
(b) Laser fusion.....	14,100	4,000	18,100
(c) Nuclear materials security..	3,020	.....	3,020

Program and Financing (In Thousands of Dollars)

Identification code 19-00-0103-5-1-999	19 76	19 76	19 76
	Request Pending	Proposed Amendment	Revised Request
6. Environmental and safety research:			
(a) Biomedical and environmental research.....	17,550	.....	17,550
(b) Waste management.....	9,870	.....	9,870
(c) Operational safety.....	880	.....	880
7. Program support.....	4,652	650	5,302
8. Construction planning and design	6,000	.....	6,000
10. Total obligations.....	889,717	58,850	948,567

Financing and Outlays (In Thousands of Dollars)

Identification code 19-00-0103-5-1-999	19 76	19 76	19 76
	Request Pending	Proposed Amendment	Revised Request
Financing:			
17. Recovery of prior year obligations	.....	.....	.....
21. Unobligated balance available, start of year.....	.....	.....	.....
24. Unobligated balance available, end of year.....	.....	.....	.....
40. Budget authority.....	889,717	58,850	948,567
Budget authority:			
40. Appropriation.....	889,717	58,850	948,567
42. Transferred from other accounts.	.....	.....	.....
43. Appropriation.....	889,717	58,850	948,567
Relation of obligations to outlays:			
71. Obligations incurred, net.....	889,717	58,850	948,567
72. Obligated balance, start of year	775,218	.....	775,218
74. Obligated balance, end of year..	-843,861	-44,200	-888,061
90. Outlays.....	821,074	14,650	835,724

LEGISLATIVE PROGRAM
OPERATING EXPENSES

Program and Financing (In Thousands of Dollars)

Identification code 19-00-0100-5-1-999	1976	1976	1976
	Request Pending	Proposed Amendment	Revised Request
Financing:			
14 Receipts and reimbursements from: Non-Federal sources	-86,000	64,300	-21,700
40 Budget authority (appropriation)	-86,000	64,300	-21,700
Relation of obligations to outlays:			
71 Obligations incurred, net	-86,000	64,300	-21,700
90 Outlays	-86,000	64,300	-21,700

FY 1976 Budget Estimates
Amendment
SUMMARY TABLE
(Dollars in thousands)

	FY 1974 Actual	FY 1975 Estimate	FY 1976		Transition Period	
			Previous Estimate to Congress	Amended Estimate to Congress	Previous Estimate to Congress	Amended Estimate to Congress
I. Fossil Energy Development						
Operating Expenses - COST BASIS						
A. Coal						
1. Liquefaction	\$ 19,764	\$ 54,632	\$ 96,897	\$ 96,897	\$ 16,000	\$ 16,000
2. High-Btu Gasification	29,415	57,841	42,838	42,838	8,700	8,700
3. Low-Btu Gasification	8,442	22,308	51,671	51,671	6,500	6,500
4. Advanced Power Systems	20	3,957	5,261	6,861	1,300	1,700
5. Direct Combustion	3,509	20,681	32,645	35,945	5,100	6,000
6. Advanced Research and Supporting Technology	1,463	14,780	32,061	32,061	4,600	4,600
7. Demonstration Plants	0	0	18,100	18,100	4,100	4,100
Total Coal Program	62,613	174,199	279,473	284,373	46,300	47,600
B. Petroleum and Natural Gas						
1. Gas and Oil Extraction	6,695	16,242	22,065	26,765	6,730	8,230
2. Gas and Oil Utilization	1,182	1,025	1,582	1,582	500	500
Total Petroleum and Natural Gas Program	7,877	17,267	23,647	28,347	7,230	8,730
C. Oil Shale						
1. In-situ Processing	2,026	2,903	7,034	9,834	2,000	2,900
2. Composition and Characterization. Total Oil Shale Program	754	551	1,113	1,113	300	300
	2,780	3,454	8,147	10,947	2,300	3,200
Total Operating Expenses (Costs) ...	\$ 73,270	\$194,920	\$311,267	\$323,667	\$ 55,830	\$ 59,530

Plant and Capital Equipment - OBLIGATIONS BASIS

	FY 1974 Actual	FY 1975 Estimate	FY 1976 Previous Estimate to Congress	Transition Period Previous Estimate to Congress	Period Amended Estimate to Congress
A. Coal					
<u>Capital Equipment</u>					
Low-Btu Gasification	\$ 0	\$ 150	\$ 0	\$ 0	\$ 0
Total Capital Equipment Obligations	0	150	0	0	0
<u>Construction Projects - Total Obligations</u>	0	13,000	20,000	8,000	8,000
Total Coal Program	0	13,150	20,000	8,000	8,000
B. Petroleum and Natural Gas					
<u>Capital Equipment</u>					
Gas and Oil Extraction	134	35	100	100	100
Total Capital Equipment Obligations	134	35	100	100	100
<u>Construction Projects - Total Obligations</u>	0	0	0	0	0
Total Petroleum and Natural Gas Program	134	35	100	100	100
C. Oil Shale					
<u>Capital Equipment</u>					
In-situ Processing	25	75	325	100	100
Total Capital Equipment Obligations	25	75	325	100	100
<u>Construction Projects - Total Obligations</u>	0	0	0	0	0
Total Oil Shale Program	25	75	325	100	100
Fossil Energy Development Totals					
Operating Expenses (Costs)	\$ 73,270	\$ 194,920	\$ 311,267	\$ 55,830	\$ 59,530
Capital Equipment	159	260	425	200	200
Construction Projects	0	13,000	20,000	8,000	8,000
Subtotal Plant and Capital Equipment (Obligations)	\$ 159	\$ 13,260	\$ 20,425	\$ 8,200	\$ 8,200

FY 1976 Budget Estimates
Amendment
SUMMARY TABLE
(Dollars in thousands)

	FY 1974 Actual	FY 1975 Estimate	FY 1976		Transition Period	
			Previous Estimate to Congress	Amended Estimate to Congress	Previous Estimate to Congress	Amended Estimate to Congress
I. Fossil Energy Development						
Operating Expenses - OBLIGATIONS BASIS						
A. Coal						
1. Liquefaction	\$ 46,291	\$ 94,745	\$ 97,562	\$ 97,562	\$ 28,750	\$ 28,750
2. High-Btu Gasification	33,333	59,805	63,364	63,364	10,500	10,500
3. Low-Btu Gasification	22,121	56,480	45,389	45,389	11,400	11,400
4. Advanced Power Systems	1,540	4,097	6,601	10,001	2,500	3,500
5. Direct Combustion	15,507	35,887	38,096	45,096	14,900	17,000
6. Advanced Research and Supporting Technology	9,946	23,325	35,393	35,393	8,850	8,850
7. Demonstration Plants	0	0	37,000	37,000	9,000	9,000
Total Coal Program	128,738	274,339	323,405	333,805	85,900	89,000
B. Petroleum and Natural Gas						
1. Gas and Oil Extraction	7,263	26,369	24,929	34,929	6,430	6,430
2. Gas and Oil Utilization	1,445	1,789	1,797	1,797	450	450
Total Petroleum and Natural Gas Program	8,708	28,158	26,726	36,726	6,880	6,880
C. Oil Shale						
1. In-situ Processing	2,308	3,762	7,720	13,720	1,950	1,950
2. Composition and Characterization	922	962	1,265	1,265	300	300
Total Oil Shale Program	3,230	4,724	8,985	14,985	2,250	2,250
Total Operating Expenses (Obligations) \$	140,676	307,221	359,116	385,516	95,030	98,130

FY 1976 Budget Estimates
 Amendment
 Appropriation - Operating Expenses
 (Dollars in thousands, except whole dollars in narrative material)
 FOSSIL ENERGY DEVELOPMENT

COAL PROGRAM - OPERATING COSTS

PROGRAM STATEMENT
 FY 1976

Previous Estimate to Congress FY 1976	\$ 279,473
Amendment	4,900
Total Amended Estimate FY 1976	\$ 284,373

The Coal program's major objectives are to accelerate the development of technology for converting coal to environmentally acceptable 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 1976 amendment increase of \$4,900,000 over the president's budget in operating costs is required to further expedite selected high priority projects. The increase includes \$1,600,000 for the acceleration of open cycle gas turbine projects under the advanced power systems sub-program, and \$3,300,000 to expedite the development of both atmospheric and pressurized direct combustion systems.

TRANSITION PERIOD

Previous Estimate to Congress	\$ 46,300
R&D Amendment	1,300
Total Amended Estimate Transition Period ...	\$ 47,600

SUMMARY OF ESTIMATES BY SUBPROGRAM

Subprogram	FY 1976		Total Amended Estimate
	Previous Est. to Congress	Energy R&D Amendment	
1. Liquefaction	\$ 96,897	0	\$ 96,897
2. High-Btu Gasification	42,838	0	42,838
3. Low-Btu Gasification	51,671	0	51,671
4. Advanced Power Systems	5,261	1,600	6,861
5. Direct Combustion	32,645	3,300	35,945
6. Advanced Research and Supporting Technology	32,061	0	32,061
7. Demonstration Plants	18,100	0	18,100
Total Coal Program	\$ 279,473	\$ 4,900	\$ 284,373

JUSTIFICATION OF AMENDMENT

Energy R&D Amendment \$ 4,900

Coal is our most abundant domestic fossil fuel resource and reserve. Increasing quantities of coal or coal-derived products will be needed for electric utility and industrial boilers, refinery feedstock, pipeline gas distribution systems, and chemical feedstocks. Accelerated use of coal requires the resolution of many potential problems. The knowledge base for many aspects of the processes of coal utilization is not adequate for the fossil fuel industry to meet the challenges of increased coal use. The requested budget amendment of \$4,900,000 is required to further expedite selected high priority projects under the Advanced Power Systems and Direct Combustion subprograms.

The Advanced Power Systems subprogram's major objective is to establish the technology base which will allow the development of one or more advanced electrical power generating systems using coal-derived fuels as the energy source. The additional operating costs of \$1,600,000 for FY 1976 will permit an accelerated appraisal of the technological readiness of high performance open cycle gas turbine systems, development of improved turbine system elements, and will allow proceeding to full-scale prototype engines as rapidly as possible.

Successful operating and modeling of the open cycle gas turbine requires that the combustor and the turbine hot section be designed to operate reliably utilizing coal as the primary fuel. The additional amount requested will be used for development of the turbine hot sections, system definition, component design, structural and dynamic design and analysis, study of hot gas cleanup, fuel chemistry, analysis of bearings, ceramics and other components, materials corrosion, resisting materials, and life prediction studies. Exploration and solving the above problem areas are essential to improve the reliability of the open cycle gas turbine to operate in the severe environment of coal-derived fuel combustion. This accelerated effort will enable ERDA to proceed to full-scale open cycle gas turbine prototypes more rapidly.

The most efficient way to utilize coal is by its direct combustion as any process to upgrade coal requires expenditure of energy. The prime purpose of the requested increase for the Direct Combustion subprogram is to expedite the development of 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. 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 for increased plant efficiency. Work will also be undertaken to replace oil with a coal-oil slurry in existing oil-fired boilers.

Of the additional \$3,300,000 requested for operating costs, \$900,000 will be devoted to efforts on atmospheric fluidized-bed combustion systems. The need in this area is to minimize the developmental risks involved in implementing new technology and insure a more immediate availability of commercial coal-fired fluidized-bed boilers and process heaters which meet environmental regulations. The additional amount requested will be spent on experimental fluidized-bed combustors to accelerate the establishment of a sound information base to improve design optimization and reliability data.

The expected results of the additional experimental efforts will be to accelerate the commercialization of utility fluidized-bed boiler and other industrial and institutional atmospheric combustion applications. Also, these efforts will speed up, through the additional data base obtained, the availability of advanced technology necessary for fluidized-bed boiler development.

\$1,900,000 of the requested increase is required to pursue multiple systems and coal utilization approaches of pressurized fluidized-bed combustion for combined cycle utility application. Coals of varying sulfur content, slagging and corrosive properties will be tested. Combustion characteristics of coals and lignites from several Eastern and Western fields with widely varying mineral, water and sulfur content, geographically matched limestone and other sorbents, and distinctive environmental differences will be evaluated. These actions will assist in the development of combustion systems best suited to the specific needs of the distinctive geographic areas of the nation.

An additional \$500,000 is requested to initiate a support study project to evaluate technical problems of burning slurries of coal and oil in existing oil-fired industrial and utility boilers. Preliminary data indicates that up to 50 percent of oil may be replaced with coal, with only minor alterations to existing oil-fired boilers.

FY 1976 Budget Estimates
Amendment

Appropriation - Operating Expenses

(Dollars in thousands, except whole dollars in narrative material)

FOSSIL ENERGY DEVELOPMENT

PETROLEUM AND NATURAL GAS PROGRAM - OPERATING COSTS

PROGRAM STATEMENT

FY 1976

Previous Estimate to Congress FY 1976 \$ 23,647
Amendment 4,700
Total Amended Estimate FY 1976 \$ 28,347

Petroleum and natural gas will continue to be the nation's main energy source for many years. This program is intended to further increase the supply of crude oil and natural gas by the development of applicable technology. The major component of these efforts is the Gas and Oil Extraction subprogram, the purpose of which is to increase the rate at which oil and gas can be produced from known formations and to provide scientific basis for future recovery methods.

The requested FY 1976 increase of \$4,700,000 is for the Gas and Oil Extraction subprogram to provide for additional field test projects for tertiary oil recovery and gas stimulation.

TRANSITION PERIOD

Previous Estimate to Congress \$ 7,230
R&D Amendment 1,500
Total Amended Estimate Transition Period .. \$ 8,730

SUMMARY OF ESTIMATES BY SUBPROGRAM

	FY 1976	Total
Subprogram	Energy R&D Amendment	Amended Estimate
1. Gas and Oil Extraction	\$ 4,700	\$ 26,765
2. Gas and Oil Utilization	0	1,582
Total Petroleum and Natural Gas Program	<u>\$ 4,700</u>	<u>\$ 28,347</u>

JUSTIFICATION OF AMENDMENT

Energy R&D Amendment \$ 4,700

The requested increase of \$4,700,000 in operating costs for this program will provide for four additional field test projects for tertiary oil recovery and three for gas stimulation in the Gas and Oil Extraction subprogram as discussed below.

The Gas and Oil Extraction subprogram is designed to provide impetus to current industrial efforts and to facilitate information transfer throughout the petroleum production industry. Widespread application of any new method of tertiary recovery of oil has not occurred. Although several methods appear promising and a few have had some successful tests, large-scale investment has not been attractive due to the lack of assurance as to payout and proprietary interests.

Natural gas stimulation, particularly from tight formations such as the Devonian Shale, is part of this subprogram. The use of chemical and/or gaseous explosive and massive hydraulic fracturing are near commercialization. However, their applicability to very tight formations must be demonstrated before they will be accepted commercially.

Increased funding of \$4,700,000 for operating costs is requested to provide for initiating seven additional field demonstration projects, all of which will be cost-shared with industry. Projects will include tests in micellar-polymer flooding and carbon dioxide injection in the area of tertiary recovery, and chemical explosive and massive hydraulic fracturing and environmental studies in the area of gas stimulation.

The additional funding will help toward accelerating and expanding government participation in increasing the production of oil and gas in the areas where there are already considerable industry-sponsored experimental programs underway, which will ensure rapid development of enhanced oil recovery technology and a rapid transfer of this technology to those who can use it.

FY 1976 Budget Estimates

Amendment

Appropriation - Operating Expenses

(Dollars in thousands, except whole dollars in narrative material)

FOSSIL ENERGY DEVELOPMENT

OIL SHALE PROGRAM - OPERATING COSTS

PROGRAM STATEMENT

FY 1976

Previous Estimate to Congress FY 1976	\$ 8,147
Amendment	2,800
Total Amended Estimate FY 1976	\$ 10,947

Oil shales of the Green River formation in Colorado, Utah, and Wyoming constitute the world's largest known hydrocarbon deposit. Despite this fact, this resource has yet to be used productively. To foster the potential commercialization of this vast resource, ERDA, in cooperation with the Department of the Interior, has developed a national program to accelerate the development and application of in-situ processes to recover shale oil from oil shale. The requested FY 1976 increase of \$2,800,000 in operating costs is required to permit ERDA to meet its commitment under the established national program to expand research and development on alternative technical approaches for exploiting low-grade oil shales.

TRANSITION PERIOD

Previous Estimate to Congress	\$ 2,300
R&D Amendment	900
Total Amended Estimate Transition Period ..	\$ 3,200

SUMMARY OF ESTIMATES BY SUBPROGRAM

	FY 1976	Total
<u>Subprogram</u>	<u>Energy</u>	<u>Amended</u>
	<u>R&D</u>	<u>Estimate</u>
	<u>Amendment</u>	<u></u>
1. In-situ Processing	\$ 7,034	\$ 9,834
2. Composition and Characterization	1,113	1,113
Total Oil Shale Program	<u>\$ 8,147</u>	<u>\$ 10,947</u>

JUSTIFICATION OF AMENDMENT

Energy R&D Amendment \$ 2,800

ERDA, in cooperation with the Department of the Interior, has developed a national program to accelerate the development and application of in-situ processes to recover shale oil from oil shale. The program was announced at a major Government/industry conference in March 1975 and involves two concurrent actions. First, the Department of the Interior will initiate those actions that could lead to lease sales of one or two prototype oil shale tracts for in-situ development by private industry. Secondly, ERDA will initiate an accelerated program of in-situ research designed to complement the Interior action. Interior has called for tract nominations by private industry and is committed to the program. The requested increase of \$2,800,000 in operating costs is required if ERDA is to meet its obligations under this program.

Specifically, the increase in funds will permit expansion of the research to develop alternative technical approaches for exploiting low-grade oil shales. This is particularly important since about two-thirds of the resource base is contained in these lower grade shales and may never be recovered with conventional mining techniques. If successfully developed, in-situ production of shale oil would unlock this resource and be far less harmful to the environment. For example, as compared to conventional mining and surface processing, in-situ shale oil production is estimated to require one-third as many people to operate the process, one-half the amount of water, and produce from zero to one-third the amount of waste oil shale.

To ensure the maximum rate of advance in the development of in-situ technology covering the full range of amenable shale deposits and process approaches, it is proposed to expand the ongoing effort by means of cost-sharing contracts with industry and the services of ERDA's laboratories. The plan is to initiate one additional field test of the "modified horizontal" approach. In addition, in-situ gasification research now underway will be expanded into an accelerated larger scale effort involving underground conditions. A strong emphasis throughout the program will be on incorporating environmental control techniques into the processes as integral parts of the development work.

FY 1976 Budget Estimates
 Amendment
 Appropriation - Operating Expense
 (Dollars in thousands, except whole dollars in narrative material)

SOLAR, GEOTHERMAL, AND ADVANCED ENERGY SYSTEMS DEVELOPMENT

ADVANCED ENERGY SYSTEMS RESEARCH PROGRAM - OPERATING COSTS

PROGRAM STATEMENT

FY 1976

Previous Estimate to Congress FY 1976.....	\$23,173
Amendment.....	9,900
Total Amended Estimate FY 1976.....	\$33,073

The major objectives of the Advanced Energy Systems Research program are to provide a commercial magnetohydrodynamics (MHD) demonstration by the late 1980's, to evaluate existing fuel cells with coal-derived fuels, and to provide Supporting Activities consisting of systems studies, technology transfer, energy invention evaluation, and environmental and water resources evaluation. Included in the FY 1976 Amendment are funds for acceleration of MHD generator development and component testing (\$4,100,000) and expansion of Supporting Activities (\$7,550,000). The increase in Supporting Activities will allow more comprehensive systems studies (\$4,800,000), initiation of energy invention evaluation in conjunction with the National Bureau of Standards (NBS) (\$1,250,000), and initiation of environmental evaluation by the Council on Environmental Quality (CEQ) and water resources evaluation by the Water Resources Council (WRC) (\$1,500,000). These increases are offset by a decrease of \$1,750,000, reflecting the transfer of the Improved Conversion Efficiency category to the Conservation Research and Development Activity.

TRANSITION PERIOD

Previous Estimate to Congress.....	\$ 4,030
R&D Amendment.....	3,000
Total Amended Estimate Transition Period..	\$ 7,030

SUMMARY OF ESTIMATES BY SUBPROGRAM

Subprogram	FY 1976		Total Amended Estimate
	Previous Est. to Congress	Energy R&D Amendment	
1. Magnetohydrodynamics	\$ 13,773	\$ 4,100	\$ 17,873
2. Fuel Cells (Fossil)	500	0	500
3. Supporting Activities			
a. Systems Studies - Fossil	600	0	600
b. Systems Studies - Planning and Analysis	6,000	4,800	10,800
c. Technology Transfer	550	0	550
d. Energy Invention Evaluation	0	1,250	1,250
e. Improved Conversion Efficiency I/	1,750	-1,750	0
f. Environmental and Water Resources Evaluation	0	1,500	1,500
Subtotal Supporting Activities	\$ 8,900	\$ 5,800	\$ 14,700
Total Advanced Energy Systems Research Program	\$ 23,173	\$ 9,900	\$ 33,073

JUSTIFICATION OF AMENDMENT

Energy R&D Amendment \$9,900

The requested FY 1976 increase of \$4,100,000 in operating costs over the President's budget for the Magnetohydrodynamics (MHD) subprogram is required to accelerate MHD generator channel development and component testing. These efforts will aid in accomplishing the goal of commercial MHD demonstration by the late 1980's. Of the increase \$2,850,000 will be used to initiate a major component development effort in generator channels, diffusers, combustors, and essential MHD subsystems such as air heater, magnet, steam generator, seed recovery and emissions control requirements in the range to 50 MW thermal utilizing coal. Also included is initiation of a Component Development and Integration Facility for component testing. The remaining additional costs of \$1,250,000 will be used to initiate high field generator testing to develop basic background design data for component design and closed cycle systems, and for expanded system and design analysis. Further, the increased costs requested will permit the expansion of supporting science and technology, such as instrumentation development for measuring critical MHD gas stream characteristics, evaluation of electrical and thermal conductivities and slag/seed compatibility with potential electrode materials and testing of electrode/insulator module combinations under simulated MHD channel conditions.

I/ Transferred to the Conservation Research and Development activity.

The balance of the increase is \$7,550,000 for Supporting Activities (partially offset by a decrease of \$1,750,000 reflecting the transfer of Improved Conversion Efficiency to Conservation R&D). The Amendment provides an additional \$4,800,000 for the systems studies performed under the direction of the Assistant Administrator for Planning and Analysis. These systems studies and analyses are conducted with the objective of developing and applying systems analyses techniques to aid in planning, management and decision-making for the allocation of resources and evaluation of performance in implementing the National Energy R&D Plan. Included among these studies are those directed toward (1) developing policy formulation and decision-making techniques, (2) determining relationships between energy utilization and economic activity, (3) establishing criteria for energy research and development policy, (4) developing regional energy objectives, (5) planning of manpower requirements for energy R&D, (6) analyzing effective management techniques, (7) evaluating R&D program priorities, (8) identifying requirements for supporting research programs, (9) integrating economic and energy system models, (10) developing interregional and regional modeling and alternative modeling approaches, (11) analyzing capital, labor and other requirements of energy industries, (12) forecasting energy demand, (13) defining supply functions for resources, (14) developing energy-related service indicators, and (15) studying regional aspects of energy distribution.

The Amendment provides \$1,250,000 for the initiation of energy invention evaluation. This new program will be established pursuant to Section 14 of P.L. 93-577 in order to have promising energy-related inventions evaluated by the National Bureau of Standards (NBS) for potential ERDA application. The efforts will be pursued under a reimbursable work agreement between NBS and ERDA.

The balance of the increase for Supporting Activities will provide funds, as authorized by Section 16 of P.L. 93-577, to the Council on Environmental Quality (CEQ) for environmental evaluation (\$500,000) and to the Water Resources Council (WRC) for water resources evaluation (\$1,000,000). As provided in Section 11 of the Act, CEQ will carry out a continuing analysis of the effect of applying non-nuclear energy technologies, and evaluate the adequacy of attention to energy conservation methods and to environmental protection. Under the authority of Section 13 of the Act, WRC will undertake assessments, at the request of the ERDA Administrator, of water resource requirements and water supply availability for any non-nuclear energy technologies which are the subject of P.L. 93-577. In addition, for any proposed demonstration projects or commercial applications of these technologies, which could have a significant impact on water resources, the ERDA Administrator, as a precondition to Federal assistance for such projects or applications, must have prepared an assessment of the availability of adequate water resources and, in the case of commercial applications, an evaluation of the environmental, social, and economic impacts of the dedication of water to such uses.

FY 1976 Budget Estimates
Amendment
SUMMARY TABLE
(Dollars in Thousands)

III. Conservation Research and Development Operating Expenses - COST BASIS	FY 1974 Actual	FY 1975 Estimate	FY 1976		Transition Period	
			Previous Estimate to Congress	Amended Estimate to Congress	Previous Estimate to Congress	Amended Estimate to Congress
A. Electric Energy Systems						
1. Systems Management and Structuring.	\$ 0	\$ 400	\$ 2,000	\$ 4,200	\$ 500	\$ 1,100
2. Electric Power Transmission.....	1,531	5,972	9,830	11,800	2,173	3,000
Total Electric Energy Systems....	1,531	6,372	11,830	16,000	2,673	4,100
B. Industry Conservation						
1. Heat Management.....	0	0	500	650	170	160
2. Agriculture and Food Industries....	0	0	300	500	100	125
3. Industrial Plant Efficiency Improvement.....	0	0	300	500	100	125
4. Alternative Fuels, Materials & Processes.....	0	0	100	300	30	75
5. Industrial Management.....	0	0	0	50	0	15
Total Industry.....	0	0	1,200	2,000	400	500
C. Buildings Conservation						
1. Commercial Buildings.....	0	0	300	900	100	230
2. Residential Buildings.....	0	0	300	1,200	145	305
3. Performance Standards.....	0	0	0	1,500	0	380
4. Community Systems.....	0	0	0	400	0	105
5. Consumer Products.....	0	0	100	200	30	55
6. Technology.....	0	0	500	500	125	125
Total Buildings.....	\$ 0	\$ 0	\$ 1,200	\$ 4,700	\$ 400	\$ 1,200

	FY 1974 Actual	FY 1975 Estimate	FY 1976		Transition Period	
			Previous Estimate to Congress	Amended Estimate to Congress	Previous Estimate to Congress	Amended Estimate to Congress
D. Transportation						
1. Highway Vehicle Systems.....	\$1,500	\$ 4,290	\$ 7,570	\$ 8,200	\$1,890	\$ 2,235
2. Technology Studies and Implementa- tion	0	200	670	1,800	170	465
Total Transportation	1,500	4,490	8,240	10,000	2,060	2,700
E. Cross-Sectoral Conservation						
1. Energy Storage Systems.....	1,689	5,800	9,100	13,000	2,000	3,400
2. Energy Conversion.....	0	0	0	3,870	0	1,000
3. Waste Systems and Utilization.....	0	0	300	300	150	150
4. Interdisciplinary Conservation.....	0	0	300	300	50	50
Total Cross Sectoral.....	1,689	5,800	9,700	17,470	2,200	4,600
Total Operating Expenses.....	\$4,720	\$16,662	\$32,170 ^{a/}	\$50,170 ^{b/}	\$7,733	\$13,100

a/ Excludes energy conversion related efforts budgeted under the Advanced Energy Systems program and bioconversion activities budgeted under the Solar Energy Development program.

b/ Includes energy conversion related efforts transferred from the Advanced Energy Systems program and excludes bioconversion activities budgeted under the Solar Energy Development program.

	FY 1974 Actual	FY 1975 Estimate	FY 1976		Transition Period	
			Previous Estimate to Congress	Amended Estimate to Congress	Previous Estimate to Congress	Amended Estimate to Congress
<u>Plant and Capital Equipment - OBLIGATIONS BASIS</u>						
A. Electric Energy Systems						
Capital Equipment.....	\$ 80	\$ 340	\$ 1,700	\$ 2,000	\$ 200	\$ 480
B. Industry Conservation						
Capital Equipment.....	0	0	0	0	0	0
C. Buildings Conservation						
Capital Equipment.....	0	0	0	0	0	0
D. Transportation						
Capital Equipment.....	0	0	0	400	0	40
E. Cross-Sectoral Conservation						
Capital Equipment.....	110	210	750	950	300	220
Conservation Research and Development Totals						
Operating Expenses (Costs).....	4,720	16,662	32,170	50,170	7,733	13,100
Capital Equipment (Obligations).....	190	550	2,450	3,350	500	740
Construction Projects.....	0	0	0	0	0	0
Subtotal Plant and Capital Equip- ment.....	\$ 190	\$ 550	\$ 2,450	\$ 3,350	\$ 500	\$ 740

FY 1976 Budget Estimates
Amendment
SUMMARY TABLE
(Dollars in Thousands)

III. Conservation Research and Development	FY 1974 Actual	FY 1975 Estimate	FY 1976		Transition Period	
			Previous Estimate to Congress	Amended Estimate to Congress	Previous Estimate to Congress	Period Amended Estimate to Congress
<u>Operating Expenses - OBLIGATIONS BASIS</u>						
A. Electric Energy Systems						
1. Systems Management and Structuring...	\$ 0	\$ 1,000	\$ 2,050	\$ 7,030	\$ 400	\$ 1,700
2. Electric Power Transmission.....	2,251	12,728	10,080	12,100	2,173	3,000
Total Electric Energy Systems.....	2,251	13,728	12,130	19,130	2,573	4,700
B. Industry Conservation						
1. Heat Management.....	0	0	700	1,500	170	380
2. Agriculture and Food Industries....	0	0	500	1,350	100	350
3. Industrial Plant Efficiency Improvement.....	0	0	500	1,350	100	350
4. Alternative Fuels, Materials & Processes.....	0	0	300	650	30	150
5. Industrial Management.....	0	0	0	150	0	70
Total Industry.....	0	0	2,000	5,000	400	1,300
C. Buildings Conservation						
1. Commercial Buildings.....	0	0	500	2,500	100	730
2. Residential Buildings.....	0	0	500	3,250	145	930
3. Performance Standards.....	0	0	0	3,500	0	1,000
4. Community Systems.....	0	0	0	1,250	0	360
5. Consumer Products.....	0	0	300	500	30	125
6. Technology.....	0	0	700	1,000	125	275
Total Buildings.....	\$ 0	\$ 0	\$ 2,000	\$12,000	\$ 400	\$ 3,400

	FY 1974		FY 1975		FY 1976		Transition Period	
	Actual	Estimate	Estimate	to Congress	Estimate	to Congress	Previous Estimate	Amended Estimate to Congress
D. Transportation								
1. Highway Vehicle Systems.....	\$ 7,273	\$ 5,862	\$ 8,670	\$10,040	\$2,080	\$ 2,550		
2. Pipeline Systems.....	0	0	0	500	0	150		
3. Technology Studies and Implementation.....	0	800	770	2,000	230	500		
Total Transportation.....	7,273	6,662	9,440	12,540	2,310	3,200		
E. Cross-Sectoral Conservation								
1. Energy Storage Systems.....	2,034	6,800	10,100	14,100	1,800	3,000		
2. Energy Conversion.....	0	0	0	4,000	150	1,200		
3. Waste Systems and Utilization.....	0	2,400	600	600	150	100		
4. Interdisciplinary Conservation.....	0	0	500	500	50	100		
Total Cross-Sectoral.....	2,034	9,200	11,200	19,200	2,150	4,400		
Total Operating Expenses (Obligations)...	\$11,558	\$29,590	\$36,770a/	\$67,870b/	\$7,833	\$17,000		

a/ Excludes energy conversion related efforts budgeted under the Advanced Energy Systems program and bioconversion activities budgeted under the Solar Energy Development program.

b/ Includes energy conversion related efforts transferred from the Advanced Energy Systems program and excludes bioconversion activities budgeted under the Solar Energy Development program.

Comparison of Conservation Budget Structure in FY 1976 Budget to Congress and Amended FY 1976 Budget (Dollars in Thousands)

New Conservation Budget Structure in Amended FY 1976 Budget	Breakdown of Previous Est. to Congress in Amended Budget		Previous Estimate To Congress		Conservation Budget Structure In FY 1976 Budget to Congress	
	Obligations	Costs	Obligations	Costs	Obligations	Costs
Operating Expenses						
Electric Energy Systems Program.....	\$12,130	\$11,830	\$12,130	\$11,830		Electric Power Transmission Program
Transportation Program.....	9,440	8,240	9,440	8,240		Advanced Automotive Power Systems Program
Industry Conservation Program.....	2,000	1,200				
Buildings Conservation Program.....	2,000	1,200				
Cross-Sectoral Conservation Program.....					5,100	3,000
Waste Systems & Utilization.....	600	300				
Interdisciplinary Conservation.....	500	300				
Energy Storage Systems Subprogram.....	10,100	9,100	10,100	9,100		End-Use Energy Conservation Research and Development Program
Subtotal Cross-Sectoral Operating.....	11,200	9,700				
Subtotal Conservation - Operating.....	36,770	32,170	36,770	32,170		Energy Storage Systems Program
Cross-Sectoral Conservation						
Energy Conversion Subprogram.....	1,750 ^{a/}	1,750 ^{a/}	1,750 ^{a/}	1,750 ^{a/}		Advanced Energy Sys. Res. Program Supporting Activities Subprogram
Waste Systems & Utilization.....	250 ^{a/}	2,170 ^{a/}	250 ^{a/}	2,170 ^{a/}		Solar Energy Development Program
Total Conservation - Operating.....	38,770	36,090	38,770	36,090		Bioconversion to Fuels Subprogram
Capital Equipment						
Electric Energy Systems Program.....	1,700	1,295	1,700	1,295		Electric Power Transmission Program
Cross-Sectoral Conservation Program.....						
Energy Storage Systems Subprogram.....	750	591	750	591		Energy Storage Systems Program
Total Capital Equipment.....	2,450	1,886	2,450	1,886		
Grand Total Conservation	\$41,220	\$37,976	\$41,220	\$37,976		

a/ These amounts reflect Conservation related efforts which are budgeted under the Solar, Geothermal and Advanced Energy Systems Activity. This includes Energy Conversion work budgeted under the Advanced Energy Systems Program and Bioconversion efforts budgeted under the Solar Energy Development Program.

FY 1976 Budget Estimates
Amendment
Appropriation - Operating Expenses
(Dollars in thousands, except whole dollars in narrative material)

CONSERVATION RESEARCH AND DEVELOPMENT

ELECTRIC ENERGY SYSTEMS PROGRAM - OPERATING COSTS

PROGRAM STATEMENT

FY 1976

Previous Estimate to Congress FY 1976	\$11,830
Amendment.....	4,170
Total Amended Estimate FY 1976.....	\$16,000

The overall objective of the Electric Energy Systems program is to enhance the capability of the electric power transmission and distribution system to supply electrical energy to meet the steadily increasing demand (doubling every decade) in a more efficient, reliable, economical and environmentally acceptable manner. This program includes all of the subprograms contained in the former Electric Power Transmission program, but has been restructured to reflect a separation of the systems development, control and distribution activities. Reassessment of the program indicates the need for additional funds to initiate and accelerate projects crucial to strategy implementation. Therefore, the increase in the Energy R&D Amendment will be principally directed toward initiation of a major effort in use management and expansion of on-going activities in distribution, and systems control and development. The Amendment will also provide for accelerated development of superconducting underground transmission technology.

TRANSITION PERIOD

Previous Estimate to Congress.....	\$ 2,673
R&D Amendment.....	1,427
Total Amended Estimate Transition Period.....	\$ 4,100

SUMMARY OF ESTIMATES BY SUBPROGRAM

Subprogram	Previous Est. to Congress	FY 1976 Energy R&D Amendment	Total Amended Estimate
1. Systems Management and Structuring.....	\$ 2,000	\$2,200	\$ 4,200
2. Electric Power Transmission.....	9,830	1,970	11,800
Total Electric Energy Systems Program.....	\$11,830	\$4,170	\$16,000

JUSTIFICATION OF AMENDMENT

Energy R&D Amendment..... \$ 4,170

The Energy R&D Amendment will be directed toward expansion or initiation of efforts in distribution and use management, systems development and control and electric power transmission as described below.

Distribution and Use Management - The Energy R&D Amendment will provide for efforts in use management and distribution automation aimed at developing both analytical techniques and devices for the purpose of monitoring and influencing loads at the end-use level of the electrical system. Such methodologies are indispensable to major reduction in energy losses on the low voltage network. Development of new techniques for network planning, modeling and load forecasting will be undertaken to provide additional increases in efficiency. Use management refers to the ability to control the magnitude of the electric energy load seen by the distribution system and electric generating without impairing the ability of the end user to satisfy his instantaneous, individual needs. This objective is not realizable with today's technology. The problem will be approached from at least three directions: (a) evaluating the influence on the consumption of electricity through the use of incentives such as special rates coupled with means available to the consumer for shifting a portion of his own load to off-peak periods in a convenient manner; (b) introduction of thermal energy storage devices in the home to act as a buffer between the customers demand for heating or cooling and the system's desirable load shape; and (c) use of direct control means, probably utilizing channels installed for remote meter reading, to actually interrupt certain types of load for short intervals during emergency circumstances.

Systems Development and Control - Under the Energy R&D Amendment research would be initiated in areas related to electrical systems development, including studies related to strengthening of interties, and improved electrical systems stability and reliability in order to achieve additional fuel economies. Specific projects beyond those which can be funded this year under the previous FY 1976 estimate include new approaches to stability analysis and monitoring and more powerful mathematical techniques for network adequacy and reliability evaluation.

Transmission - The Energy R&D Amendment would permit increased effort, and thereby the development rates, in those technologies which have been identified as most crucial to the attainment of the national goal of energy resource conservation and whose timeframes under the previous FY 1976 estimate are inconsistent with appropriate milestones. Specific areas of R&D activity to be accelerated are superconducting transmission, dc transmission, and electric field effects of ultra-high-voltage lines.

FY 1976 Budget Estimates

Amendment

Appropriation - Plant and Capital Equipment

(Dollars in thousands, except whole dollars in narrative material)

CONSERVATION RESEARCH AND DEVELOPMENTELECTRIC ENERGY SYSTEMS PROGRAM - PLANT AND CAPITAL EQUIPMENT OBLIGATIONSPROGRAM STATEMENT

	FY 1976			Transition Period		
	Previous Estimate to Congress	Energy R&D Amend.	Amended Estimate to Congress	Previous Estimate to Congress	Energy R&D Amend.	Amended Estimate to Congress
A - Obligations for Construction Projects.....	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
B - Obligations for Capital Equipment Not Related to Construction.....	1,700	300	2,000	200	280	480
Total Obligations for Plant and Capital Equipment.....	\$1,700	\$ 300	\$2,000	\$ 200	\$ 280	\$ 480

SECTION A - Obligations for Construction Projects

No change from previous FY 1976 Budget Estimates submitted February 3, 1975.

SECTION B - Obligations for Capital Equipment not Related to Construction

	FY 1976			Transition Period		
	Previous Estimate to Congress	Energy R&D Amend.	Amended Estimate to Congress	Previous Estimate to Congress	Energy R&D Amend.	Amended Estimate to Congress
Electric Energy Systems Program.....	\$1,700	\$ 300	\$2,000	\$ 200	\$ 280	\$ 480
Total Electric Energy Systems Program Capital	\$1,700	\$ 300	\$2,000	\$ 200	\$ 280	\$ 480
Equipment Not Related to Construction.....						

JUSTIFICATION OF AMENDMENT

Energy R&D Amendment..... \$ 300

The increase in capital equipment obligations in the Energy R&D Amendment will provide additional supporting equipment for the operating program requested in the previous FY 1976 estimate as well as the expanded electric energy systems activities which would be provided in the Energy R&D Amendment.

FY 1976 Budget Estimates
Amendment

Appropriation - Operating Expenses
(Dollars in thousands, except whole dollars in narrative material)

CONSERVATION RESEARCH AND DEVELOPMENT

INDUSTRY CONSERVATION PROGRAM - OPERATING COSTS

PROGRAM STATEMENT

FY 1976

Previous Estimate to Congress FY 1976..... \$1,200
Amendment..... 800
Total Amended Estimate FY 1976..... \$2,000

The previous FY 1976 estimate represents the transfer of the industry related work contained in the End-Use program. (The balance of the former End-Use program is in the Buildings Conservation and Cross-Sectoral Programs.) The principal objective of the Industry Conservation program is to examine and promote the development of technologies that, when implemented, will reduce the energy consumption of industrial and agricultural products. The Industry Conservation program will focus upon industrial processes and products which consume significant energy and have the potential for significant energy savings, such as; agriculture and food processing, materials and heat recovery and utilization, and economic, social, environmental and institutional barriers to conservation action and investment. Activities in the Industry Conservation Program will be closely coordinated with appropriate government agencies such as the Federal Energy Administration and the Department of Commerce.

TRANSITION PERIOD

Previous Estimate to Congress..... \$ 400
R&D Amendment..... 100
Total Amended Estimate Transition Period..... \$ 500

SUMMARY OF ESTIMATES BY SUBPROGRAM

Subprogram	FY 1976		Total Amended Estimate
	Previous Est. to Congress	Energy R&D Amendment	
1. Heat Management.....	\$ 500	\$150	\$ 650
2. Agriculture and Food Industries.....	300	200	500
3. Industrial Plant Efficiency Improvements.....	300	200	500
4. Alternative Fuels, Materials & Processes.....	100	200	300
5. Industrial Management.....	0	50	50
Total Industry Conservation Program.....	<u>\$1,200</u>	<u>\$800</u>	<u>\$2,000</u>

JUSTIFICATION OF AMENDMENT

Energy R&D Amendment..... \$800

Under the previous estimate for FY 1976 the Industry Conservation program would be primarily limited to initiating feasibility studies, developing management tools and pursuing preliminary technology development. The Energy R&D Amendment will permit expanded efforts related to feasibility studies and preliminary technology assessment with the objective of improving and providing information to encourage commercial adoption of technologies for conservation in the industrial sector. In the area of heat management this will include heat recovery, upgraded insulation and refractories, multiple uses and heat technology. Effort will be performed on heat pumps, heat transfer systems, and waste heat recovery from gases.

A series of short topical publications will be developed to disseminate both the results of ERDA research and knowledge that has not yet been utilized by industry. Feasibility studies will be performed of combustion technologies including fuel injection, fluidized beds, burner design, fuel additive and oxygen enrichment.

Energy consumed by the agriculture and food industries sub-sector accounts for 12 percent of the nation's energy. The Energy R&D Amendment will expand the analysis of agricultural and food processing operations to determine the energy conservation potential through technological change. Efforts conducted in industrial plant efficiency research are principally concerned with improved energy utilization technology in large plants where the resulting conservation improvements will be of use to an entire industry. Alternative fuels, materials, and processes research will be oriented to demonstrate the substitution of lower cost, plentiful fuels for more expensive, scarce fuels.

FY 1976 Budget Estimates
Amendment

Appropriation - Operating Expenses

(Dollars in thousands, except whole dollars in narrative material)

CONSERVATION RESEARCH AND DEVELOPMENT

BUILDINGS CONSERVATION PROGRAM - OPERATING COSTS

PROGRAM STATEMENT

FY 1976

Previous Estimate to Congress FY 1976..... \$1,200
Amendment..... 3,500
Total Amended Estimate FY 1976..... \$4,700

The previous FY 1976 estimate reflects the transfer of a portion of the former End-Use Conservation R&D program. (The balance of the former End-Use program can be identified under the Industry Conservation program and Cross-Sectoral Conservation program.) The principal objective of the Buildings Conservation program is to initiate feasibility studies, conduct research and development, and develop energy conservation standards for more efficient use of energy in the buildings and community sectors in a manner which will be accepted and implemented by the end user. The increase in the Energy R&D Amendment will allow early initiation of a broad spectrum of integrated research, development and proof of concept activities directed at providing options for reducing energy consumption without reducing the standard of living or reducing the efficiency of the commercial sector of the building environment. Another important activity is implementation of a comprehensive information dissemination and technology commercialization effort. Activities in the Buildings Conservation program will be closely coordinated with appropriate Government agencies such as the Federal Energy Administration and the Department of Housing and Urban Development.

TRANSITION PERIOD

Previous Estimate to Congress..... \$ 400
R&D Amendment..... 800
Total Amended Estimate Transition Period..... \$1,200

SUMMARY OF ESTIMATES BY SUBPROGRAM

Subprogram	FY 1976		Total Amended Estimate
	Previous Est. to Congress	Energy R&D Amendment	
1. Commercial Buildings	300	600	900
2. Residential Buildings	300	900	1,200
3. Performance Standards	0	1,500	1,500
4. Community Systems	0	400	400
5. Consumer Products	100	100	200
6. Technology	500	0	500
Total Buildings Conservation Program	<u>\$ 1,200</u>	<u>\$ 3,500</u>	<u>\$ 4,700</u>

JUSTIFICATION OF AMENDMENT

Energy R&D Amendment..... \$3,500

Under the previous estimate for FY 1976 the Buildings Conservation program would be primarily limited to initiating feasibility studies, and developing management tools and pursuing preliminary technology development related to materials and components. With the increase in the Energy R&D Amendment research and development activities will be performed in all segments of the building industry to rapidly introduce into the marketplace economically viable methods of improved operation and retrofit of existing buildings, and life-cycle cost-effective technology and incentives for new commercial buildings. Current energy use data concerning commercial buildings will be collected and analyzed to assist in planning future research, development and demonstration activities and for dissemination to the private and public sectors. In residential buildings the principal objective is to promote new materials, methods and processes for producing energy efficient dwelling units. The beneficial use of "waste heat" in buildings will be evaluated and techniques including thermal storage evaluated.

A major effort will be the development, implementation and publication of energy conservation standards for new residential and commercial buildings. The Energy R&D Amendment will support the initiation of research to establish a data base for the development and promulgation of minimum energy performance standards for new and existing construction. Research will also be directed toward the development of special monitoring equipment in support of the development of performance criteria. In community systems ERDA will initiate an early effort to rapidly bring new and innovative technology into the marketplace with the objective of improving the overall economic and energy performance of integrated utility systems. Preliminary research will be directed toward energy consumption and land use patterns. Consumer product activities will be initiated to evaluate and disseminate information on the energy efficiency of appliances. Expanded technology activities will provide for more component research and development in support of the other Buildings Conservation subprograms.

FY 1976 Budget Estimates
Amendment

Appropriation - Operating Expenses

(Dollars in thousands, except whole dollars in narrative material)

CONSERVATION RESEARCH AND DEVELOPMENT

TRANSPORTATION PROGRAM - OPERATING COSTS

PROGRAM STATEMENT

FY 1976

Previous Estimate to Congress FY 1976.....	\$ 8,240
Amendment.....	1,760
Total Amended Estimate FY 1976.....	\$10,000

The Transportation Program is directed toward more efficient and environmentally acceptable utilization of energy by various transportation modes and the reduction and ultimate removal of dependence upon petroleum as the base for fuel. The major elements are highway vehicle and technology studies and implementation. The shorter range efforts are directed toward operational improvements, more efficient utilization of available transportation modes, and more efficient, environmentally acceptable power sources that use fossil fuels. The longer range areas of research include the use of alternative fuels, improvements in pipeline systems, and development of on-board stored energy systems such as heat storage and inertial systems. Based on successful technology development efforts the system concepts proven are expected to serve to catalyze industry to pick up these advances and produce their own improved systems. Technology implementation activities directed toward promoting commercialization, cost sharing with industry where possible, are the key aspects in transferring the technologies to the industrial sector.

TRANSITION PERIOD

Previous Estimate to Congress	\$2,060
R&D Amendment.....	640
Total Amended Estimate Transition Period.....	\$2,700

SUMMARY OF ESTIMATES BY SUBPROGRAM

	FY 1976		Total
	Previous	Energy	Amended
	Est. to	R&D	Estimate
	Congress	Amendment	
	\$7,570	\$ 630	\$ 8,200
	670	1,130	1,800
	<u>\$8,240</u>	<u>\$1,760</u>	<u>\$10,000</u>

Subprogram

1. Highway Vehicle Systems.....
2. Technology Studies and Implementation.....
- Total Transportation Program.....

JUSTIFICATION OF AMENDMENT

Energy R&D Amendment..... \$1,760

The previous FY 1976 estimate reflects the former Advanced Automotive Power Systems, (AAPS), which was transferred to ERDA from the Environmental Protection Agency. To be consistent with the mission of ERDA, the scope of AAPS has been broadened from primarily an analysis and assessment for public information role to the engagement of research, development, and proof of concept to advance the state of the art and make future options available. The Highway Vehicle Systems efforts are directed toward the previously mentioned Transportation Program goals of more efficient, environmentally acceptable systems and reduction and ultimate removal of dependence upon petroleum. The Energy R&D Amendment will provide for initiation of research and development on increasing the efficiency of buses and trucks, initiation of new work related to electric and hybrid auto systems and expansion of alternative fuels research efforts. In technology studies and implementation, the Energy R&D Amendment provides for expansion of efforts to seek out new concepts offered by the public and small R&D firms, testing and evaluation those concepts, and expansion of efforts to determine the most cost-effective ways of commercialization of the new technologies developed throughout the Transportation Program. For example, the increase would provide for new initiatives related to pipeline systems to adequately assess this area for energy conservation measures.

FY 1976 Budget Estimates
Amendment

Appropriation - Plant and Capital Equipment
(Dollars in thousands, except whole dollars in narrative material)

CONSERVATION RESEARCH AND DEVELOPMENT

TRANSPORTATION PROGRAM - PLANT AND CAPITAL EQUIPMENT OBLIGATIONS

PROGRAM STATEMENT

	FY 1976		Transition Period	
	Previous Estimate to Congress	Amended Estimate to Congress	Energy R&D Amend.	Amended Estimate to Congress
A - Obligations for Construction Projects.....	\$ 0	\$ 0	\$ 0	\$ 0
B - Obligations for Capital Equipment Not Related to Construction.....	0	400	40	40
Total Obligations for Plant and Capital Equipment....	\$ 0	\$ 400	\$ 40	\$ 40

SECTION A - Obligations for Construction Projects

No change from previous FY 1976 Budget Estimates submitted February 3, 1975.

SECTION B - Obligations for Capital Equipment not Related to Construction

	FY 1976		Transition Period	
	Previous Estimate to Congress	Amended Estimate to Congress	Previous Estimate to Congress	Amended Estimate to Congress
Transportation Program.....	\$ 0	\$ 400	\$ 0	\$ 40
Total Transportation Program Capital	\$ 0	\$ 400	\$ 0	\$ 40
Equipment Not Related to Construction....				

JUSTIFICATION OF AMENDMENT

Energy R&D Amendment..... \$ 400

The request for capital equipment obligations in the Energy Research and Development Amendment would provide capital equipment to support the research and development efforts described under the Transportation operating subprograms.

FY 1976 Budget Estimates
Amendment

Appropriation - Operating Expenses

(Dollars in thousands, except whole dollars in narrative material)

CONSERVATION RESEARCH AND DEVELOPMENT

CROSS-SECTORAL CONSERVATION PROGRAM - OPERATING COSTS

PROGRAM STATEMENT

FY 1976

Previous Estimate to Congress FY 1976.....	\$ 9,700
Amendment.....	7,770
Total Amended Estimate FY 1976.....	\$17,470

This program includes conservation related activities which were previously budgeted under the Energy Storage Systems Program and the End-Use Energy Conservation Research and Development Program. The program was initiated with the principal goal of performing research and development necessary to demonstrate the technical and economic feasibility of technologies with potential for realizing energy conservation. These technologies include energy storage systems (such as advanced batteries and hydrogen), energy conversion (examples are fuel cells and the utilization of currently wasted heat), systems that recover energy from municipal and other wastes and interdisciplinary conservation studies.

The subprograms will encompass end-use energy conservation problems which occur in more than one end-use sector and will include research and development efforts in addition to the collection, maintenance, analysis and dissemination of technical, economic, environmental, legal and sociological data pertinent to the planning, execution and evaluation of all conservation programs.

The conservation technologies and data bases which are developed under the cross-sectoral program have the potential to contribute significantly to energy savings in all of the end-use sectors such as the electric utility industry, industrial and agricultural processes, buildings, and transportation. In essence, the program, like the other Conservation programs, will aim to maximize the useful return from a given unit of energy.

The restructuring of the cross-sectoral conservation budget reflects a concerted program for addressing areas of conservation which are characterized by complexity in terms of the technologies and also in terms of the multi-faceted end-use sectors where energy conservation can have a significant impact. The program will assess social, legal, and institutional program impacts to assure that the solutions which are developed are long-term and not just temporary fixes which shift the conservation burden from one sector to another.

TRANSITION PERIOD

Previous Estimate to Congress..... \$2,200
 R&D Amendment..... 2,400
 Total Amended Estimate Transition Period..... \$4,600

SUMMARY OF ESTIMATES BY SUBPROGRAM

Subprogram	FY 1976		Total Amended Estimate
	Previous Est. to Congress	Energy R&D Amendment	
1. Energy Storage Systems.....	\$9,100	\$3,900	\$13,000
2. Energy Conversion.....	0	3,870	3,870
3. Waste Systems and Utilization.....	300	0	300
4. Interdisciplinary Conservation.....	300	0	300
Total Cross-Sectoral Conservation Program.....	<u>\$9,700 a/</u>	<u>\$7,770</u>	<u>\$17,470</u>

a/ Excludes \$1,750,000 for energy conversion related work budgeted under the Advanced Energy Systems Program and \$2,170,000 for conversion efforts budgeted under the Solar Energy Development Program.

JUSTIFICATION OF AMENDMENT

Energy R&D Amendment..... \$7,770

The Energy R&D Amendment will provide for expansion or initiation of efforts in Energy Storage Systems and Energy Conversion as described below.

Energy Storage Systems - The Energy R&D Amendment will expand the industrial role in the program for developing advanced battery concepts for potential application to electric utility storage, automotive, geothermal, solar and wind energy applications. The requested increase will be used to: develop reversible chemical systems for energy storage, investigate hydrogen transmission technology and develop hydrogen fuel cells technology; progress from the stage of technical feasibility studies to implementation of recommendations regarding thermal storage techniques for residential, commercial, and industrial applications; and to initiate studies on failure modes, bearings, and power take-off of flywheel energy storage systems. The increase will also permit initiation of studies on underground pumped hydro storage, and it will permit more timely progress on magnetic energy storage concepts and assessment of various advanced storage concepts.

Energy Conversion - The Energy R&D Amendment will provide for research and development of technologies which will permit utilization of waste heat and fuels and includes low-level efforts limited to waste heat utilization through hybrid power cycles. The increase will be used primarily for improving reliability and utilization efficiency of existing and advanced conversion systems through the use of waste heat and improved component efficiency. Some examples of FY 1976 efforts include development of low cost readily available materials compatible with various heat sources, and verification of technical and economic performance of components and systems such as fuel cells.

FY 1976 Budget Estimates

Amendment

Appropriation - Plant and Capital Equipment

(Dollars in thousands, except whole dollars in narrative material)

CONSERVATION RESEARCH AND DEVELOPMENT

CROSS-SECTORAL CONSERVATION PROGRAM - PLANT AND CAPITAL EQUIPMENT OBLIGATIONS

PROGRAM STATEMENT

	FY 1976		Transition Period	
	Previous Estimate to Congress	Amended Estimate to Congress	Previous Estimate to Congress	Energy R&D Amend. to Congress
A - Obligations for Construction Projects..	\$ 0	\$ 0	\$ 0	\$ 0
B - Obligations for Capital Equipment Not Related to Construction.....	750	950	300	(80)
Total Obligations for Plant and Capital Equipment.....	\$ 750	\$ 950	\$ 300	\$ (80)
				220
				\$ 220

SECTION A - Obligations for Construction Projects

No change from previous FY 1976 Budget Estimates submitted February 3, 1975.

SECTION E - Obligations for Capital Equipment not Related to Construction

	FY 1976		Transition Period	
	Previous Estimate to Congress	Amended Estimate to Congress	Previous Estimate to Congress	Amended Estimate to Congress
Energy Storage Systems.....	\$ 750	\$ 750	\$ 300	\$ 220
Energy Conversion.....	0	200	0	0
Waste Systems/Interdisciplinary.....	0	0	0	0
Total Cross-Sectoral Program Capital Equipment Not Related to Construction.....	\$ 750	\$ 950	\$ 300	\$ 220

JUSTIFICATION OF AMENDMENT

Energy R&D Amendment..... \$200

The increase in capital equipment obligations in the Energy R&D Amendment will provide supporting equipment for the Energy Conversion subprogram requested in the FY 1976 operating program.

U. S. Energy Research and Development Administration
 Energy Appropriations Committee
 Subcommittee on Inflation
 (All Transactions)

	FY 1975		FY 1976		FY 1976		FY 1976		FY 1976		FY 1976	
	Obligations	Cost	Estimated to Congress	Approved Request	House Appropriation	House Appropriation	House Appropriation	House Appropriation	House Appropriation	House Appropriation	House Appropriation	House Appropriation
	Budget Authority	Budget Authority	Budget Authority	Budget Authority	Budget Authority	Budget Authority	Budget Authority	Budget Authority	Budget Authority	Budget Authority	Budget Authority	Budget Authority
Fossil Energy Development												
Coal												
Liquefaction	\$ 115,031	\$ 54,632	\$ 96,897	\$ 96,897	\$ 97,562	\$ 96,897	\$ 91,562	\$ 96,897	\$ 97,562	\$ 96,897	\$ 97,562	\$ 96,897
High-sulfur Gasification	65,461	37,841	43,364	42,838	43,364	42,838	43,364	42,838	43,364	42,838	43,364	42,838
Low-sulfur Gasification	69,395	21,389	45,389	45,389	50,289	50,289	45,389	45,389	50,289	45,389	50,289	45,389
Direct Combustion	2,199	3,491	38,091	32,663	38,091	32,663	38,091	32,663	38,091	32,663	38,091	32,663
Advanced Research and Supporting Technology	24,523	14,780	35,393	32,091	35,393	32,091	35,393	32,091	35,393	32,091	35,393	32,091
Construction Plant	13,150	15,150	37,000	18,100	37,000	18,100	37,000	18,100	37,000	18,100	37,000	18,100
Plant and Capital Equipment	317,276	187,349	343,405	288,473	352,805	293,373	343,405	288,473	352,805	293,373	343,405	288,473
Petroleum and Natural Gas												
Gas and Oil Extraction	26,369	16,242	24,929	22,065	34,929	26,765	34,929	26,065	34,929	26,065	34,929	26,065
Plant and Capital Equipment	1,789	1,025	1,797	1,582	1,797	1,582	1,797	1,582	1,797	1,582	1,797	1,582
Total Petroleum and Natural Gas Program	28,153	17,267	26,826	23,722	36,826	28,422	36,826	28,422	36,826	28,422	36,826	28,422
Oil Shale												
In Situ Processing	3,762	2,903	7,720	7,034	13,720	9,834	7,720	7,034	13,720	9,834	7,720	7,034
Composition and Characterization	962	591	1,265	1,113	1,265	1,113	1,265	1,113	1,265	1,113	1,265	1,113
Plant and Capital Equipment	75	75	325	264	325	264	325	264	325	264	325	264
Total Oil Shale Program	4,799	3,579	9,310	8,411	15,310	11,211	9,310	8,411	15,310	11,211	9,310	8,411
Total Operating	357,008	184,920	399,116	311,367	395,516	323,667	378,116	313,367	392,110	315,261	414,116	348,239
Total Plant and Capital Equipment	113,369	113,260	20,425	9,339	20,425	9,339	20,425	9,339	20,425	9,339	20,425	9,339
Total Fossil Energy Development	\$ 279,268	\$ 208,180	\$ 379,551	\$ 320,696	\$ 605,941	\$ 333,026	\$ 398,551	\$ 332,696	\$ 592,551	\$ 325,600	\$ 497,428	\$ 414,074
Solar, Geothermal and Advanced Energy Systems Development												
Advanced Energy Systems	\$ 15,862	\$ 7,564	\$ 13,544	\$ 13,773	\$ 18,544	\$ 17,873	\$ 13,544	\$ 13,773	\$ 18,544	\$ 17,873	\$ 13,544	\$ 13,773
Photovoltaics	600	500	600	500	600	500	600	500	600	500	600	500
Fuel Cells	4,200	4,200	10,950	8,000	14,100	14,100	10,950	8,000	14,100	14,100	10,950	8,000
Supporting Activities	23,062	12,864	23,042	23,173	23,042	23,073	23,042	23,173	23,042	23,173	23,042	23,173
Total Advanced Energy Systems Program	\$ 23,062	\$ 12,864	\$ 23,042	\$ 23,173	\$ 23,042	\$ 23,073	\$ 23,042	\$ 23,173	\$ 23,042	\$ 23,173	\$ 23,042	\$ 23,173
Total Solar, Geothermal and Advanced Energy Systems Development	\$ 22,062	\$ 12,264	\$ 25,064	\$ 23,173	\$ 43,334	\$ 33,073	\$ 25,064	\$ 23,173	\$ 43,334	\$ 33,073	\$ 25,064	\$ 23,173

These numbers do not include Improved Conversion Efficiency which has been transferred to the Conservation R&D Activity.

Program	FY 1975		FY 1976		FY 1976		FY 1976		FY 1976		FY 1976	
	Obliga- tion	Costs	Estimate to Congress Budget Authority	Approved Payment Budget Authority	House Appropriation Budget Authority	Senate Appropriation Budget Authority						
Conservation Research and Development												
Advanced Automotive Engine Systems	4,620	3,350	6,240	9,360	7,450	6,240	6,240	6,240	6,240	6,240	6,240	6,240
Power Systems Evaluation	1,540	260	1,540	1,540	1,540	1,540	1,540	1,540	1,540	1,540	1,540	1,540
Alternative Fuel Utilization	322	200	800	600	670	800	800	800	800	800	800	800
Supporting Research and Development	6,662	4,490	9,478	12,540	10,000	23,505	19,005	9,440	8,240	22,435	18,025	18,025
Plant and Capital Equipment				600	107	1,502	600					
Total Advanced Automotive Power Systems Program	6,662	4,490	9,440	12,640	10,107	25,007	19,605	9,440	8,240	22,435	18,025	18,025
End Use Conservation												
Competition in Savings	-	-	1,750	11,000	4,500	1,750	1,750	1,750	1,750	1,750	1,750	1,750
Conservation in Industrial Processes	-	-	1,750	5,000	2,000	1,750	1,750	1,750	1,750	1,750	1,750	1,750
Conservation in Consumer Products	-	-	500	500	200	500	500	500	500	500	500	500
Energy Conservation	-	-	5,000	18,100	7,500	53,005	37,005	3,005	3,005	3,005	3,005	3,005
Plant and Capital Equipment	-	-	3,005	200	51	5,000	2,500	3,005	3,005	3,005	3,005	3,005
Total End Use Conservation Program	-	-	5,005	18,200	7,551	26,005	29,505	3,005	3,005	3,005	3,005	3,005
Increased Conversion Efficiency ^{d/}												
Operating Expenses	-	-	-	4,000	3,010	4,500	2,250	-	-	-	-	6,700
Plant and Capital Equipment	-	-	-	-	200	2,500	4,500	-	-	-	-	6,700
Total Improved Conversion Efficiency	-	-	-	4,000	3,210	7,000	6,750	-	-	-	-	13,400
Total Operating	6,662	4,490	14,440	34,600	21,170	81,050	48,290	14,440	11,840	111,425	64,177	64,177
Total Plant and Capital Equipment	6,662	4,490	14,440	34,600	21,170	81,050	48,290	14,440	11,840	111,425	64,177	64,177
Total Conservation Research and Development	6,662	4,490	14,440	34,600	21,170	81,050	48,290	14,440	11,840	111,425	64,177	64,177
Total Fossil Fuel and Related Programs	385,712 ^{b/}	211,694	399,600	345,600	377,910	485,210	394,490	406,394	349,674	614,742	501,133	501,133
Operating Expenses	360	260	425	339	439	7,435	4,039	425	339	425	339	339
Plant and Capital Equipment	13,000	13,000	20,000	9,000	9,000	20,000	9,000	20,000	9,000	20,000	9,000	9,000
Construction	378,922 ^{b/}	228,255	619,025	335,012	357,402	466,635	380,452	577,618	339,614	653,187	281,117	281,117
Total	385,712 ^{b/}	211,694	399,600	345,600	377,910	485,210	394,490	406,394	349,674	614,742	501,133	501,133

^{d/} Improved Conversion Efficiency previously budgeted under Advanced Energy Systems.
^{b/} Total obligations of \$385,712 thousand for FY 1975 adjusted by \$-54,716 thousand carryover funds equal Budget Authority of \$330,996 thousand.

Energy Research and Development Administration
 General Accounting Office
 Subcommittees on Interest
 (In Thousands)

Program	Estimate to Congress		Amended Request		Transition Period		House Appropriation		Senate Authorization	
	Authority	Outlays	Authority	Outlays	Authority	Outlays	Authority	Outlays	Authority	Outlays
Fossil Energy Development										
Coal										
Beneficiaries	\$ 28,750	\$ 16,000	\$ 28,750	\$ 16,000	\$ 28,750	\$ 16,000	\$ 28,750	\$ 16,000	\$ 28,750	\$ 16,000
Low Sulfur	10,500	6,750	10,500	6,750	10,500	6,750	10,500	6,750	10,500	6,750
Low Sulfur Certification	11,000	6,500	11,500	6,500	12,650	7,300	11,600	6,500	11,500	6,500
Advanced Power Systems	2,500	1,300	3,500	1,700	2,500	1,300	2,500	1,300	2,500	1,300
Direct Combustion	14,900	2,100	17,000	6,000	14,900	2,100	14,900	2,100	14,900	2,100
Advanced Research and Supporting Technology	8,313	4,000	8,400	4,100	8,400	4,100	8,400	4,100	8,400	4,100
Plant and Capital Equipment	8,000	3,400	8,000	3,400	8,000	3,400	8,000	3,400	8,000	3,400
Total Coal Program	93,500	63,800	97,600	51,100	96,150	51,500	97,600	51,500	105,250	54,350
Petroleum and Natural Gas										
Gas and Oil Production	6,400	6,750	6,400	6,750	6,400	6,750	6,400	6,750	6,400	6,750
Plant and Capital Equipment	1,000	75	1,000	75	1,000	75	1,000	75	1,000	75
Total Petroleum and Natural Gas Program	8,300	7,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300
Oil Shale										
In-Site Processing	1,800	2,000	1,800	2,000	1,800	2,000	1,800	2,000	1,800	2,000
Plant and Capital Equipment	100	75	100	75	100	75	100	75	100	75
Total Oil Shale Program	3,350	3,375	3,350	3,375	3,350	3,375	3,350	3,375	3,350	3,375
Total Operating Expenses	95,700	55,830	98,130	59,530	99,780	59,630	97,600	56,828	101,700	61,179
Total Plant and Capital Equipment	8,500	3,850	8,200	3,650	8,200	3,650	8,200	3,650	8,200	3,650
Total Fossil Energy Development	\$ 104,200	\$ 59,680	\$ 106,330	\$ 63,180	\$ 107,980	\$ 63,280	\$ 105,228	\$ 60,478	\$ 110,150	\$ 64,829
Solar, Geothermal and Advanced Energy Systems Development										
Advanced Energy Systems	\$ 2,000	\$ 2,000	\$ 6,400	\$ 4,000	\$ 2,300	\$ 2,200	\$ 2,300	\$ 2,200	\$ 14,310	\$ 11,255
Total Geodopment	1,010	1,000	3,210	1,650	1,950	1,650	1,950	1,650	3,190	2,575
Supporting Activities	6,250	6,000	10,000	7,000	4,250	5,000	6,250	5,000	10,120	8,680
Total Solar, Geothermal and Advanced Energy Systems Development	\$ 4,260	\$ 4,000	\$ 10,610	\$ 7,650	\$ 4,220	\$ 5,020	\$ 4,220	\$ 4,020	\$ 20,270	\$ 14,140

5/ These numbers do not include Improved Conversion Efficiency which has been transferred to the Conservation R&D Activity.

Program	Estimate to Congress		Amended Request		Transition Period		House Appropriation		Senate Authorization	
	Authority	Outlays	Authority	Outlays	Authority	Outlays	Authority	Outlays	Authority	Outlays
Conservation Research and Development										
Advanced Automotive Power Systems	\$ 1,350	1,200	2,240	1,640	\$	\$	\$ 1,350	1,200	\$	\$
Preparation Systems	555	500	230	200			230	200		
Alternative Fuel Utilization	230	200	230	200			230	200		
Supporting Research and Development	175	160	175	160			175	160		
Total Operating	2,310	2,060	3,200	2,700	5,810	4,800	2,310	2,000	5,560	4,500
Plant and Capital Equipment		40	40	20	400	200				
Total Advanced Automotive Power Systems Program	2,310	2,100	3,240	2,720	6,210	5,000	2,310	2,050	5,560	4,500
End Use Conservation										
Conservation in Buildings	450	450	3,275	1,145			450	450		
Conservation in Industrial Processes	450	450	1,300	500			450	450		
Conservation in Consumer Products	25	25	125	55			25	25		
Ship Studies	200	200	200	200			200	200		
Total One-Capital	1,000	1,000	4,900	1,900	13,105	7,105	1,000	1,000	10,300	13,500
Plant and Capital Equipment					1,300	1,300				
Total End Use Conservation Program	1,000	1,000	4,900	1,900	14,405	7,405	1,000	1,000	10,300	13,500
Improved Conversion Efficiency										
Plants and Capital Equipment			1,200	1,000	1,100	500				1,670
Total Improved Conversion Efficiency			1,200	1,000	1,300	630				1,670
Total Operating	3,310	3,060	9,300	5,600	20,010	12,450	3,310	3,060	27,550	21,250
Total Plant and Capital Equipment			40	20	1,900	900				
Total Conservation Research and Development	3,310	3,060	9,340	5,620	21,910	13,350	3,310	3,060	27,550	21,250
Total Fossil Fuel and Related Programs										
Operating Expenses	\$ 102,570	\$ 62,920	\$ 117,460	\$ 72,160	\$ 124,020	\$ 75,510	\$ 104,568	\$ 62,918	\$ 156,530	102,680
Plant and Capital Equipment	200	150	260	170	2,100	1,050	200	150	200	150
Construction	8,000	3,500	8,000	3,500	8,000	3,500	8,000	3,500	21,250	16,750
Total	110,770	66,570	125,720	75,830	134,120	80,060	112,768	67,568	177,970	119,570

Improved Conversion Efficiency previously budgeted under Advanced Energy Systems.

COST BASIS PROPOSAL

Senator ROBERT C. BYRD. I should note first that ERDA's budget proposal is presented on a cost basis. Most other agencies rely on budget authority and outlay figures, and budget authority, of course, is the figure that will show in the final bill. A certain amount of confusion is created with the use of differing figures, particularly in relating the budget request to the authorizing bills. We expect this problem will be simplified in the future. But for now, we will proceed in this hearing on the basis of the cost figures in the ERDA budget presentation. Whenever we depart from the cost figures, it should clearly be stated for the record.

We are all aware that the ERDA authorization bill is still awaiting Senate-House conference negotiations. Until work on that bill is complete, we have no way of knowing what the authorization ceiling will be. With a few exceptions, the Senate-passed authorization carries higher figures and totals \$688.2 million in new budget authority for fossil fuels and related programs covered in this appropriation bill. The House authorization total is \$511.8 million. The House-passed appropriation bill, which totals some \$427 million, was acted upon prior to the July budget amendment and without consideration for Senate authorization figures.

It is my intention to question mainly on the budget estimates as amended, but it will be necessary to remain cognizant of the more significant changes that might result from the conference agreement on the authorization.

To help clarify this somewhat confusing situation we have already included in the record a table ERDA has prepared for the committee that reflects these budget estimates, the Senate and House authorizations and House Appropriation amounts in terms of budget authority and outlays.

PREPARED STATEMENT AND BIOGRAPHICAL SKETCHES

Completing the information to be inserted in the record, we will include the full prepared statement of Administrator Seamans along with biographical sketches of the principal witnesses.

[The statement and biographies follow:]

STATEMENT OF DR. ROBERT C. SEAMANS, JR.

Mr. Chairman and members of the Committee, I welcome the opportunity to appear before you today to discuss the fiscal year 1976 appropriations request of the Energy Research and Development Administration (ERDA).

As you know, ERDA was established by the Energy Reorganization Act of 1974 to bring together in a single agency the major federal activities in energy research and development and to provide coordinated and effective development of all energy sources. The Agency officially began its tasks approximately eight months ago and we have made good progress in establishing the organizational and programmatic base necessary to achieve our critical mission.

The ERDA organization (Chart 1) has been structured around major energy sources. Organizational components include those related to fossil energy development; solar, geothermal and advanced energy systems development; the development of nuclear energy; and energy conservation. Also included are organizational components responsible for environmental and safety research, national security activities, and essential staff functions. Staffing of the top management positions is now essentially complete.

As required by the Federal Nonnuclear Energy Research and Development Act of 1974 (P.L. 93-577), we recently completed a comprehensive review of our overall energy research and development programs. The focus of the study was to assess the relative priorities to be given to various energy technologies which might provide near-term improvement in the balance of domestic energy supply and demand, as well as research and development directed toward meeting future needs. Through this study effort we developed and submitted to the Congress ERDA's "National Energy Research, Development and Demonstration Plan" which sets forth ERDA's recommendation for national priorities in the area of energy R&D activities.

Briefly stated, the Plan stresses that our country faces a serious and continuing energy problem which can be overcome only by major, intensive and sustained efforts. Over 75 percent of the Nation's energy consumption today is based on petroleum and natural gas. Our domestic supplies of these energy sources are dwindling rapidly. Imported oil and gas now account for 20 percent of our energy consumption representing an annual cost of over \$25 billion in 1974--an eight-fold increase since 1970. At the same time, our most abundant fuels, coal and uranium, are utilized for only about 20% and 2%, respectively, to meet our energy needs.

In these circumstances, we need to create new energy choices for the future--choices that will permit this Nation to move from its over-reliance on dwindling supplies of petroleum and natural gas to a broad range of alternative energy technologies and resources.

For the near-term (now to 1985) and beyond, the priorities are:

- To preserve and expand our major existing energy systems: coal, light water reactors (the highest nuclear priority), and gas and oil from new sources and enhanced recovery techniques.
- To increase efforts on conservation, to increase the efficiency of energy use in all sectors of our economy and to extract more usable energy from waste materials.

For the mid-term (1985 to 2000) and beyond the priorities are:

- To accelerate the development of new processes to produce synthetic fuels from coal, and to extract oil from shale.
- To increase the use of underused fuel forms such as geothermal, solar for home heating and cooling, and extraction of more usable energy from waste heat.

For the far-term (past 2000) the priorities are:

- To pursue vigorously those candidate technologies which will let us use essentially inexhaustible resources:
 - The nuclear breeder.
 - Fusion.
 - Solar electric through a variety of technological options including wind power, thermal and photovoltaic approaches, and use of ocean thermal gradients.

In recognition of their priorities, the President transmitted to the Congress on July 21, 1975 a budget amendment which included funds to provide additional emphasis on programs to help solve the energy problem. The energy R&D portion of the amendment totals \$131 million in budget authority and provides the necessary additional funding to insure a strong, balanced energy research and development program in 1976 and the transition period.

As amended, the total 1976 appropriations request for ERDA is \$4.573 billion, of which \$3.624 billion is for operating expenses and \$949 million is for plant and capital equipment. Revenues, primarily from our uranium enrichment activities, are estimated at \$692 million. Accordingly, total resources of \$5.265 billion would be available in 1976, of which \$1.980 billion is for energy research and development.

As shown in Chart II, appropriations requested for ERDA programs under the jurisdiction of this subcommittee total \$484.3 million, of which \$463.3 million is for operating expenses and \$21.0 million is for plant and capital equipment.

Let me now address specifically those ERDA programs which fall under this subcommittee's jurisdiction. Included are our fossil energy development activities, advanced energy systems research efforts, as well as our advanced automotive power systems and end use conservation R&D programs.

Our amended 1976 request includes \$385.5 million for obligations for operating expenses in support of fossil energy development activities. Plant and capital equipment obligations of \$20.4 million are also requested. The overall objective of these activities is to develop the technical capability to make fossil fuels available in the form and quantity needed to help meet our energy requirements, while assuring that these resources are developed in an environmentally and socially acceptable manner. Included are Research and Development programs for coal, petroleum and natural gas and oil shale.

As you know, the most abundant of our domestic fossil fuel resources is coal. It is estimated that we have sufficient coal resources to meet our energy needs for several centuries. The key to tapping these resources will be our ability to develop and demonstrate the technology required to allow direct combustion of coal in an environmentally acceptable

manner and produce clean gaseous and liquid fuels that are suitable for power generation, transportation, and residential and industrial uses.

In support of the coal research program, our 1976 request includes \$333.8 million in operating expenses and \$20.0 million in plant obligations. Major effort will be directed toward developing, on an accelerated basis, the technology to permit rapid commercialization of coal conversion and direct combustion processes.

I want to emphasize at this time, my belief that the participation of private industry is clearly essential to our goal of increasing the contribution from fossil fuels toward our energy requirements. Accordingly, the coal program has been designed to include private industry in our R&D activities. Present cooperative joint funding projects provide for one-third nonfederal funding for new pilot plants and 50% nonfederal funding for demonstration scale plants.

In 1976, conceptual design effort will begin on two coal demonstration plants, one to produce pipeline quality gas and the other to produce low-Btu gas for power generation. Also requested is \$20.0 million in plant and capital equipment obligations for detailed design and initial construction of a Clean Boiler Fuel Demonstration Plant which was initiated in 1975.

This budget request also proposes an increased level of research effort for developing improved recovery and processing methods of petroleum and natural gas. This program will supplement the efforts of industry and increase the recoverable fraction of oil and gas resources from existing fields. The operating expenses for this program in 1976 are estimated at \$36.7 million. Petroleum and natural gas provide virtually all of our transportation fuel needs. These forms of energy are also the ones that can be expanded rapidly enough to have a significant effect within the next five years.

We also plan to direct increased effort toward the utilization of the Nation's large oil shale resources. The 1976 operating expense estimate for the oil shale program is \$15.0 million. Research will be conducted on in-situ processing of oil shale in order to expedite development of shale oil and gas directly at its underground location, thereby eliminating some of the environmental problems associated with mining. It will also provide a technology applicable to deposits not accessible by aboveground approaches. The 1976 program will expand research and development efforts aimed at continuing strong emphasis on environmental concerns, and proceeding with composition and characterization research directed toward the improved definition of fossil energy resources.

Another vitally important program under the jurisdiction of this subcommittee is our advanced energy systems research program, which includes magnetohydrodynamics (MHD) and fuel cells technology development and supporting activities. Our amended 1976 request includes \$43.2 million in operating expenses for this program. This research effort will continue the development of advanced electrical power generating systems using coal and coal-derived fuels as the energy source. The main attractions of the several systems in this program are the potential higher conversion efficiencies, the promise of utilizing coal directly as well as coal-derived liquid and gaseous fuels, and the possible low environmental impact.

During 1976, major efforts in the MHD program include demonstration of the engineering feasibility of an open-cycle, coal-fired MHD power system; the development of equipment components appropriate for use as prototypes in a Component Development and Integration Facility capable of operating all components of an MHD system for a long duration; and the continuation of exploratory R&D work to determine the basic feasibility of coal-fired, closed-cycle MHD systems.

Supporting activities in the advanced energy systems research program include efforts related to systems studies, technology transfer and supporting research and development. One of the principal objectives of our systems studies will be to provide a coordinated approach to understanding the interrelationships among energy supply and demand options. Additionally, systems studies will examine all aspects of energy including technological, environmental, economic, societal, regulatory and legal.

In addition to the programs proposed in the amended ERDA budget, the Senate version of our Authorization Bill provides for loan guarantee authority for synthetic fuel and other commercial demonstration projects. Mr. Chairman, the President supports the prompt enactment of these provisions, with some changes, as an essential feature of a broad program to initiate the commercialization of synthetic fuels technology in ERDA.

This authority is needed to enable the Federal Government to offer a realistic range of incentives to private industry for an orderly development of synthetic fuels production. The synthetic fuels program, in turn, is designed to encourage the establishment of the industrial base necessary for the production of substantial amounts of clean-burning synthetic oil and gas from our domestically abundant supplies of coal, oil shale and other resources.

Briefly stated, the President's Synthetic Fuels Commercialization Program envisions an initial effort aimed at developing approximately 350,000 barrels per day of oil-equivalent capacity which could then be increased to 1,000,000 barrels per day by 1985. The initial level of 350,000 would provide essential information and data to clarify the many uncertainties surrounding the scale-up of the several processes likely to be used by the synfuels industry. This level of effort will minimize Federal risk while still providing the necessary magnitude and mix of synthetic fuels processes necessary for early assessment of the scale-up economics, the environmental and social issues, as well as overall industry response to the initial phase of the program. A sound information base will then be established for determining the best ways to proceed toward the 1,000,000 barrel per day goal by 1985.

I would now like to turn to another area of great immediate concern, both with ERDA as well as for the entire Nation. I am speaking of our conservation research and development efforts. I cannot emphasize too strongly the need to move forward rapidly in the search for new ways to reduce the demand for energy if we are to become capable of self-sufficiency in the foreseeable future. As you are aware, ERDA inherited only fragments of a conservation R&D program. As a result, our initial 1976 budget request did not represent an integrated review by ERDA. Through intensive organizational and analytical efforts, we are working to develop and implement a viable and aggressive program, one which should move forward at an accelerated pace in order to have an impact as rapidly as possible.

Our amended 1976 request will more than double funding for conservation research and development over the 1975 level. Programs under the jurisdiction of this subcommittee focus on conservation in buildings and industrial processes and transportation systems. Obligations requested for

these programs total \$35.2 million, including \$0.6 million for capital equipment.

The building and industry conservation programs are new this year and are directed toward identifying new technologies to reduce unnecessary energy consumption and to make more efficient the processes in which energy is used. Research effort will be conducted to optimize energy savings in all types of commercial and residential building structures through the development of new systems designs, technologies and concepts such as integrated building complexes. The potential for large energy savings also exists in the development of energy-efficient industrial processes. In this area, effort will be centered around improved waste heat utilization, multiple uses of energy, substitute materials, and alternate energy sources.

The primary goal of our transportation program is to evaluate alternative automotive power systems in order to provide a basis for government decisions regarding the technical feasibility of attaining increased efficiency while meeting the low emission levels required by environmental standards. Effort will include research on more efficient, low emission heat engines that use fossil fuels. Other areas of research include utilization of alternative fuels and development of vehicle systems that use stored energy, as well as research on combustion processes and materials.

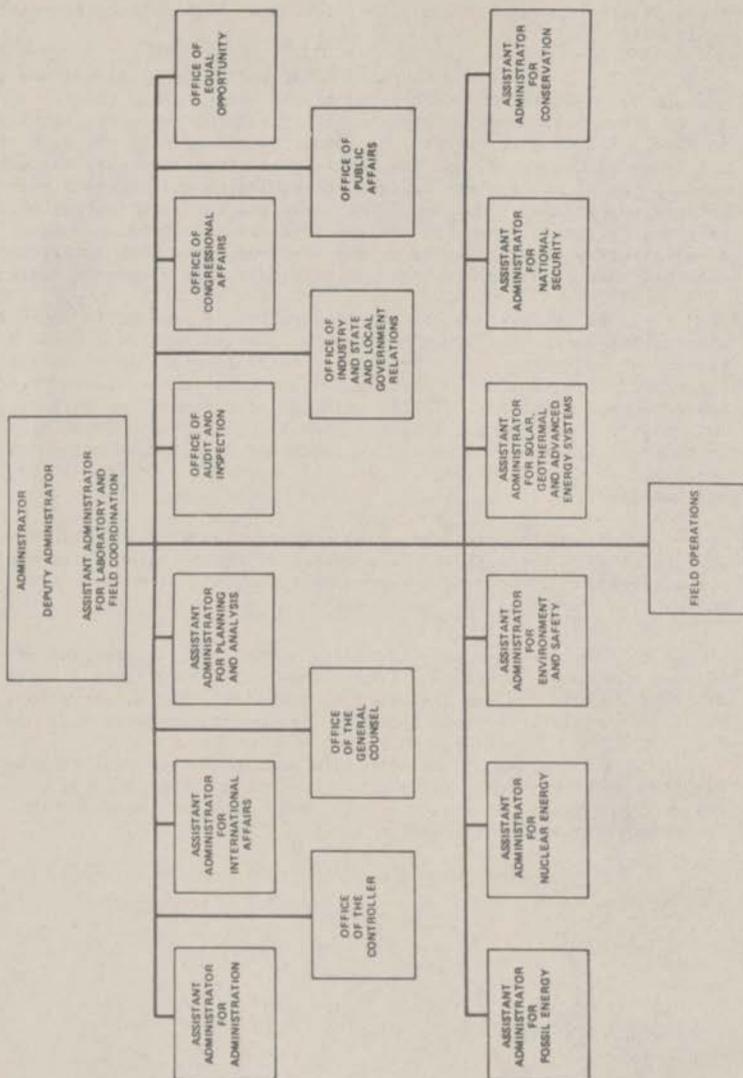
Within the cross-sectoral conservation program, effort will be directed toward research and development of technologies which would permit the utilization of currently wasted heat, as well as systems that recover energy from municipal and other wastes.

Additional details regarding these programs are provided in written statements by the Assistant Administrator for Fossil Energy, Dr. Philip White and the Assistant Administrator for Conservation, Mr. Austin Heller. Both of these gentlemen are here with me today.

Mr. Chairman, I believe this amended budget will provide ERDA with the necessary funds to launch a concerted, comprehensive and well balanced energy R&D program that will produce significant contributions to the energy situation this Nation faces.

At this time, we would be happy to respond to any questions you may have.

CHART I
ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION



BIOGRAPHY OF DR. ROBERT C. SEAMANS, JR.

Dr. Robert C. Seamans, Jr., took office as Administrator of the new Energy Research and Development Administration (ERDA) on December 30, 1974. As ERDA's first Administrator, he is responsible for consolidating and administering Federal energy R&D programs formerly carried by the Atomic Energy Commission, the Department of the Interior, the National Science Foundation, and the Environmental Protection Agency. ERDA has the central responsibility in the Federal Government for planning, coordinating, encouraging, and conducting R&D aimed at advancing all energy source and utilization technologies, including fossil, nuclear, solar, geothermal, and other energy-related programs.

Prior to becoming ERDA Administrator, he served as President of the National Academy of Engineering, a post to which he was elected in May 1973.

Dr. Seamans was born on October 30, 1918 in Salem, Massachusetts. He attended Lenox School, Lenox, Massachusetts; earned a Bachelor of Science degree in Engineering at Harvard University in 1939; a Master of Science degree in Aeronautics at Massachusetts Institute of Technology (MIT) in 1942; and a Doctor of Science degree in Instrumentation from MIT in 1951. Dr. Seamans has also received the following honorary degrees: Doctor of Science from Rollins College (1962) and from New York University (1967); Doctor of Engineering from Norwich Academy (1971), from Notre Dame (1974), and from Rensselaer Polytechnic Institute (RPI) in 1974. He is a member of the Board of Trustees of the National Geographic Society.

From February 1969 until 1973, Dr. Seamans was Secretary of the Air Force. Prior to that he was with the National Aeronautics and Space Administration where he served as Associate Administrator from September 1960 until December 1965, and then Deputy Administrator until 1968. During his years at NASA he worked closely with the Department of Defense in research and engineering programs and served as Co-Chairman of the Astronautics Coordinating Board. Through these associations, NASA was kept aware of military developments and technical needs of the Department of Defense and was able to advise that agency of NASA activities which had application to national security.

Dr. Seamans joined Radio Corporation of America (RCA) in 1955 and in 1958 became Chief Engineer of the Missile Electronics and Controls Division at RCA in Burlington, Massachusetts, a position he held until joining NASA in September 1960. After serving at NASA for more than seven years, Dr. Seamans resigned in January 1968 to become a visiting professor at MIT and in July 1969 he was appointed to the Jerome Clarke Hunsaker professorship, an MIT-endowed visiting professorship in the Department of Aeronautics and Astronautics. During this period with MIT, he was also a consultant to the Administrator of NASA.

From 1948 to 1958, Dr. Seamans served on technical committees of NASA's predecessor organization, the National Advisory Committee for Aeronautics. He served as a consultant to the Scientific Advisory Board of the Air Force from 1957

to 1959, as a Member of the Board from 1959 to 1962, and as an Associate Advisor from 1962 to 1967. He was a National Delegate, Advisory Group for Aerospace Research and Development (NATO) from 1966 to 1969.

From 1941 to 1955 he held teaching and project positions at MIT during which time he worked on aeronautical problems, including instrumentation and control of airplanes and missiles.

Dr. Seamans is a member of Sigma Xi, American Association for the Advancement of Science, American Astronautical Society, American Society for Public Administration, American Academy of Arts and Sciences (Boston), National Space Club, Council on Foreign Relations, Foreign Policy Association, International Academy of Astronautics, and the American Institute of Aeronautics and Astronautics. He is also a Fellow of the Institute of Electrical and Electronic Engineers and an Honorary Fellow of the American Institute of Aeronautics and Astronautics.

He has received the following awards: Naval Ordnance Development Award (1945); American Institute of Aeronautics and Astronautics, Lawrence Sperry Award (1951); Godfrey L. Cabot Award, Aero Club, New England (1965); NASA Distinguished Service Medal (1965 and 1969); Goddard Trophy (1968); General Thomas D. White United States Air Force Space Trophy (1973); Department of Defense Distinguished Public Service Medal (1973); and the Department of the Air Force Exceptional Civilian Service Award (1973).

Dr. Seamans and his wife, the former Eugenia A. Merrill, reside in Washington, D.C. They have five children and three grandchildren.

BIOGRAPHY OF DR. PHILIP C. WHITE

Dr. Philip White is the Assistant Administrator for Fossil Energy, Energy Research and Development Administration. He was nominated by President Ford on April 10, and confirmed by the Senate on June 11.

In his new position, Dr. White's major objectives are to assure that the Nation's coal, petroleum, natural gas, and oil shale resources are developed with economic efficiency, and with social and environmental acceptability, by developing the technological capability to convert domestic fossil fuels into the various energy forms which satisfy market demands. He is responsible for the ERDA Divisions of: Coal Conversion and Utilization; Petroleum, Natural Gas and In Situ Technology; and Advanced Research and Supporting Technology. He is also responsible for the MHD Project Office, and he works closely with ERDA's six Energy Research Centers.

From 1970 until his ERDA appointment, Dr. White was General Manager of Research, Standard Oil Company (Indiana), Chicago. A major part of the work of his corporate program included synthesis of fuels from coal, shale and tar sands. From 1960 to 1969, Dr. White was Manager and later Vice President of Research and Development for Amoco Oil Company.

He joined the Standard Oil Company in 1938, having the responsibility for certain pilot plants and later joining the Analytical Department. He worked in Research and Development beginning in 1951 with Pan American Petroleum

Company, which later became the American Oil Company. In 1956, he returned to his hometown of Chicago as Manager and General Manager of Research and Development serving until 1960.

Dr. White was born on May 10, 1913, in Chicago. He received his B.S. degree in chemistry in 1935 and his Ph.D. degree in organic chemistry in 1938, both from the University of Chicago. He did additional graduate work at the Harvard School of Business in 1957.

Dr. White is married to the former Virginia Plumb, of Streator, Illinois, and they live in Washington, D. C. They have three grown children - Timothy of Ann Arbor, Michigan; Philip, Jr., Broadview, Illinois; and Catherine, Chicago.

BIOGRAPHY OF AUSTIN N. HELLER

The President nominated, on July 22, 1975, Austin N. Heller, of New York, to be Assistant Administrator for Conservation of the Energy Research and Development Administration. This is a new post created by Public Law 93-438 on October 11, 1974.

The Assistant Administrator for Conservation would be responsible for the activities of the Divisions of: Electric Energy Systems, Interprogram Applications, Transportation Energy Conservation, Buildings and Industry, and Conservation Research and Technology.

Before his nomination, Mr. Heller was Executive Director of the New York State Council of Environmental Advisers, a position he had held since September 1973. From 1970 to 1973, he served as Secretary, Department of Natural Resources and Environmental Control, Dover, Delaware, and from 1966 to 1970, he was Commissioner, New York City Department of Air Resources. He was Deputy Chief of the Technical Assistance Branch, Division of Air Pollution Control of the United States Public Health Service from 1961 to 1966.

Mr. Heller has also served as Adjunct Associate Professor, Environmental Health, Columbia University School of Public Health from 1966 to 1970. During that same period, he was Adjunct Professor Environmental Engineering, The Cooper Union School of Engineering Science. He has also been a Research Associate in the Department of Civil Engineering at New York University's College of Engineering, Advisor to Program Directorate, Sea Grant Program at the University of Delaware, and a lecturer, at New York University, Massachusetts Institute of Technology, Harvard University and Dartmouth College.

He was associated with Allied Chemical Corporation in New York City as a Supervisor, Industrial Waste Development Section, and Coordinator, Long Range Planning, Research and Development Department from 1948 to 1961; and he was a chemist with the Wallace and Tiernan Company, Belleville, New Jersey, in 1942.

Mr. Heller received his A.B. degree from Johns Hopkins University in 1938, and his M.S. from Iowa State University in Sanitary Bacteriology and Chemical Engineering in 1941. He was born on August 18, 1914, in Elizabeth, New Jersey.

Mr. Heller is married to the former Frances Sandler and they have two children.

INTRODUCTION OF ASSOCIATES

Senator ROBERT C. BYRD. We will ask you, Mr. Seamans, to proceed in any way you prefer, to highlight your opening statement for the committee at this time after first introducing for the record, and for the benefit of the committee, your associates at the witness table.

Dr. SEAMANS. Mr. Chairman, I am very happy to have this chance to meet with your committee and I take pleasure in introducing on my left, Mr. Greer, the Controller of ERDA; directly on my right, Dr. White, who is Assistant Administrator for Fossil Energy; and next to him is Mr. Austin Heller, who is the Assistant Administrator for Conservation.

Other members of ERDA are here with us, but I don't think time permits introducing all of them.

If I may, now, I would like to proceed with my statement.

Senator ROBERT C. BYRD. Very well.

STATEMENT OF DR. ROBERT C. SEAMANS, JR.

Dr. SEAMANS. ERDA was established by the Energy Reorganization Act of 1974 to bring together in a single agency the major Federal activities in energy research and development and to provide coordinated and effective development of all energy sources.

The Agency officially began its task approximately 8 months ago, and I believe we have made good progress in establishing the organizational and programmatic basis to achieve our critical mission.

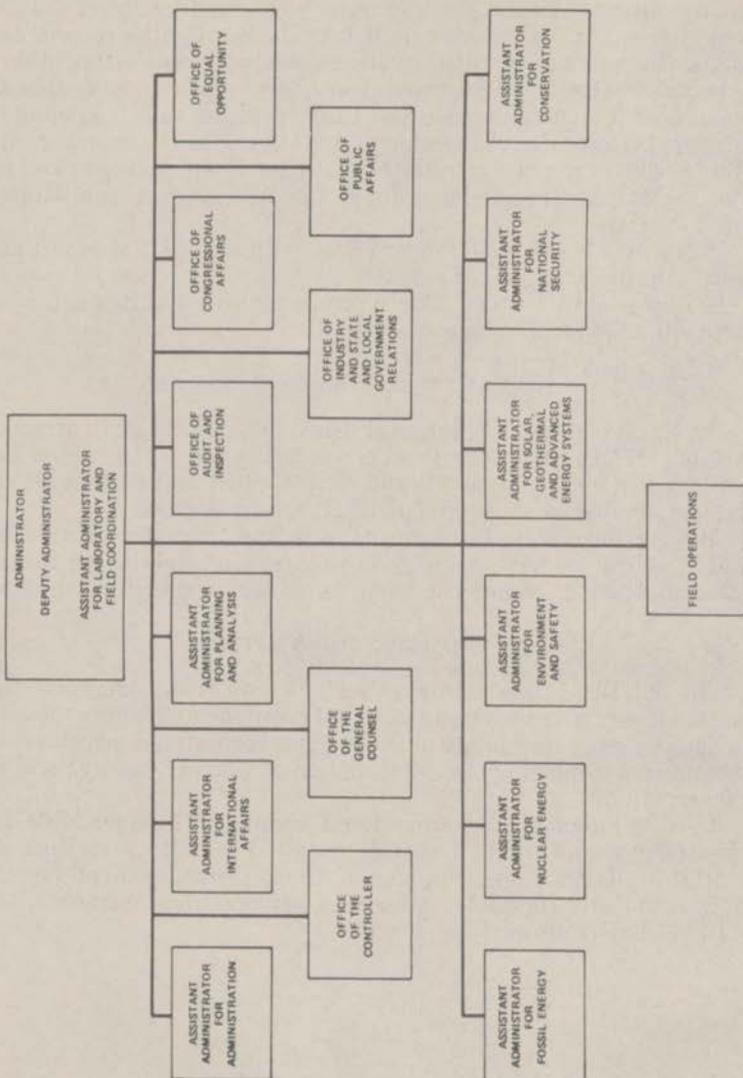
THE ERDA ORGANIZATION

The ERDA organization (chart I) has been structured around major energy sources. Organizational components include those related to fossil energy development; solar, geothermal and advanced energy systems development; the development of nuclear energy; and energy conservation.

Also included are organizational components responsible for environmental and safety research, national security activities, and essential staff functions. Staffing of the top management positions is now essentially complete. All of the key positions are now filled.

[The chart follows:]

CHART I
ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION



COMPREHENSIVE REVIEW OF ERDA PROGRAMS

Dr. SEAMANS. As required by the Federal Nonnuclear Energy Research and Development Act of 1974, we recently completed a comprehensive review of our overall energy research and development programs. The focus of the study was to assess the relative priorities to be given to various energy technologies which might provide near-term improvement in the balance of domestic energy supply and demand, as well as research and development directed toward meeting future needs.

Through this study effort, we developed and submitted to the Congress ERDA's "National Energy Research, Development and Demonstration Plan" which sets forth ERDA's recommendation for national priorities in the area of energy R. & D. activities.

Briefly stated, the plan stresses that our country faces a serious and continuing energy problem which can be overcome only by major, intensive, and sustained efforts. Over 75 percent of the Nation's energy consumption today is based on petroleum and natural gas. Our domestic supplies of these energy sources are diminishing rapidly.

Imported oil and gas now account for 20 percent of our energy consumption, representing an annual cost of over \$25 billion in 1974—an eightfold increase since 1970. At the same time, our most abundant fuels, coal and uranium, are utilized for only about 20 percent and 2 percent, respectively, to meet our energy needs.

TIMETABLE OF ENERGY PRIORITIES

In these circumstances, we need to create new energy choices for the future—choices that will permit this Nation to move from its overreliance on dwindling supplies of petroleum and natural gas, to a broad range of alternative energy technologies and resources.

For the near term, from now to 1985 and beyond, the priorities are—

To preserve and expand our major existing energy systems: Coal, light water reactors, the highest nuclear priority, and gas and oil from new sources and enhanced recovery techniques; and

To increase efforts on conservation, to increase the efficiency of energy use in all sectors of our economy, and to extract more usable energy from waste materials.

For the midterm, 1985 to 2000 and beyond, the priorities are—

To accelerate the development of new processes to produce synthetic fuels from coal, and to extract oil from shale; and

To increase the use of underused fuel forms such as geothermal, solar for home heating and cooling, and extraction of more usable energy from waste heat.

For the far term, past 2000, the priorities are—

To pursue vigorously those candidate technologies which will let us use essentially inexhaustible resources:

The nuclear breeder.

Fusion.

Solar electric through a variety of technological options including wind power, thermal and photovoltaic approaches, and the use of ocean thermal gradients.

In recognition of their priorities, the President transmitted to the Congress on July 21, 1975, a budget amendment which involved funds to provide additional emphasis on programs to help solve the energy problem. The energy R. & D. portion of the amendment totals \$131 million in budget authority and provides the necessary additional funding to insure a strong balanced energy research and development program in 1976 and the transition period.

As amended, the total 1976 appropriations request for ERDA is \$4.573 billion, of which \$3.624 billion is for operating expenses and \$949 million is for plant and capital equipment. Revenues, primarily from our uranium enrichment activities, are estimated at \$692 million. Accordingly, total resources of \$5.265 billion would be available in 1976, of which \$1.980 billion is for energy research and development.

APPROPRIATIONS REQUESTED FROM THIS SUBCOMMITTEE

As shown in chart II, appropriations requested for ERDA programs under the jurisdiction of this subcommittee total \$484.3 million, of which \$463.3 million is for operating expenses and \$21 million is for plant and capital equipment.

[The chart follows:]

CHART II

 ERDA PROGRAMS UNDER SENATE APPROPRIATIONS
 INTERIOR SUBCOMMITTEE'S JURISDICTION
 FY 1976 BUDGET ESTIMATES
 (\$ In Millions)

	Budget Authority		Budget Outlays	
	Pres. Budget	ERDA Amend. Request	Pres. Budget	ERDA Amend. Request
Operating Expenses:				
Fossil Energy Development				
Coal	\$223.4	\$ 10.4	\$279.5	\$ 4.9
Petroleum and Natural Gas	26.7	10.0	23.7	4.7
Oil Shale	9.0	6.0	8.1	2.8
Subtotal	359.1	26.4	311.3	12.4
Advanced Energy Systems Research				
Magnetohydrodynamics (MHD)	13.5	15.0	13.8	4.1
Fuel Cells	.6	--	.5	--
Supporting Activities	10.9	3.2	8.9	5.8
Subtotal	25.0	18.2	23.2	9.9
Conservation Research and Development				
Industry and Building Conservation	4.0	13.0	2.4	4.3
Transportation	9.4	3.1	8.2	1.8
Cross-Sectoral Conservation	1.1	4.0	.6	3.9
Subtotal	14.5	20.1	11.2	10.0
Total - Operating Expenses	398.6	64.7	345.7	32.3
Plant & Capital Equipment				
Total - Budget Authority/Budget Outlays	20.4	.6	9.3	.3
	\$419.0	\$ 65.3	\$355.0	\$32.6
				\$387.6

FOSSIL ENERGY DEVELOPMENT

Dr. SEAMANS. Let me now address specifically those ERDA programs under this subcommittee's jurisdiction. Included are our fossil energy development activities, advanced energy systems research efforts, as well as our advanced automotive power systems and end use conservation R. & D. programs.

Our amended 1976 request includes \$385.5 billion for obligations for operating expenses in support of fossil energy development activities. Plant and capital equipment obligations of \$20.4 million are also requested.

The overall objective of these activities is to develop the technical capability to make fossil fuels available in the form and quantity needed to help meet our energy requirements, while assuring that these resources are developed in an environmentally and socially acceptable manner. Included are research and development programs for coal, petroleum and natural gas, and oil shale.

As you know, the most abundant of our domestic fossil fuel resources is coal. It is estimated that we have sufficient coal resources to meet our energy needs for several centuries. The key to tapping these resources will be our ability to develop and demonstrate the technology required to allow direct combustion of coal in an environmentally acceptable manner and produce clean gaseous and liquid fuels that are suitable for power generation, transportation, and residential and industrial uses.

In support of the coal research program, our 1976 request includes \$338.8 million in operating expenses and \$20 million in plant obligations. Major effort will be directed toward developing, on an accelerated basis, the technology to permit rapid commercialization of coal conversion and direct combustion processes.

I want to emphasize at this time, my belief that the participation of private industry is clearly essential to our goal of increasing the contribution from fossil fuels toward our energy requirements. Accordingly, the coal program has been designed to include private industry in our R. & D. activities. Present cooperative joint funding projects provide for one-third non-Federal funding for new pilot plants and 50 percent non-Federal funding for demonstration-scale plants.

In 1976, conceptual design efforts will begin on two coal demonstration plants, one to produce pipeline-quality gas and the other to produce low-Btu gas for power generation. Also requested is \$20 million in plant and capital equipment obligations for detailed design and initial construction of a clean boiler fuel demonstration plant which was initiated in 1975.

This budget request also proposes an increased level of research effort for developing improved recovery and processing methods of petroleum and natural gas. This program will supplement the efforts of industry and increase the recoverable fraction of oil and gas resources from existing fields.

The operating expense obligations for this program in 1976 are estimated at \$36.7 million. Petroleum and natural gas provide virtually all of our transportation fuel needs. These forms of energy are also the ones that can be expanded rapidly enough to have a significant effect within the next 5 years.

We also plan to direct increased effort toward the utilization of the Nation's large oil shale resources. The 1976 operating expense obligations estimate for the oil shale program is \$15 million. Research will be conducted on in situ processing of oil shale in order to expedite development of shale oil and gas directly at its underground location, thereby eliminating some of the environmental problems associated with mining. It will also provide a technology applicable to deposits not accessible by aboveground approaches.

The 1976 program will expand research and development efforts aimed at continuing strong emphasis on environmental concerns, and proceeding with composition and characterization research directed toward the improved definition of fossile energy resources.

ADVANCED ENERGY SYSTEMS RESEARCH PROGRAM

Another vitally important program under the jurisdiction of this subcommittee is our advanced energy systems research program, which includes magnetohydrodynamics (MHD) and fuel cells technology development and supporting activities. Our amended 1976 request includes \$43.2 million in operating expense obligations for this program.

This research effort will continue the development of advanced electrical power generating systems using coal and coal-derived fuels as the energy source. The main attractions of the several systems in this program are the potential higher conversion efficiencies, the promise of utilizing coal directly as well as coal-derived liquid and gaseous fuels, and the possible low environmental impact.

During 1976, major efforts in the MHD program include demonstration of the engineering feasibility of an open-cycle, MHD power system; the development of equipment components appropriate for use as prototypes in a Component Development and Integration Facility capable of operating all components of an MHD system for a long duration; and the continuation of exploratory R. & D. work to determine the basic feasibility of coal-fired, closed-cycle MHD systems.

Supporting activities in the advanced energy systems research program include efforts related to systems studies, technology transfer and supporting research and development. One of the principal objectives of our systems studies will be to provide a coordinated approach to understanding the interrelationships among energy supply and demand options. Additionally, systems studies will examine all aspects of energy including technological, environmental, economic, societal, regulatory, and legal.

SYNTHETIC FUEL LOAN GUARANTEE AUTHORITY

In addition to the programs proposed in the amended ERDA budget, the Senate version of our authorization bill provides for loan guarantee authority for synthetic fuel and other commercial demonstration projects. Mr. Chairman, the President supports the prompt enactment of these provisions, with some changes, as an essential feature of a broad program to initiate the commercialization of synthetic fuels technology in ERDA.

This authority is needed to enable the Federal Government to offer a realistic range of incentives to private industry for an orderly development of synthetic fuels production. The synthetic fuels program, in turn, is designed to encourage the establishment of the industrial base necessary for the production of substantial amounts of clean-burning synthetic oil and gas from our domestically abundant supplies of coal, oil shale and other resources.

Briefly stated, the President's synthetic fuels commercialization program envisions an initial effort aimed at developing approximately 350,000 barrels per day of oil-equivalent capacity which could then be increased to 1 million barrels per day by 1985.

The initial level of 350,000 would provide essential information and data to clarify the many uncertainties surrounding the scaleup of the several processes likely to be used by the synfuels industry. This level of effort will minimize Federal risk while still providing the necessary magnitude and mix of synthetic fuels processes necessary for early assessment of the scaleup economics, the environmental and social issues, as well as overall industry response to the initial phase of the program. A sound information base will then be established for determining the best ways to proceed toward the 1 million barrel per day goal by 1985.

CONSERVATION PROGRAMS

I would now like to turn to another area of great immediate concern, both with ERDA as well as for the entire Nation. I am speaking of our conservation research and development efforts.

I cannot emphasize too strongly the need to move forward rapidly in the search of new ways to reduce the demand for energy if we are to become capable of self-sufficiency in the foreseeable future.

As you are aware, ERDA inherited only fragments of a conservation R. & D. program. As a result, our initial 1976 budget request did not represent an integrated review by ERDA. Through intensive organizational and analytical efforts, we are working to develop and implement a viable and aggressive program, one which should move forward at an accelerated pace in order to have an impact as rapidly as possible.

Our amended 1976 request will more than double funding for conservation research and development over the 1975 level. Programs under the jurisdiction of this subcommittee focus on conservation in buildings and industrial processes and transportation systems. Obligations requested for these programs total \$35.2 million, including \$0.6 million for capital equipment.

The building and industry conservation programs are new this year and are directed toward identifying new technologies to reduce unnecessary energy consumption and to make more efficient the processes in which energy is used.

Research effort will be conducted to optimize energy savings in all types of commercial and residential building structures through the development of new systems designs, technologies and concepts such as integrated building complexes. The potential for large energy savings also exists in the development of energy-efficient industrial processes. In this area, effort will be centered around improved waste heat utilization, multiple uses of energy, substitute materials, and alternate energy sources.

The primary goal of our transportation program is to evaluate alternative automotive power systems in order to provide a basis for Government decisions regarding the technical feasibility of attaining increased efficiency while meeting the low emission levels required by environmental standards. Effort will include research on more efficient, low emission heat engines that use fossil fuels.

Other areas of research include utilization of alternative fuels and development of vehicle systems that use stored energy, as well as research on combustion processes and materials.

Within the cross-sectoral conservation program, effort will be directed toward research and development of technologies which would permit the utilization of currently wasted heat, as well as systems that recover energy from municipal and other wastes.

ADDITIONAL STATEMENTS

Additional details regarding these programs are provided in written statements by the Assistant Administrator for Fossil Energy, Dr. Philip White, and the Assistant Administrator for Conservation, Mr. Austin Heller. Both of these gentlemen are here with me today.

Mr. Chairman, I believe this amended budget will provide ERDA with the necessary funds to launch a concerted, comprehensive, and well-balanced energy R. & D. program that will produce significant contributions to the energy situation this Nation faces.

At this time, we would be happy to respond to any questions you may have.

LOAN GUARANTEE AUTHORITY

Senator ROBERT C. BYRD. Thank you, Dr. Seamans. Your reference on page 5 of your statement to the Senate version of the authorization bill, in which you say that the Senate version provides for "loan guarantee authority for synthetic fuel and other commercial demonstration projects," is this the \$100 billion program that we read about recently in the press?

Dr. SEAMANS. No, it is not, Senator Byrd. This refers to a program that would provide loan guarantees for a synthetic fuels commercialization program in the amount of \$6 billion. In the Senate version, there are funds for synfuel as well as other forms of energy; for example, solar and geothermal. This is a matter that has been under discussion within the administration. The discussion concerns whether the administration would recommend going ahead with a program that includes renewable resources as well as the synfuel program. Recently the President has agreed that this would be desirable and so we are in agreement with the intent of the Senate version of the authorization bill.

The matter is now before the House conference and they are in the process of holding hearings to determine whether they agree with this version or not.

ERDA PROGRAM PRIORITIES

Senator ROBERT C. BYRD. From what you have said in your statement, and from priorities established in the national plan, it would appear that the programs under this subcommittee's jurisdiction have some of the highest priorities for both near-term and intermediate

energy solutions. I am talking about energy conservation and fossil fuel. Would you say that is a correct summary?

Dr. SEAMANS. Yes. We feel that we must make maximum use of our fossil fuel resources. Our whole infrastructure in this country is based on the use of oil and gas. We feel for that reason that we must maximize the yield from our existing fields and we must also press ahead and determine what additional domestic supplies we have.

At the same time we recognize that these sources will in time run out. For that reason we have got to make more use of coal in the future than we have in the recent past. We must increase our production of coal and we must convert the coal into a form in which it can be used, taking into account environmental problems as well as the need for energy in liquid gaseous form, and that is the reason we stress the synthetic fuels program.

Senator ROBERT C. BYRD. Yet these constitute only about 13 percent of the ERDA's budget. Why is that?

Dr. SEAMANS. This is history. The programs that we inherited were mainly dominated by the nuclear effort in terms of size, and it takes time to build up the other areas such as the fossil fuel program, so that they reach the same level of activity that has been reached in the nuclear programs over a 25- to 30-year period.

Senator ROBERT C. BYRD. Well, we have weighted too much in the direction of the nuclear program and for too long a period. The fossil fuel research program has been at the bottom of the totem pole. I hope we won't rely too much on history in our budgeting for research in the fossil fuel area.

Dr. SEAMANS. I agree with that, and we believe that in this budget that we have before the committee that we do have a very rapid buildup in the research and development for fossil fuel. We think it is a very aggressive program and it is one that, as you can recognize, will be rapidly expanding in the years ahead.

ENERGY R. & D. PRIORITIES

Senator ROBERT C. BYRD. Your national plan discusses energy goals and priorities, but it seems to avoid straightforward ranking of the priorities. The committee would like to have something more specific.

What would you consider to be the program or technology that is No. 1, the single most important program, if only one option were available at this time?

Dr. SEAMANS. The reason that we didn't rank order the R. & D. projects—1, 2, 3, 4—is that it would take a Solomon-type judgment, to put one at the very top. We tried to show that there are three or four that we believe are all extremely important.

If I really try to sort them out, I think you have to rank order them depending on the period of time it will take before they are going to be used. I do think that the fossil fuel programs should certainly rank near the top priority, if not at the top.

In my earlier statement I tried to describe the immediate need for investigation into new kinds of recovery techniques for our present oil and gas and the great importance of the synthetic fuel program. I put those two essentially at the top of my list.

SHORT TERM, MIDTERM, LONG-RANGE-GOALS

Senator ROBERT C. BYRD. The plan report takes a position that all promising technologies should be pursued. Don't you think ERDA should put the greatest emphasis at this time on those that offer the greatest promise of more immediate results?

Dr. SEAMANS. I think it has to be recognized that we have got to work very hard on programs that offer the immediate results so that we have the time for the long term, but if we don't work on the long term now, we may just get a temporary respite and may find by the year 2000 that the country is in even worse shape than it is today.

Senator ROBERT C. BYRD. Are you saying, then, just the opposite of what I said: That the greatest emphasis should be put on the long term and that the immediate should be subordinated?

Dr. SEAMANS. No, I am not saying that because we have to get from here to there, so we have to have an aggressive program to satisfy the needs of the next 10 years as well as the following 25 or 50 years. Otherwise we will find that our economy and our way of life will be drastically changed before we get to the year 2000. So I think the two—the long term and short term—have to be kept in proper balance, one with respect to the other.

Senator ROBERT C. BYRD. What technologies or programs do you believe offer the greatest potential for immediate or short-term benefits?

Dr. SEAMANS. I have already stressed one, which is the finding and investigating of new recovery methods of oil and gas. I think others that immediately come to mind are in the conservation area, and in the conversion of solid waste. I believe these are areas where we can get some immediate payoff. Other areas have to do with new or more efficient transportation from our automobiles.

Certainly a great deal can be done, we believe, in the fairly near term in the area of buildings: more efficient heating, more efficient insulation, and so forth.

COAL GASIFICATION AND COAL LIQUEFACTION

Senator ROBERT C. BYRD. What about coal gasification or coal liquefaction?

Dr. SEAMANS. There is no question that in the next 10 years we can have some. We believe that we can build up, as I said in my statement, to a million barrels a day, which is obviously significant. However, I was really thinking of the synthetic fuels program as not having quite the immediate payoff as the other areas that I mentioned. So it is a question of how you look at these various areas in a time-phased way.

But as I have said, and stressed in my statement and in response to your other questions, I believe that the synthetic fuel program should have a very high priority, as should direct combustion of coal by techniques that would minimize the environmental impact.

Senator ROBERT C. BYRD. The Union of South Africa is going to supply about 30 percent of its energy needs, as I understand it, next year in gasification of coal. Am I correct in my understanding?

Dr. SEAMANS. I can't verify the 30-percent figure. I know they do have an aggressive synthetic fuels program.

I understand that they are using essentially the techniques that were used by the Germans during World War II. And these methods are expensive; that is, the fuel that is derived by this process is expensive.

That is one of the important reasons why we have planned our R. & D. program the way it is in order to find methods and technologies that will yield lower cost oil and gas.

Senator ROBERT C. BYRD. Didn't the Germans utilize a process for the liquefaction of coal during World War II?

Dr. SEAMANS. Yes, they did. They used their coal both for production of oil and gas and, of course, we are well aware of those processes. The fuels produced from these processes, however, were too costly.

Senator ROBERT C. BYRD. Why is it that we haven't been able to refine these processes since they were known 30 years ago and utilized 30 years ago? Why is it we haven't been able to refine them over this period and come up with a low-cost process of gasification and liquefaction of coal?

Dr. SEAMANS. I think it is because we haven't applied ourselves to the job. We haven't had a major effort in this country over this period of time because we didn't think it was going to be necessary. We thought, or most people felt, that the cost of oil and gas would continue to be very low and that the thing to do was to continue using these natural resources.

It is only lately that we have realized that oil and gas are going to be in increasingly short supply. So we didn't get started soon enough. I think that is the basic reason.

Senator ROBERT C. BYRD. I think I would have to agree with you.

Now that we realize that oil and gas are not going to be plentiful and not going to be available to the American consumer at low prices that they have enjoyed in the past, do you feel that the ERDA budget and the priorities reflected in the ERDA budget place adequate emphasis now on the development of liquefaction and gasification processes?

Dr. SEAMANS. That is certainly our intention. Of course, we are all learning as we go along. We have, I think, a very imaginative and aggressive program for both high-Btu and low-Btu coal gasification, as well as liquefaction with some 12 pilot plants.

We also are getting started, as I pointed out, on a demonstration plant for clean boiler fuel. We also have in our plans demonstration plants for both high-Btu and low-Btu gas.

So it just takes time, starting from scratch a few years ago to build up a sound program that will really yield good results, rather than just spending a lot of money but not having produced many results.

Senator ROBERT C. BYRD. As we have in the nuclear research area?

Dr. SEAMANS. I think the nuclear program is also very important to the future of the country and I think that the electricity that we are now getting from the nuclear is important and will become increasingly important in time.

Senator ROBERT C. BYRD. You are saying one thing and I am saying another.

Dr. SEAMANS. Yes; I feel that the nuclear program should be pursued aggressively.

The present light water reactors obviously have some engineering problems and I think it is the responsibility of ERDA as well as industry to make these systems more reliable and to be sure that the fuel is available for this kind of energy source.

MAGNETOHYDRODYNAMICS

Senator ROBERT C. BYRD. I hope we will pursue the coal research program just as aggressively, if not more so.

In both the budget request and the Senate authorization, there are considerable increases for MHD research. Can you effectively accelerate that program and do you consider MHD technology to be advanced enough to invest heavily in it?

Dr. SEAMANS. The MHD program offers a potential of increasing efficiency of a coal-fired electric generating plant from the order of 35 percent efficiency up to maybe 55 or as high as 60 percent. This can make just a tremendous difference in the amount of coal required for a given number of kilowatts.

So there is great potential and the question, then, is of technological feasibility. The tests that have been run to date are certainly promising.

We have in our plan the building of a component test facility in Montana, of working there with an Institute for Energy Research and Development on MHD. We are in the process now of working with that Institute, to pick the contractors for the direct support as well as going out for component procurements, so that we can get started on the testing. We will then be able to answer these questions more definitively.

But at this time we believe that we have a very, very sound program established and we are optimistic about the results that will accrue.

Senator ROBERT C. BYRD. Senator Mansfield, do you have any question or comments on the MHD?

Senator MANSFIELD. Yes, Mr. Chairman.

Dr. Seamans, what you have, in effect, are two MHD installations in the Nation today, one at the University of Tennessee, where work is being done, and another in Montana, where the work would be conducted by Montana Tech and Montana State College. Is that correct?

Dr. SEAMANS. Yes.

Senator MANSFIELD. I noticed that after the initial request was made for funds, that ERDA some few months later came down and asked for additional funds for these installations and did so, I believe, with the President's full approval as well as the approval of the OMB.

Dr. SEAMANS. That is correct.

SOVIET UNION COOPERATION IN MHD

Senator MANSFIELD. What is the status of the research in the MHD area between the Soviet Union and this country?

Dr. SEAMANS. The Soviet Union has a large MHD installation just outside of Moscow. We have a joint project with them.

Some amount of funds in our budget are to build certain pieces of test equipment that will actually be used in the the facility that is

near Moscow. However, their plan is to use natural gas as the source for the energy, whereas ours is to use coal.

I would compare the efforts of the two countries by stating that they went for broke with a large installation. We are building up our program more carefully working with smaller units until we had convincing data. I think the two programs, complement each other quite well, and I am delighted to find, as I get into this work, that we have such an effective cooperative program with them.

Senator MANSFIELD. What country initiated research in MHD?

Dr. SEAMANS. Of course, the original work in MHD really came from our national security programs. When we got into reentry physics and so on, it was necessary to develop an understanding in this field that we didn't have before. Both countries certainly did a great deal of work in that context.

As for the initiation of the work on MHD for energy purposes, I believe—but I would like to have this checked by those who know more about it than I—we did initiate the work in this country.

Senator MANSFIELD. That is correct. We did, and then the Russians, as you say, picked it up and tried to operate on a larger scale, as you indicated, going for broke.

This is tied with the greater use of coal on an efficiency basis in relation to potential power development, and also in the low pollution area; is that correct?

Dr. SEAMANS. This work is tied to the use of coal for generation of electricity on a larger scale than present and to do it more efficiently, and also to minimize the environmental effects, yes.

MONTANA MHD PROGRAM

Senator MANSFIELD. West of the Mississippi, what State, in your opinion, has the greatest amount of coal reserves?

Dr. SEAMANS. I know that Montana and Wyoming have a great deal of coal.

Dr. WHITE. There's no question that Montana is the largest single one. Wyoming is second.

Senator MANSFIELD. Just as it is logical to have a research center in Tennessee, it is just as logical west of the Mississippi to have one which would be administered through ERDA by the Montana State University.

Dr. SEAMANS. I believe that it is and I think the relationships that have been established there with the universities and with the Institute, while somewhat embryonic, are working out very well.

PROPOSED REPORT LANGUAGE

Senator MANSFIELD. Are there any problems associated with implementing the MHD work as specified in section 107 of Public Law 93-404? If so, please explain and give us your recommended solution.

Dr. SEAMANS. ERDA currently is carrying out the provisions of section 107 of Public Law 93-404 through contracts with the Montana Energy and MHD Research and Development Institute, Inc. (MERDI), MERDI in turn has subcontracted work to the Montana College of Mineral Science and Technology and the Montana Univer-

sity System. It is our understanding that this meets with the intent and requirements of Public Law 93-404; however, the following language is recommended for inclusion in the Interior Appropriations Subcommittee report to accompany the ERDA Appropriations Bill for 1976. The language is clarifying language allowing ERDA to move ahead with its MHD program in Montana.

Section 107 of Public Law 93-404 appropriated funds, among other purposes, for the design and planning work on an MHD engineering test facility in Montana with the intent of the Appropriations Committee (as expressed in House of Representatives Report 93-1123) to also provide additional research on MHD techniques and applications at the Montana College of Mineral Science and Technology and other elements of the Montana University System. This current work is being carried out by the Montana Energy and MHD Research and Development Institute, Inc., a nonprofit organization incorporated to undertake MHD research and development in Montana. As presently constituted, the Institute is governed by a board of directors whose membership consists of official representatives of the Montana University System and others selected from various segments of the public. It is the committee's intent that the funds previously appropriated for the MHD engineering test facility and supporting MHD research in Montana, and the funds now being appropriated for the continuation of this MHD research will be available for work at the Montana Energy and MHD Research and Development Institute, Inc. and the College of Mineral Science and Technology and other elements of the Montana University System through the Institute.

Senator MANSFIELD. Thank you.

Senator ROBERT C. BYRD. Thank you.

FINANCING OF THE COOPERATIVE SOVIET MAGNETOHYDRODYNAMICS
PROJECT

Dr. SEAMANS. Tell us about this cooperative program dealing with MHD between the United States and Russia. Is there some money in this budget for that program?

Dr. SEAMANS. Yes, there is, and I have to refer to our controller but I think it is several million dollars.

Mr. GREER. We can get that figure for you, sir.

Senator ROBERT C. BYRD. I want it now.

Dr. SEAMANS. We will get it in just a minute.

Senator ROBERT C. BYRD. Why are we putting up money for this program?

Dr. SEAMANS. We are putting up money to work cooperatively with them because we feel in this way we can move ahead faster, since they have the facility; it is all built and operating, and we don't have a complete facility as yet in this country, so it is a way of obtaining information sooner and we believe that is in our national interest.

Senator ROBERT C. BYRD. How long have they had this facility?

Dr. SEAMANS. They have had this facility in operation a relatively short time. I would have to ask somebody the exact date when they started operation.

Dr. WHITE. It started in 1971.

Senator ROBERT C. BYRD. What would you estimate the Soviet facility cost?

Dr. SEAMANS. Again, I would have to supply this for the record. I can't give you that.

Senator ROBERT C. BYRD. Does anyone there with you have that information?

Dr. JACKSON. I believe if we built the facility of that kind in this country, it would cost about \$152 million. This estimate was made by the Soviet engineers.

Senator ROBERT C. BYRD. Why don't we build one of our own?

Dr. SEAMANS. We are planning to build one, but first we want to build a component test facility. The job we are doing is more difficult in some ways than the job they are doing, in that we are designing a system to use coal while their system is based on the use of natural gas, so they are not identical systems.

Senator ROBERT C. BYRD. How much money is in this budget?

Dr. SEAMANS. A total in terms of obligatory authority of \$28.5 million and \$6.8 million in the transition quarter.

Senator ROBERT C. BYRD. For use in connection with the Soviet facility?

Dr. SEAMANS. No, our total program for the 12-month period, 1976, for all MHD work.

Senator ROBERT C. BYRD. That is not what I am asking. How much is in this budget for use in the Soviet facility?

Dr. JACKSON. \$3,100,000.

Senator ROBERT C. BYRD. How long would it take to construct the facility now oncoming?

Dr. SEAMANS. Well, it will tend to run in the order of 5 years, something of that sort. These are complex systems and from the time the design is initiated until construction is complete, 5 years is a very short period of time.

Senator ROBERT C. BYRD. Well, if this concept originated in this country, how did the Soviets get ahead of us?

Dr. SEAMANS. Well, I can't give you the exact dates, but this concept came from people like Arthur Kanterwitz, Phil Sporn and others in the early sixties, but it didn't go anywhere. It was felt there was no great need for it and the work was studied by the real enthusiasts, but at a very low level, and we didn't initiate a major effort in this field until very recently.

Senator ROBERT C. BYRD. Do we have a facility in the pipeline?

Dr. SEAMANS. Yes, we do have a component test facility in the pipeline.

Senator ROBERT C. BYRD. How much have we appropriated up to this year for the Soviet cooperation program?

Dr. SEAMANS. My understanding is that \$3.1 million is the total cost for this year.

How much for last year?

Dr. JACKSON. \$1.2 million. That is essentially the total previous.

Dr. SEAMANS. The total previous is \$1.2 million.

Senator ROBERT C. BYRD. We just started this last year?

Dr. SEAMANS. We just started the cooperative program with the Soviet Union within the last—I am not sure it is exactly a year, but fairly recently. We just started our own efforts in this area during fiscal year 1975.

Senator ROBERT C. BYRD. Our own facility places the emphasis on coal?

Dr. SEAMANS. On coal as an energy source, yes.

Senator ROBERT C. BYRD. And the Soviet facility places the emphasis on natural gas?

Dr. SEAMANS. That is correct. They have a lot of natural gas in Siberia and other places. We think it would be a very big mistake in this country to fashion any new type of generating plant on gas. We think we have to rely on coal.

Senator ROBERT C. BYRD. How much is the Soviet contribution?

Dr. SEAMANS. Their contribution is the facility itself.

Senator ROBERT C. BYRD. But no money, rubles, other than that?

Dr. SEAMANS. I believe there is no exchange of dollars back and forth. The \$3.1 million will be spent essentially in this country to build this equipment. It will go over there and some of our people will go with it and, of course, we will pay their salaries and the Soviets will pay the salaries of their people. We are not actually paying the Soviet Union to run the test.

Senator ROBERT C. BYRD. Who is going to retain possession of the equipment?

Dr. SEAMANS. We retain possession of the equipment that we are responsible for.

Senator ROBERT C. BYRD. What do we do with the equipment after it is used there?

Dr. SEAMANS. After we have the data, there will be no need to have the equipment there on a continuing basis.

Senator ROBERT C. BYRD. Does that mean the equipment would be brought back here?

Dr. SEAMANS. I believe that is the case.

Senator ROBERT C. BYRD. Dr. White is nodding his head.

Dr. WHITE. One of the main items of equipment is the new cryogenic magnet which operates at a very low temperature to produce a very high magnetic field, which is something the Soviets do not have. We are constructing it in this country and will put it over there to obtain information that will be very important to them as well as to us, and we expect to bring that equipment back.

PROJECTED COSTS OF SOVIET PROGRAM

Senator ROBERT C. BYRD. I doubt that very many taxpayers are interested in the benefits to them. What is the projected costs as far as U.S. funding for this program in the future?

Dr. SEAMANS. We don't have very good runout costs at this time. This is a matter that is under review right now in our planning for fiscal year 1977 and beyond, but this program can be expected to increase on an annual basis in the years ahead by a fair amount.

Senator ROBERT C. BYRD. You mean there will be increased funding requests for the Soviet facility?

Dr. SEAMAN. No; the Soviet test is sort of a one-of-a-kind test. I don't know what would be required next year for the Soviet experiment, the experiment that we are going to run in the Soviet facility.

Senator ROBERT C. BYRD. At least one member of this subcommittee

is interested in knowing before this bill is marked up in this subcommittee.

Dr. SEAMANS. We can provide that.

Senator ROBERT C. BYRD. It seems to me we ought to be able to spend this money in our own country.

Dr. SEAMANS. Most of the money is being spent in this country for the equipment that will then be taken to the Soviet Union to be tested in their facility.

Senator ROBERT C. BYRD. To be tested in their facility?

Dr. SEAMANS. Yes; and then the equipment will come back here again.

Senator ROBERT C. BYRD. When will it come back?

TIMING AND COSTS OF PROGRAM

Dr. SEAMANS. We can give you a complete plan of the timing and all of the costs for the record.

Do we have the 1977 figure? I don't think we have the 1977 figure that I can give you authoritatively at this time.

Senator ROBERT C. BYRD. Very well. Supply it for the record and the record of the hearings will be kept open until this information is supplied.

[The information follows:]

SOVIET/U.S. COOPERATIVE PROGRAM IN MAGNETOHYDRODYNAMICS (MHD) RESEARCH

A. Program Description:

The Cooperative Program with the USSR is based on the complementary nature of the development of MHD in the two participating countries. In the U.S., emphasis has been on gaining a scientific understanding of the process, and through this learning how to predict the behavior of the key components, especially the MHD generator channel. In the Soviet Union, emphasis has been on modeling plants of increasing size and complexity. Two significant installations developed in the Soviet Union are the U-02 MHD systems test facility and the U-25 MHD pilot plant, both located in Moscow. In addition, there is a small plant located in Kiev in the Ukrainian Republic. Soviet specialists have concentrated on natural gas as a fuel for MHD, while U.S. emphasis increasingly has moved to coal as the primary fuel.

Cooperation involves the U.S. gaining much engineering experience utilizing Soviet facilities where practical for testing components and materials, and sharing with the U.S.S.R. the techniques developed for analysis of key MHD components, particularly the generator duct. Further, the U.S.S.R. is expected to benefit from the U.S. emphasis on the use of coal. By exchanging experience and information in this way, the development of MHD can be pursued more quickly, more economically, and with less risk of technical failure, through cooperation than would be possible if the two countries pursued the work separately. A determined effort has been made to avoid the program becoming merely an exchange of information, and work is being focused on a few specific tasks to assist in the technical development of MHD in both countries.

Contacts established internationally among technical workers in the field of MHD (magnetohydrodynamics) provided the basis for proposing MHD as one of the cooperative activities within the Agreement signed in Moscow, May 24, 1972. A preliminary outline of the MHD Cooperative Program was established at a meeting of the Energy Working Group in Moscow in October 1972 and the program was then established at the first meeting of the Joint U.S.-U.S.S.R. Steering Committee in Washington, D.C., July 9 through 20, 1973. The period through June 1974 was used to complete the planning process and the Program has now entered the phase of actual cooperative technical activities. Administratively, it has been transferred as of October 3, 1974 to the U.S.-U.S.S.R. Joint Committee on Energy set up by agreement between the United States and the Soviet Union in Moscow, June 28, 1974.

The United States and the USSR fund the portions of the Program conducted in their respective countries, and accordingly no outflow of US funds is involved. As an example, the recently completed U.S. channel materials test was undertaken on the Soviet U-02 facility with a test module constructed by Westinghouse Research Laboratories under contract with ERDA while the operating time of the U-02 facility was supported from Soviet funds available to the Institute of High Temperatures of the USSR Academy of Sciences.

All equipment remains as the property of the country in which it was designed and constructed and is to be returned at the conclusion of the test program for which it is developed.

B. Program Objectives:1. Channel Development:

The importance of achieving successful long-duration operation of a pilot-plant scale channel has long been recognized by all concerned with MHD as a key step in establishing engineering feasibility of the process. The Soviet U-25 facility offers a unique opportunity for the United States to undertake such a test within the next 2 or 3 years without the expense of constructing a facility of this particular size and type (the cost of which is about \$150 million).

As a result of the Cooperative Program, the Soviets have made the U-25 facility available as a test site for a U.S. channel and have supplied the U.S. with all of the plant information needed to undertake the design of a U.S. channel.

2. MHD Materials Development:

The success of MHD power systems depends to a large extent on the development of suitable materials that will properly perform in the MHD generator environment.

The large MHD materials testbed facilities possessed by the USSR are unique and provide the Soviets with an excellent capability for testing and evaluating promising candidate materials in a realistic commercial MHD environment. The U.S./U.S.S.R. cooperative program on MHD will give U.S. researchers access to the latter facilities for materials-testing purposes.

The Soviet U-02 facility contains all the elements of an MHD plant and is on a scale (mass flow of 1 kilogram per second) particularly suited to the long-duration testing of materials after they have been selected and proof tested under simulated MHD conditions. In the U.S. the Avco Mark VI and the University of Tennessee (UTSI) - II facilities provide respectively, a high-interaction environment and a coal-combustion product environment for advanced proof testing of materials.

Accordingly, basic cooperation in the materials areas involves testing of U.S. materials in the U-02 facility and Soviet materials in the UTSI-II facility, with the possibility of this work also being done by Avco at their Mark VI facility and by Westinghouse at their Waltz Mill facility.

3. High Field Interactions:

To achieve the high efficiencies projected for MHD powerplants, the MHD generator will have to operate at high magnetic fields--higher than has yet been investigated under steady conditions. The joint experiments to be conducted in the U.S.S.R. using a U.S. built superconducting magnet is intended to help fill in this gap. An American designed and constructed magnet will serve as a facility item for joint Soviet-American testing on the U-25 by-pass loop. The magnet will be provided by the U.S. on a loan basis and the responsibility for detailed design, materials development, and fabrication will be solely that of the United States, although performance information appropriate to the users of a magnet will be utilized for materials and small-scale channel testing under high-field conditions.

4. Information Exchange:

It is recognized by both sides that the exchange of technical information is a key aspect of the Cooperative Program, and to achieve this end, a schedule of activities has been organized which will lead to the preparation of a status report on Soviet and U.S. MHD technology by early 1976. Emphasis is being placed on the engineering data available and its cataloging for easy reference by designers in both countries.

C. Timing:

The major milestone in the Cooperative Program are as follows chronologically:

Successfully Completed in September 1975	One Hundred Hour Evaluation Test of U.S. Built Electrode Module in Soviet U-02 Facility.
November 1975	Test of Soviet Built Diagnostic Equipment in the AVCO Mark VI.
Spring 1976	Joint MHD Status Report.
June 1976	Two Hundred Hour Evaluation Test of U.S. Built Electrode Module in Soviet U-02 Facility.

MHD CAPABILITY

Senator ROBERT C. BYRD. In both the budget request and Senate authorization there are large increases proposed for MHD research. Again, can you effectively accelerate that program, and do you consider MHD technology to be advanced enough to invest so heavily in it?

Dr. SEAMANS. The present budget request is for a program in MHD which reflects the congressional goal of commercial demonstration in the 1980's as is stated in Public Law 93-404. This program shifts the current and past individual exploratory development effort into an integrated engineering development program. This program provides for intensive developmental testing of large components, integration of components into subsystems, and finally the construction and test of pilot scale engineering test facilities which lead to the design and construction of a commercial demonstration plant. Implementation of this program can be built on the existing technology base which is sufficiently advanced so that the risks in such a program are acceptable given the urgency of the program. The increase in the budget request reflects the increasing scale of the experimental program, not the application of resources to a program geared to making technological breakthroughs.

FOSSIL FUEL RESERVES

Senator ROBERT C. BYRD. Recently the Geological Survey revised its estimates of fossil fuel reserves, indicating there are smaller reserves than previously believed, particularly in oil and gas. Has this had any impact on your research and development plans?

Dr. SEAMANS. We have a good communication with the Geological Survey and we are aware of the trends in their work. Therefore, our planning takes account of their recent estimates.

Senator ROBERT C. BYRD. Were the revised reserve estimates available in time to be considered in your national R. & D. plan?

Dr. SEAMANS. The estimates were available in time for fossil energy's planning purposes.

MINING RESEARCH AND DEVELOPMENT AUTHORITY

Senator ROBERT C. BYRD. Dr. Seamans, do you consider ERDA to have authority to conduct research and development on coal mining technology?

Dr. SEAMANS. ERDA does have authority to conduct research and development on coal mining technology; but the background of the legislation establishing ERDA leaves clear congressional intent to leave the mining research in the Bureau of Mines, for the time being.

Senator ROBERT C. BYRD. Are there any funds proposed for such research and development?

Dr. SEAMANS. There are no funds in our program for research and development on mining technology, per se; however, some aspects of the problems are being examined in our systems studies work and various environmental aspects are being examined in our environment and safety program.

Senator ROBERT C. BYRD. As you know, the Bureau of Mines currently retains the responsibility for conducting coal mining technology

R. & D. Is there any reason why this should not continue to be confined to one agency?

Dr. SEAMANS. It probably makes good administrative sense to concentrate the responsibility for coal mining research and development to one agency rather than to split it. After all, the basic philosophy of ERDA was to pull together, into one agency, energy conversion R. & D. However, if one looks forward, one can raise the question as to whether the mining research, for both coal and shale might not be more fruitfully pursued if it were joined to ERDA's fossil fuels research program. That way, the total spectrum of activity, from extraction to utilization, would be under one management.

Senator ROBERT C. BYRD. Is there any reason why two agencies should be conducting mining technology work?

Dr. SEAMANS. It is probably not in the public interest to have two agencies conducting mining technology work.

GENERAL ACCOUNTING OFFICE REPORT

Senator ROBERT C. BYRD. The GAO report strongly emphasized the need to accelerate coal supply R. & D., particularly coal mining technology. Yet the Interior Department's budget estimate for the Bureau of Mines contains virtually no program increase. What priority is ERDA assigning to this work?

Dr. SEAMANS. It is awkward for ERDA to comment on the program priorities of another agency. However, one might observe that within the Department of the Interior, R. & D. on mining technology is not the type that is appropriate for ERDA sponsorship. Interior is responsible for a variety of activities, including the areas of resources, the environment, and human needs, and within Interior's priorities, mining research might not rank as high as it would within ERDA.

Senator ROBERT C. BYRD. Problems delaying commercialization of coal conversion technologies cited in the GAO report include lack of industry equipment, lack of early plansite locations, and lack of capital. How is ERDA addressing these matters in this budget?

Dr. SEAMANS. ERDA's fossil energy program is developing technology development activity in the hardware required to operate a synthetic fuels industry—valves, coal feeders, filters, et cetera. Generic studies are underway within fossil energy and in cooperation with other parts of ERDA and other agencies on understanding environmental and social impacts of coal conversion technologies and what might be done in the research program to ameliorate these. We believe the lack of capital issue is being faced by the President's proposals for a synthetic fuels commercialization program and his Energy Independence Agency.

OIL COMPANIES IN COAL

Senator ROBERT C. BYRD. Speaking of competition, charges have been raised recently that the oil and gas industry is investing heavily in coal in an effort to control development of coal resources. Has ERDA looked into this situation?

Dr. SEAMANS. The fossil energy program of ERDA has considerable knowledge of the structure of the fossil fuels industry. While a con-

siderable portion of the coal reserves available for exploitation are held by vertically integrated companies, more than half of the coal is on Federal lands not yet leased. Looking ahead to the future and the needs of the country, we are rapidly approaching a time where the end-use customers are going to receive liquids and gases which may come from natural sources of gas and liquids from tarsands, shale or coal. These end-use needs will have to be met on a basis where the customer will not distinguish where the original energy came from. This will require a considerable amount of integration in order to make such a complex fossil energy system function efficiently. At this point, we see no disadvantage to the fact that some parts of the fossil energy industry have become involved in all forms of fossil energy.

ENERGY CONSERVATION DUPLICATION

Senator ROBERT C. BYRD. Concern has been expressed over possible overlapping responsibilities and duplication in the energy conservation area mainly between ERDA and the FEA. Can you define the areas of responsibility?

Dr. SEAMANS. I am aware that many agencies of the Federal Government are involved in technology development and implementation of energy conservation policies and regulations. For example, in the buildings area alone, the following agencies, I understand, are involved: ERDA, FEA, HUD, GSA, DOC, NBS, DOD, NASA, EPA, FPC, HEW, FHLBB, NSF, CEQ; in industry: FEA, ERDA, COD, NBS, USDA, FPC, NSF; in transportation: ERDA, FEA, DOT, NASA, DOD, GSA, et cetera.

In general, it is my understanding that ERDA, as the lead agency, is responsible for integrating and coordinating interagency efforts to assure that the best technological options are made available for investment of public funds. Some of the agencies such as HUD, DAC, and DOT are prime users and implementors of the results of ERDA's R. & D. effort.

I have not, as yet, examined in detail the precise delineation of responsibility between FEA and ERDA. As a guide, the following items of responsibilities have been suggested to me for consideration: For ERDA the first item is the identification of existing and future energy conservation opportunities for the Nation. The second item is R. & D. to promote efficient utilization of energy including: Development of new technologies, improvement of existing technologies (components, systems, reliability), fundamental research on end-use utilization, new approaches to behavior and institutional questions, economic analysis and field demonstration, and testing of new technologies and institutional mechanisms. The third item is the dissemination of technical information from R. & D. programs to trade associations, the technical community, et cetera. Another item is the development of data bases including the development of methodology and end-use data. The last item for ERDA is to act as the lead agency for R. & D. to coordinate and integrate R. & D. at agencies such as HUD, GSA, DOD, DOC, et cetera.

The items or responsibilities suggested to me for FEA are to conduct an impact analysis of specific curtailment conservation policies; syn-

thesis of research in support of policy options; implementation of conservation policies through media, and regional offices; monitoring and performance evaluation of results associated with the implementation of specific conservation policies; recommendations for contingency program and/or curtailment actions; demonstrate marketing approaches to conserve energy; and collection of energy supply and demand data.

There are certain areas where responsibility rests with both agencies; for example, motivational and economic research, retrofit pilot projects, and information dissemination. In some cases parallel investigation is needed in order to evaluate results. In other cases, careful coordination is required.

An updated inventory of research activities carried on by many Federal agencies is now underway. The analysis of these findings should be helpful in program planning efforts.

Senator ROBERT C. BYRD. How are ERDA and FEA making sure there is no duplication?

Dr. SEAMANS. There is continual communication between the programmatic people of the two agencies. For example, FEA participates on the Buildings R. & D. Interagency Task Force, which ERDA chairs. At these meetings certain areas are discussed in detail. There are some joint projects, which are comonitored and cofunded by FEA and ERDA. For example, a residential energy demand model is being developed by joint funding between FEA and ERDA.

AUTOMOTIVE CONSERVATION

Senator ROBERT C. BYRD. Why should the Federal Government, in effect, subsidize Detroit in the development of more efficient engines?

Dr. SEAMANS. The automotive industry is committed to produce autos by model year 1980 which show a 40 percent sales-weight average improvement in fuel economy compared to the 1974 model year vehicles. This is commendable. The commitment was made based on known and proven technology available in 1974. The EPA/DOT 100-day study mandated by Congress clearly explained that the 40 percent improvement could be accomplished with then available technology. In order to accomplish this, the industry is turning to higher sales of smaller and lighter vehicles as the primary mechanism, followed by lower power to weight engine/vehicle characterizations, lower rear axle ratios, use of radial tires, et cetera. The engines produced in 1980 will be virtually the same as current engines. The efforts of the industry will be enormous because considerable retooling is needed to produce smaller autos. GM alone expects to spend nearly \$13 billion retooling. Ford and Chrysler data are not available although we do not expect them to be as high as those for GM.

The industry is working hard to meet its commitment. Within the research labs of the auto industry there has been significant cutbacks in research dollars, personnel and in the breadth of research planned over the next 5 years. The industry does not have the cash reserve to continue sustained development efforts on new, risky, and expensive technologies and to conduct such developments alone. At the present time long-term research in the industry means "in production by 1980."

We expect the 40-percent improvement to be not enough to satisfy the strong need for increased petroleum energy conservation by the 1980's. Congress currently has many proposed bills to regulate fuel economy of autos in the 1980's to levels considerably higher than the 40-percent figure. New technologies appear to be the only answer to meet the more stringent requirements. In particular, alternative engine technologies must be in a state of readiness by 1985 at the latest.

Under these circumstances, it is a proper role for the Federal Government to work in partnership with the industry to develop these technologies.

Senator ROBERT C. BYRD. Haven't the automakers pledged on their own to come up with engines producing 40 percent greater efficiency?

Dr. SEAMANS. The auto industry is working hard to meet this commitment, but due to the requirements of the Government and the state of the auto industry, I feel it is a proper role for the Federal Government to work in partnership with the industry to develop the necessary new technologies.

ENERGY DATA AND ANALYSIS

Senator ROBERT C. BYRD. Another matter involving possible duplication is energy data and analysis. What is ERDA's role in this activity as you see it, Dr. Seamans?

Dr. SEAMANS. The ERDA must collect, correlate, and evaluate energy data analysis—energy, supply, consumption, conservation—in support of ongoing and proposed future R.D. & D. programs. Coordination is being maintained with EPA, FEA, and DOT who are also involved in data collection and analysis. In this way, duplication is being avoided.

Senator ROBERT C. BYRD. Both the Interior Department and FEA are deeply involved in energy data and analysis. Does ERDA's \$11.4 million request for energy systems studies in any way duplicate their work?

Dr. SEAMANS. A strong ERDA in-house capability in system studies is required. We, of course, do not want to duplicate their work, but use their results when it can be applied to our R. & D. programs.

ADVANCED RESEARCH

Senator ROBERT C. BYRD. In the budget amendment for advanced research, there is a new request for \$1.5 million to conduct environmental and water resources evaluation. Does this duplicate Interior Department efforts?

Dr. SEAMANS. This work does not duplicate any efforts of the Department of the Interior. It is for studies by the Council on Environmental Quality and the Water Resources Council as required by the Federal Nonnuclear Energy Research and Development Act of 1974 (Public Law 93-577).

The Council on Environmental Quality will evaluate the adequacy of attention to conservation methods and the adequacy of attention to conservation methods and the adequacy of attention to environmental protection and the environmental consequences of the application of energy technologies.

The Water Resources Council will undertake assessments of water resources requirements and water supply availability for nonnuclear energy technologies, including the environmental, social, and economic impacts of water resource utilization.

Senator ROBERT C. BYRD. If these funds are to go to the Council on Environmental Quality and the Water Resources Council, why aren't they included in the budgets of those agencies?

Dr. SEAMANS. The Federal Nonnuclear Energy Research and Development Act of 1975 provides that these funds are to be appropriated to the Administrator of ERDA.

Arrangements are being worked out to transfer these funds to the Council on Environmental Quality and the Water Resources Council under interagency agreements.

FUEL CELLS

Senator ROBERT C. BYRD. We are told that fuel cell technology also holds great promise, although many problems need to be solved. Do you think the \$600,000 request for this program is really adequate?

Dr. SEAMANS. This amount represents only a portion of the fuel cell work being conducted by ERDA. The \$600,000 in budget authority included in the advanced energy systems is for testing coal-derived fuels with existing fuel cell technology. In addition, ERDA has programs to develop new fuel cell technology, which includes the performance of work in support of other Federal agencies. We are performing a technology assessment which will define the risks associated with the design, construction, and utility grid operation of a full-sized powerplant.

PETROLEUM AND NATURAL GAS

Senator ROBERT C. BYRD. I also have a problem understanding the budget emphasis for oil and gas extraction. Even with the budget amendment, you have only \$8.5 million increase for this program, despite all we are told about its great potential. I note the initial request was closer to \$40 million. Why are you holding this to a \$26 million cost level?

Dr. SEAMANS. The absolute level of ERDA's budget request is not an indication of the importance of enhanced oil and gas recovery. It is important to remember that the oil industry is cost-sharing many of ERDA's projects and in addition devoting much larger sums from operating budgets to field-test new concepts.

The ERDA oil and gas budget tries to recognize the critical technology needs, the tasks that industry will execute by themselves, and those tasks where ERDA support can accelerate the development and use of new technology.

The amended budget should not constrain the evolution of field tests. This level should provide for all of the new project starts which we anticipate that industry will recommend. Should additional good projects be submitted, incremental funding (as opposed to full obligation in the first year) would allow more starts. This might imply a shift of budget in the outyears, although the total budget should not necessarily change. As new oil and gas extraction programs are

planned and justified, the budget requests will reflect the new initiatives.

Senator ROBERT C. BYRD. Do you and industry have a capability to expand oil and gas extraction work beyond the revised budget estimate?

Dr. SEAMANS. The oil and gas extraction program is an accelerated program limited somewhat by short supply of some critical materials and the uncertain risk involved in applying new technology. The program is being conducted under an urgent need; obviously, it could be expanded under a crisis need.

Senator ROBERT C. BYRD. What results can we realistically expect from accelerated R. & D. on oil and gas extraction in the next 2 or 3 years, and how will these results affect the fuel shortages?

Dr. SEAMANS. New natural gas extraction technology could have a very quick impact on gas supplies where major distribution systems already exist. If results of present and planned R. & D. are favorable, several tens of millions of cubic feet of gas daily could be extracted from low permeability reservoirs in the Southwest, Rocky Mountain, and Appalachian Basins. Enhanced oil recovery technology has a longer leadtime, perhaps 3 to 8 years. Technologies and projects which have several years of development history will help significantly in the near term. New initiatives will not make significant impacts in the next 2 to 3 years.

OIL AND GAS INCENTIVES

Senator ROBERT C. BYRD. What additional price incentives are needed for oil to encourage industry to handle secondary and tertiary recovery on its own?

Dr. SEAMANS. A frequently suggested incentive is a guaranteed profit. The price for enhanced oil cannot be precisely calculated. Present estimates tend to fall between \$7 and \$30 per barrel. The industry will continue to do research on its own with present incentives, but cautiously and on a small scale so that risks are limited. Large-scale, accelerated programs will be executed only when risks are reasonably eliminated or shared.

OIL SHALE

Senator ROBERT C. BYRD. Why are you budgeting less than \$11 million in costs for oil shale R. & D.? From what we are constantly told, this is an important resource to develop.

Dr. SEAMANS. We, too, believe that oil shale is an important resource and should be developed fully. As a result of the proposed national program for accelerated oil shale in situ research that was developed by the Interagency Oil Shale Planning Panel March 1975, the Energy Research and Development Administration has identified a comprehensive group of tasks in fundamental in situ technology that will be performed by energy research centers, national laboratories, and universities; and has identified those in situ technologies that are considered ready for larger scale field research and development through cooperatively funded projects with industry. The ERDA amended budget for fiscal year 1976 of \$14.985 million in budget authority for oil shale represents a reasonably attainable level of acceleration based on our knowledge of our planned laboratory programs and those proj-

ects known to be in an advanced planning stage by industry that might fit into the overall program. Although it was estimated that procurements and in-house programs would require obligations of approximately \$15 million, costs incurred during the first year of operation of contracts are usually small compared to total projection costs. Our best estimate of total fiscal year 1976 program costs is \$11 million, based on planned obligations.

COST OVERRUNS

Senator ROBERT C. BYRD. Were there any significantly increased costs in any of your fossil fuel programs in fiscal year 1975? I am talking about any sizable increases from the budget estimates considered by this committee last year?

Dr. SEAMANS. Our programs in fossil fuels were affected by inflation in the same way as was the general economy. Fortunately, our budget for fiscal year 1975 had built into it contingency funds based on our experiences the year before. As a result our programs were able to function within budget guidelines.

Senator ROBERT C. BYRD. We understand that there was testimony before the House committee that costs had gone up some 30 percent over what had been anticipated. Is that accurate?

Dr. SEAMANS. Yes; it is. According to the Chemical Engineering Plant Cost Index, construction costs, which increased at a rate of 4 to 6 percent per year from 1960 to 1973, soared to nearly 30 percent in 1974.

COMMITTEE NOTIFICATION

Senator ROBERT C. BYRD. Was any effort made to notify this committee of any substantial program cost increases?

Dr. SEAMANS. Within each program activity authorized by Congress, ERDA conducts many individual projects to support the overall research objective of that line item. Since these are research programs, we must maintain funding and project flexibility to take advantage of changing priorities and to assimilate research results as they become available. On this basis, we have not made it a practice to routinely advise the Congress of changes within each individual project. We do, however, report to the Congress whenever a basic objective or research thrust of an aggregate line item undergoes a significant change because of either programmatic or funding circumstances. If you feel that this philosophy is not adequate, we will, of course, be pleased to provide additional information that you may desire.

Senator ROBERT C. BYRD. The committee is aware of the inflationary factor in construction, which has been running 10 to 12 percent. Wouldn't you consider that amount or anything in excess of it to be significant?

Dr. SEAMANS. Historically, inflation in the construction industry has been higher than inflation in other industrial sectors.

The upward movement of prices in the past 3 years has been more rapid than in previous years and the inflationary factor in the construction industry again leads the economy. The inflationary factor in the construction industry is significant and is a major concern in the cost of synthetic fuel plants and industry's financial capability to build them.

Senator ROBERT C. BYRD. Please document for the record any projects or programs in fiscal 1975 that exceeded estimates by 10 percent or more and explain the increases. Also, explain which funds were used to cover these unanticipated increases.

Dr. SEAMANS. As stated before, our general policy has been not to routinely notify the Congress each time a specific project changes, but rather only when the basic objective of a subprogram undergoes a significant change, due to programmatic decisions or funding circumstances. Our planning for fiscal year 1975 had built into it considerable contingency funds based on experiences in 1974. Thus, we have not had to eliminate any projects from the overall program due to cost increases.

[Documentation of excessive cost increases was not received by the committee by November 7, 1975, when the record was closed.]

Senator ROBERT C. BYRD. This committee requires all agencies funded within its jurisdiction to keep it posted on any changes in program spending and to seek reprogramming approval whenever a significant shift in funding is required. Are you taking steps to comply with that policy?

Dr. SEAMANS. We have not had to ask for any reprogramming within our fiscal year 1975 and at this time we do not anticipate any in fiscal year 1976. We would, however, comply with congressional requirements in this area.

FUND TRANSFERS

Senator ROBERT C. BYRD. You have two provisions in your requested appropriation language we wish to question. First, the authority to transfer unlimited funds to other agencies, to be merged with those agencies' accounts. Why is this language needed?

Dr. SEAMANS. This transfer authority would provide ERDA with another means of accomplishing its programmatic efforts only when ERDA determines that it is in the best interest of the Government to utilize the services of another Federal agency by providing expanded authority over that normally permitted under the terms of the Economy Act. There are two restrictions in using the Economy Act. The first is that the performing agency may not contract with a third party for performance of the work or services ordered unless the ordering agency is one of those named in the Economy Act, and ERDA is not so named; and second, funds transferred by virtue of the Economy Act authority remain available for the purpose and the period provided in the original appropriations act only. However, the requested transfer in this general provision contains neither restriction.

Senator ROBERT C. BYRD. Is that transfer authority authorized?

Dr. SEAMANS. This transfer authority was contained in ERDA proposed authorization bill and is presently contained in the House- and Senate-passed ERDA authorization bills in sections 303 and 304, respectively.

Senator ROBERT C. BYRD. Why the merger provision? Why can't other agencies perform work from you on a straight reimbursable basis?

Dr. SEAMANS. The merger language overcomes the Economy Act limitation requiring funds transferred by virtue of the Economy Act remains available for the purpose and the period provided in the orig-

inal appropriations act only. Once merged, funds may be used as though originally appropriated to performing agency.

Senator ROBERT C. BYRD. You also ask to merge the appropriation in this bill with your other operating expenses appropriation. Why?

Dr. SEAMANS. We believe it is essential for ERDA to have all appropriations that are for like purposes in one account in order to manage effectively and to preserve the agency's flexibility in meeting the unexpected requirements of a variety of evolving energy research and development programs that are in different stages of development. We are also concerned that not merging the appropriations being provided by the two bills would create additional management, administrative, and financial restrictions without apparent benefits.

Senator ROBERT C. BYRD. What is wrong with having a separate appropriation for fossil energy and related activities?

Dr. SEAMANS. It would not be the most effective way for ERDA to fund its program particularly in meeting future exigencies. The Interior and Related Agencies bill includes not only fossil energy programs but a portion of the Conservation R. & D. activity which is also funded under the Public Works bill. We believe that there are inherent inefficiencies in splitting the funding for the same overall programmatic effort between more than one appropriation. If there is concern over ERDA's application of these funds, I'm sure that reprogramming procedures can be established that will preserve Congressional oversights and control.

EXCHANGING COAL RESEARCH INFORMATION

Senator ROBERT C. BYRD. You are familiar, I'm sure, with the February report of the General Accounting Office on coal research problems. One recommendation was for ERDA to develop procedures for the exchange of research and development information. What has been done in this area?

Dr. SEAMANS. The ERDA information system operating out of Oak Ridge has been expanded to include fossil energy's activities. Deliberate plans have been made for the information system to seek out depositories of fossil energy information and libraries around the country and in other parts of the world that are able to abstract and make available to researchers information on fossil fuels. In addition, ERDA is participating in the International Energy Agency to establish international technical intelligence activity whereby all of the coal related R. & D. can be reported on and made available to all researchers in the world. In addition, we continue to hold workshops in specific technical areas to which potential implementers and current researchers are invited.

PERSONNEL INCREASES

Senator ROBERT C. BYRD. The portion of your budget request before this committee includes an increase of \$552,000 and 23 additional positions. Since it is apparent now that your appropriation for 1976 will not become available until December at the earliest, please indicate how this estimate can be revised.

Dr. SEAMANS. The \$552,000 increase allows for 33 additional positions in the Energy Research Centers, 10 in the original fiscal year

1976 budget which had been determined at the time of ERDA's activation, and 23 in the amended budget. Prior to ERDA's establishment the ERC's undertook a \$50 million R. & D. contracting program, but additional manpower resources to provide adequate formulation and monitoring capability were not provided by the Department of Interior. The amended request by ERDA was to alleviate these critical staffing deficiencies at the Centers.

In view of the urgency of their programs and the personnel shortages carried into ERDA, the ERC's were authorized staffing increases within the Agency's total ceiling; and on June 30, 1975, there were 779 employees on board at the Centers. The amended budget allows for a total full-time permanent staff of 794, and the ERC's have already reached that level. In view of the program priorities, the costs have been provided from within the total funds available to the fossil energy program and the \$552,000 is required to maintain the desired level of activity.

TRAVEL COSTS

Senator ROBERT C. BYRD. With a 3.5 percent increase in personnel, why do you request travel funds that more than double your 1975 estimate?

Dr. SEAMANS. The estimate for travel funds for fossil energy development shown in the amended budget request for fiscal year 1976 is principally for travel to be performed in connection with work at the Energy Research Centers. The increase is made necessary by the increase in field activities, particularly in in situ gasification of coal, oil-shale retorting, and recovery of oil from tar sands. In addition, travel to maintain a satisfactory degree of technical supervision over ERDA contracts, particularly in the area of enhanced recovery of oil and gas, will increase significantly in fiscal year 1976.

OTHER COST INCREASES

Senator ROBERT C. BYRD. What is involved in the request to increase rent, communications, and utilities from \$515,000 to more than \$1 million? Please provide details for the record.

Dr. SEAMANS. The increase of \$502,000 is due in part to rent and utilities costs associated with the additional staff of 33 employees planned for the ERC's in fiscal year 1976. The major portion of the increase is for expansion and upgrading of communication capabilities at the centers. Specifically, increases will be required for increased use of FTS and commercial telephone services to support projected staff increases, to implement data communications capabilities for the interchange of computer-based data and administrative messages for the purpose of integrating the ERC's into the ERDA reporting requirements, and to upgrade existing inadequate telephone facilities and to add new facilities which are necessary due to the separation of this mission area from the Department of the Interior.

IMPACT OF FISCAL YEAR 1976 FUNDING DELAYS

Senator ROBERT C. BYRD. In view of the situation discussed earlier—the late-running appropriations—you will undoubtedly have difficulty in carrying out many programs envisioned in your 1976 budget. It

would certainly appear, at any rate, that the inability to implement an expanded program until nearly midway in the fiscal year will substantially reduce your needs for the balance of fiscal 1976.

Please analyze your amended budget request and submit for the record a statement of revised funding needs for fiscal 1976, by activity and subactivity, with consideration to the timing of appropriations.

Dr. SEAMANS. Based upon an assessment of congressional action to date, requirements for additional hearings on the synthetic fuels commercialization program and the need for a House-Senate conference on ERDA's authorization bill, it is estimated that the fiscal year 1976 authorization bill may not be passed by the Congress until mid to late November 1975. We have assessed the programmatic impacts of such a delay and believe that such a delay can be accommodated without seriously disrupting ERDA's normal program execution activities and jeopardizing our ability to accomplish fully the program identified in our amended budget to Congress.

The programs potentially impacted by such a delay are primarily those which support ERDA's nonnuclear efforts. Because these programs will experience growth in fiscal year 1976, they are subject to constraint by the provisions of the continuing resolution which applies in the absence of specific congressional authorization. In all cases these programs have unobligated balances of fiscal year 1975 funds available for obligation in fiscal year 1976. These unobligated balances, together with fiscal year 1976 funding available within the constraints of the continuing resolution provide sufficient funding for the successful pursuit of program activities in early fiscal year 1976.

In addition, the timing and sequence of program execution activities have been altered somewhat to accommodate this funding constraint. For example, program execution activities, preparatory to the contracting cycle are proceeding at a level consistent with ERDA's amended budget to Congress. Contracting activities are, of course, being restrained to a level consistent with the continuing resolution. By utilizing this technique, we will be in a position to implement our programs at the amended level budget assuming passage of an authorization bill in late November.

OMB REDUCTION IN CONSERVATION

Senator ROBERT C. BYRD. I note in the Holifield table that your total request for conservation as amended was cut from more than \$104 million by OMB to less than \$50 million. Do you know why that occurred?

Dr. SEAMANS. According to the guidance received, the mark eliminated program effort to conduct energy conservation demonstrations. For example, the mark in industry and buildings conservation allowed the development of standards but no demonstrations.

Senator ROBERT C. BYRD. Do you think ERDA could effectively utilize more than \$100 million for energy conservation this year? If so, in what fashion?

Dr. SEAMANS. We feel that the amount included in our amended request represents the proper balance of program growth considering the high priority of the conservation effort, the relative merits of other program activities, and the overall availability of resources. The amended budget totals about \$71 million on a budget authority basis.

This amount will permit us to perform the highest priority activities in all phases of our conservation efforts.

NATIONAL PLAN FOR ENERGY R. & D.

Senator ROBERT C. BYRD. In your report, "A National Plan for Energy Research, Development, and Demonstration," the following quote is made concerning "Scenario V—Combination of All New Technologies": "The appropriate conclusion to be drawn is that if all R.D. & D. technologies were pursued, if all were successful, and if all were fully implemented, then it would be possible to meet our energy requirements with domestic supplies, and hence achieve zero net imports." Such a conclusion must recognize this scenario as an ideal, not a prediction that these results are possible. Complete success in all these complex endeavors is highly unlikely.

Isn't this an admission that the achievement of total energy independence is not really practical?

Dr. SEAMANS. The various scenarios set forth in the plan were based strictly on technological approaches for satisfying future energy needs. The scenarios did not attempt to incorporate changes in future energy patterns that may result from policy actions such as mandatory conservation measures, imposition of taxes, or forced substitution of fuels. The achievement of total energy independence is still considered practical, but it will not be achieved by energy R.D. & D. alone.

Senator ROBERT C. BYRD. Second, aren't there benefits in maintaining imports of energy supplies, although at some lower level?

Dr. SEAMANS. It is recognized that for foreign policy and international trade reasons, it may be desirable to continue to import certain levels of energy supplies. The achievement of an energy independence will permit this country the option to import energy when it is to our benefit and not to import energy when it is to our detriment.

Senator ROBERT C. BYRD. Why does "Scenario V—Combination of All New Technologies" assume that current consumption patterns will continue with no improvement in residential and commercial end use and most transportation efficiencies?

Dr. SEAMANS. In "Scenario V—Combination of All New Technologies," the improvements in end-use efficiencies for the residential and commercial sectors and the transportation sectors were included as specified in appendix B, page B-6. Because the primary purpose of the analyses was to identify the areas where technology could make its greatest contributions, the pattern of consumption of goods and services was held constant across all scenarios but that pattern was not a continuation of current consumption patterns. The end-use activity levels are generally consistent with findings established by the Federal Energy Administration for 1985.

Senator ROBERT C. BYRD. In charting total energy consumption in figure 4-2, page IV-4, it must have been necessary to calculate the supply contributions of energy sources for the various scenarios. How many quads of energy are estimated for each of the new technologies in scenario V for the years 1980, 1985, and 2000?

Dr. SEAMANS. The quads of energy estimated for each energy type for scenario V for the years 1985 and 2000 are given in a set of tables that I will be happy to provide.

[The tables follow:]

Scenario V—Combination of All Technologies					
	Quantities		Consumption	Quantities	
	1985	2000		1985	2000
Electric Supply					
• Same limits as in Scenario III (but supply level does not always reach limit)			• Same as Scenario I, plus: —Electric autos from Scenario III		
Direct Fuels Supply					
• Same as Scenario II					

Table B-2. Inputs for Scenarios—Continued

	Resources Consumed, Quads (10 ¹⁵ Btu)				
	0	I	II	III	IV
Hydroelectric (at 34% efficiency)	3.38	3.38	3.38	3.38	3.38
Geothermal	0.69	0.93	0.69	1.60	3.20
Solar	0.00	0.25	0.00	0.31	0.57
Fusion	0.00	0.00	0.00	0.00	0.00
Light Water Reactor (LWR)	10.61	10.61	10.61	12.97	10.60
Liquid Metal Fast Breeder (LMFBR)	0.00	0.00	0.00	0.00	0.00
High Temperature Gas Reactor (HTGR)	0.24	0.25	0.24	0.24	0.25
Oil Steam Electric	3.39	2.79	3.39	4.91	2.32
Gas Steam Electric	4.39	3.00	4.39	3.19	4.03
Oil, Domestic and Imports	47.14	34.59	41.43	41.57	41.52
Oil Imports	25.94	10.49	17.33	17.47	17.42
Oil Shale	0.00	0.00	1.00	0.00	1.00
Natural Gas, Domestic and Imports	24.00	26.50	26.50	26.50	26.50
Coal (including 1.5 Quads exports)	21.14	18.46	23.28	20.10	19.98
Coal (million tons per year)	1006	879	1108	957	951
Waste Materials	0.10	2.00	0.10	0.10	0.00
Biomass	0.00	0.00	0.05	0.00	0.05
Total Energy Resources (including exports)	107.30	96.97	107.28	106.77	107.05
Total Cost in Billions of Dollars per year	226.83	198.17	224.94	223.74	218.57
Average Cost in Dollars per Million Btu of Resources Used	2.11	2.05	2.10	2.10	2.05

Table B-3. Year 1985 Scenario Results—Resources

	Resources Consumed, Quads (10 ¹⁵ Btu)				
	0	I	II	III	IV
Hydroelectric (at 34% efficiency)	3.65	3.65	3.65	3.65	3.65
Geothermal	1.40	2.40	1.40	6.60	14.93
Solar	0.00	3.50	0.00	6.59	9.59
Fusion	0.00	0.00	0.00	0.05	0.05
Light Water Reactor (LWR)	36.59	16.50	36.59	36.59	10.97
Liquid Metal Fast Breeder (LMFBR)	0.00	0.00	0.00	3.90	0.00
High Temperature Gas Reactor (HTGR)	3.90	3.90	3.90	3.90	0.40
Oil Steam Electric	4.04	2.18	3.77	4.06	2.44
Gas Steam Electric	2.00	0.00	2.00	2.00	2.00
Oil, Domestic and Imports	70.54	40.32	37.71	46.47	46.30
Oil Imports	68.34	20.62	18.01	26.77	20.55
Oil Shale	0.00	0.00	8.00	0.00	8.00
Natural Gas, Domestic and Imports	15.0	22.80	22.80	22.80	22.80
Coal (including 1.5 Quads exports)	33.89	22.91	49.77	30.51	45.87
Coal (million tons per year)	1614	1091	2370	1453	2184
Waste Materials	0.10	6.50	0.10	0.10	0.00
Biomass	0.00	0.00	1.50	0.00	1.50
Total Energy Resources (including exports)	165.47	122.48	165.42	161.16	158.01
Total Cost in Billions of Dollars per year	498.94	325.64	460.52	469.94	396.96
Average Cost in Dollars per Million Btu of Resources Used	3.02	2.74	2.78	2.98	2.57

Table B-5. Year 2000 Scenario Results—Resources

	Resources Consumed, Quads (10 ¹⁵ Btu)				
	0	I	II	III	IV
Centralized Air Pollutants					
Carbon Dioxide (CO ₂) 10 ⁶ pounds	42.5	26.0	41.0	43.5	34.9
Carbon Monoxide (CO) 10 ⁶ pounds	62.9	43.0	61.2	65.2	83.2
Nitrogen Oxides (NO _x) 10 ⁶ pounds	13.0	8.2	12.6	13.3	10.8
Sulfur Dioxide (SO ₂) 10 ⁶ pounds	20.9	13.6	20.1	21.4	17.1
Particulates 10 ⁶ pounds	76.6	51.3	74.3	78.8	65.1
Hydrocarbons (HC) 10 ⁶ pounds	3.1	1.5	3.1	3.2	2.6
Decentralized Air Pollutants					
CO ₂ 10 ⁶ pounds	136.4	100.7	134.4	86.8	138.4
CO 10 ⁶ pounds	9661.3	7677.7	9608.5	8875.6	9603.8
NO _x 10 ⁶ pounds	41.8	32.4	37.7	33.1	28.3
SO ₂ 10 ⁶ pounds	30.7	16.0	17.5	13.6	20.0
Particulates 10 ⁶ pounds	301.5	236.8	202.5	181.2	179.3
HC 10 ⁶ pounds	201.7	163.7	171.8	185.1	173.1
Total Air Pollutants					
CO ₂ 10 ⁶ pounds	178.9	126.7	175.4	130.3	173.3
CO 10 ⁶ pounds	9714.2	7720.7	9669.7	8945.9	9607.0
NO _x 10 ⁶ pounds	54.8	40.6	50.3	46.4	49.1
SO ₂ 10 ⁶ pounds	51.6	29.6	37.6	35.0	37.1
Particulates 10 ⁶ pounds	378.1	288.1	276.8	360.0	284.4
HC 10 ⁶ pounds	204.8	165.2	174.9	189.3	175.7

Table B-6. Year 2000 Scenario Results—Environmental Effects

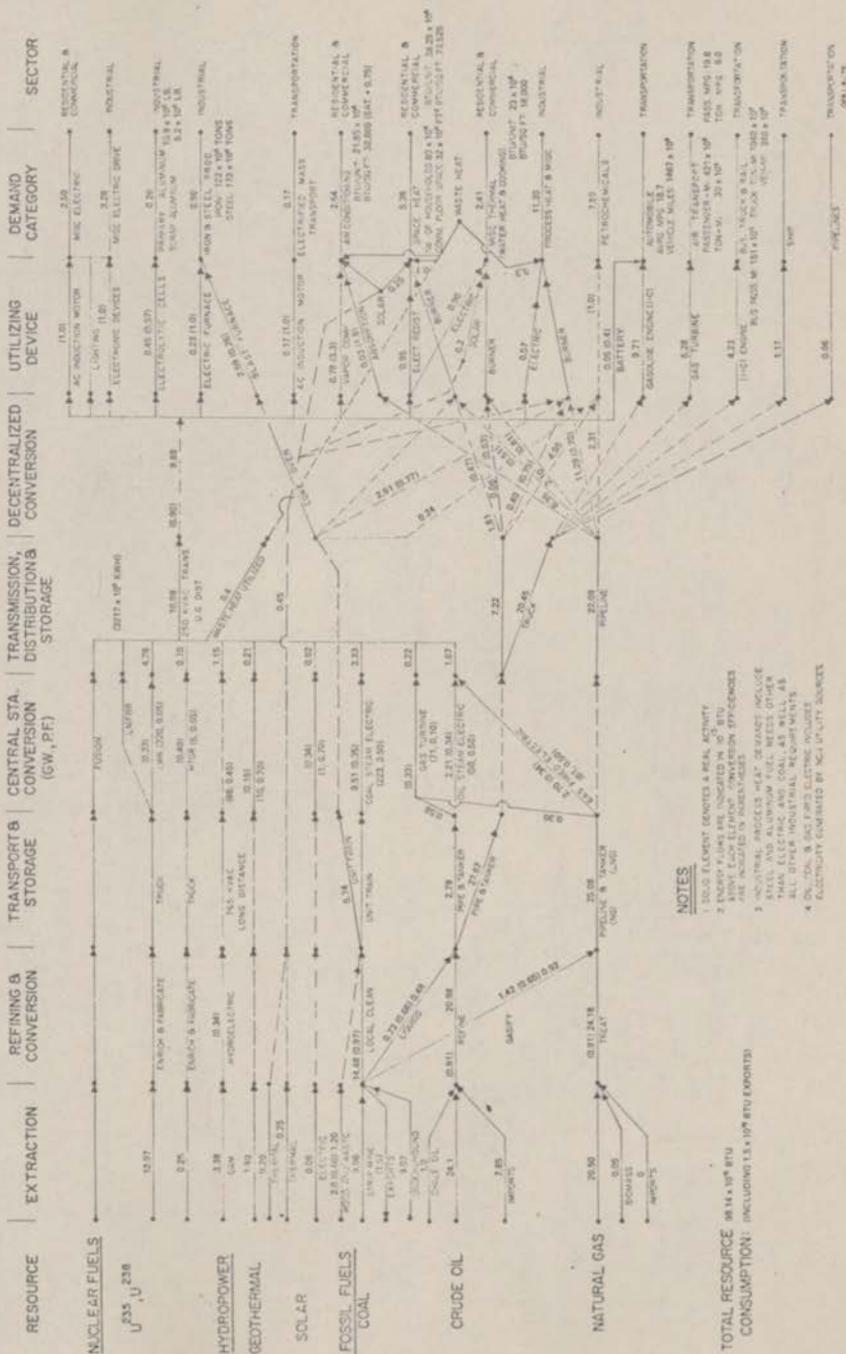


Figure B-11. Scenario V Combination of all Technologies, Year 1985

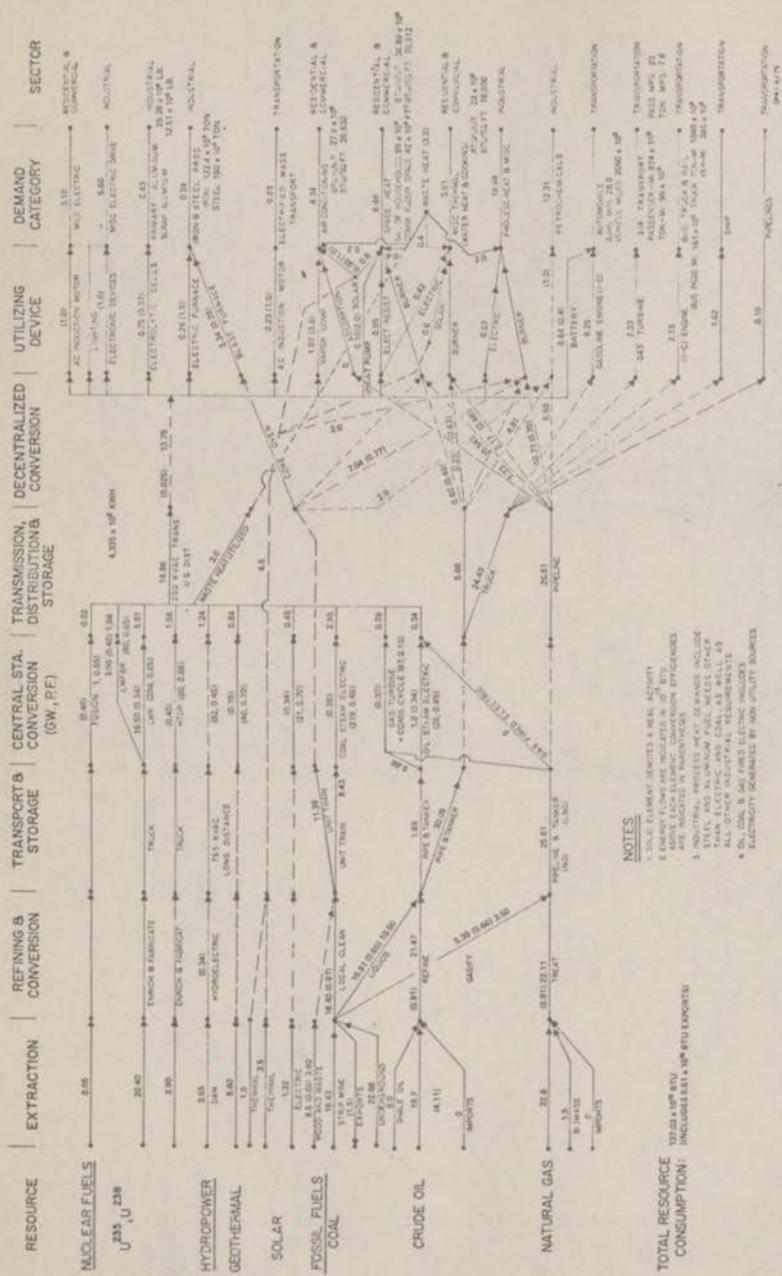


Figure B-12. Combination of all Technologies, Year 2000

TOTAL R. & D. COSTS

Senator ROBERT C. BYRD. With respect to the previous question, what is the estimated total R. & D. cost per quad estimated to be achieved for each of the new technologies?

Dr. SEAMANS. The estimated total R. & D. cost per quad expected to be achieved for each new energy technology has not been calculated. It depends on the stage of development and the closeness of the date of commercial application. Thus, in the near-term, certain well-developed technologies can be applied to conservation to give a very low cost per quad of energy saved. A long-term example for which some data exist, the nuclear breeder reactor program is estimated to have a total cost of approximately \$10 billion. The expected payoff is over 9 quads/yr in the post-2000 period. Thus, a ratio of \$1 billion/quad/yr is estimated. Differences in funding levels between technologies reflect more the stage of R. & D. than any direct relationship to expected quad output. The peak funding levels to be reached bear some direct relationship to expected technology capital and operating costs since they often include costs for prototype or demonstration units.

Senator ROBERT C. BYRD. Are any new technologies being funded in a disproportionate manner considering the expected energy supply results? If so, what is the rationale for these proposed expenditures?

Dr. SEAMANS. At this time ERDA sees no disproportionate funding of new technologies.

BUDGET DETERMINATIONS

Senator ROBERT C. BYRD. How were budget figures determined for each major R. & D. category—Fossil Fuel; Solar, Geothermal, and Advanced Energy Systems Development; Conservation Research and Development; Nuclear Energy Development, etc. Please provide a percentage breakdown of the civilian R. & D. energy funding being requested for each of the various energy technologies.

Dr. SEAMANS. ERDA budget requests are based on work requirements deemed appropriate considering the scope and pace of the technologies involved. ERDA 48 established a set of priorities applicable to the energy technologies. Those priorities provide program directors with ERDA guidance as to the relative required pace of the programs. As noted in the response to the previous question, the funding level requested is that necessary to accomplish program milestones and objectives at the required pace, and reflects the status of the technology development or opportunities for meaningful and progressive program activities within the time encompassed by the budget allocation. The same criteria are applied to all energy technologies. The factor of the time of potential availability of the energy technology, although important, has little effect on the process since the work necessary for longer range, greater payouts programs is, of necessity, larger than the work required for shorter range, lower payout programs. It will be a pleasure to provide a table displaying the percentage breakdown of civilian R. & D. energy funding.

[The information follows:]

[Dollar amounts in millions]

	1976 request ¹	Percent
Fossil fuel	\$343	20
Solar	67	4
Geothermal	33	2
Advance energy system development	33	2
Conservation	53	3
Fusion	230	13
Fission	546	32
Nuclear fuel cycle	134	8
Environment	141	8
Basic research	145	8
Total	1,725	100

¹ Including amendments.

Senator ROBERT C. BYRD. What are the environmental costs of each energy systems scenario? Please explain how environmental costs were factored into each of the scenarios.

Dr. SEAMANS. For each technology included in the scenarios, an estimate of the costs for the currently best known control technology required to meet known legislative and regulatory standards are included in the supply cost of the technology. Even with these control technologies, environmental emissions or insults will occur and these values are tabulated in appendix B, tables B-4 and B-6. No economic costs have been explicitly estimated for these environmental emissions because the damage functions associated with the emissions are not well known.

ENERGY INVESTMENT ESTIMATES

Senator ROBERT C. BYRD. Which of the new technologies will require the largest capital investment to move from the research and development stage to the implementation levels assumed in the various scenarios? What are these estimated costs?

Dr. SEAMANS. For the near term, the largest investments will be needed for the construction of nuclear and coal-fired electric powerplants, coal mining, and offshore oil and gas production. For the mid-term, large investments will be associated with the potential development of synthetic fuel plants, oil shale recovery, geothermal electric powerplants, and facilities for the use of waste heat, as well as the continued expansion of nuclear and coal powerplants. All the technologies currently being developed for the long term—solar electric plants, fusion reactors, and breeder reactors—will require similar large investments. A detailed estimation of these investment costs is currently underway using a new analytical tool developed by the Bechtel Corp. through NSF sponsorship.

Senator ROBERT C. BYRD. Have cost-benefit analyses been undertaken for each of the energy technologies? If so, what do they show? If not, why not?

Dr. SEAMANS. Cost-benefit analyses have been undertaken for the LMFBR, the HTGR, and synthetic fuels. Cost-benefit studies are currently in progress for several other major technologies and in planning stages for the remainder of the technologies. These studies could not

be initiated sooner by ERDA because of the limited time available since ERDA's establishment. Some reliance has been placed on cost-benefit studies performed by outside research groups, but these studies generally were hypothetical in structure. It is interesting to note that all studies show numerous cases where the benefits exceed the costs.

Senator ROBERT C. BYRD. In terms of energy and materials costs in the implementation stage, please rank the energy technologies according to their energy and materials usage requirements.

Dr. SEAMANS. The energy technologies have not been ranked according to their energy and materials usage requirements. Studies are being initiated to attempt quantification of these requirements. The Bechtel model will assist in the quantification of these requirements as will now work in net energy analyses such as the recently completed Development Sciences, Inc., study. The available information on these items will be summarized in the January plan.

Senator ROBERT C. BYRD. In chapter VIII, you provide objectives for energy supply contributions for each major technology for 1985 and 2000. Objectives such as annual energy contributions—2.5 to 6 quads and 4.5 to 9 quads—seem to appear for several technologies. This gives the reader the impression that similar objectives have been established to provide a balanced program as opposed to the actual potential for a given technology.

Please describe how the objectives were established for each technology.

Dr. SEAMANS. The objectives specified in chapter VIII are linked to a range of target contributions specified on page VIII-1. The potential contributions from each technology were aggregated into three categories only. A technology was placed into one of the three categories based on a evaluation of the alternative scenarios and of the program objective specified in volume II of the plan. The objectives in volume II are based on that program division's estimation of the date of technology implementation and physical constraints on growth factors. As such, they represent estimates of what is physically achievable in a successful program that is not limited by competing technologies.

FOSSIL ENERGY PILOT PLANTS

Senator ROBERT C. BYRD. Senator Young, do you or Senator Hatfield have some questions at this point before I proceed further?

Senator YOUNG. On the next to the last paragraph on page 3, you state:

In support of the coal research program, our 1976 request includes \$333.8 million in operating expenses and \$20 million in plant obligations. The major effort will be directed toward developing on an accelerated basis the technology to permit rapid commercialization of coal conversion and direct combustion process.

Would you explain more what you are going to do with the \$333 million and the \$20 million?

Dr. SEAMANS. The \$333 million is used on a variety of pilot plants, for one thing. As I mentioned earlier, we have on the order of 12 pilot plants: 4 of them are for coal liquefaction, 4 are for high-Btu gasification, and 4 are for low-Btu gasification.

A great deal of the effort is involved in the construction and the testing of those pilot plants. In addition, there is in that effort conceptual designing of demonstration plants which permit us then to go ahead with a program like the clean boiler fuel project that we have previously mentioned here.

Once the project proceeds to the point where we have engaged an architect and engineering firm, and we are getting into the construction design phase, then the project is identified as a line item in the plant and capital equipment appropriation. Of course, a wide variety of projects are laboratory efforts looking to a better understanding of coal in its various forms—and if you want to get into more detail on this aspect, I will refer you to Dr. White.

The \$20 million for plant obligation, however, is for the project that I referred to before, the clean boiler fuel demonstration plant.

Senator YOUNG. There are several companies now engaged in coal gasification. How would you go about improving this? For example, Michigan & Wisconsin Pipeline Co. requested a permit to use water from Garrison Dam Reservoir and they have to have a permit to operate in North Dakota, which I understand, has been granted. There have been several more requests. How do you relate your research program with the programs already going?

Dr. SEAMANS. I think you are referring to the possibility of a large commercial operation and how we relate is still somewhat under review. This gets into the whole area of synthetic fuel and, as you know, in the Senate authorization bill there is \$6 billion for loan guarantees that could be provided for commercialization of these new technologies. If the bill passes in that form, then we in ERDA will have the responsibility not just for pilot plants and demonstration plants, but also to work with industry on commercialization of synthetic fuels and that will be a major addition to our responsibility. At this time, however, we don't have that responsibility.

COAL GASIFICATION PROJECTS

Senator YOUNG. One of the big problems, of course, with the coal gasification plants—and there have been several applications of the use of the coal and water in our State—is the impact on the local areas.

Is there anything in the program to help a State with the great impact that would result from one gasification plant spending, say, \$4 billion, in a sparsely populated State such as mine?

Dr. SEAMANS. The whole matter of the impact of one of these projects on a local area obviously is a matter of concern to the State and it is a matter of concern to us as well. We want to carry out any such project in full cooperation with local authorities and this means that we must fully understand the various environmental effects, as well as the water resource requirements, how that will be handled, we must also be prepared to work on the sociological problems: possibly brought about by the influx of large numbers of construction workers into the area.

It is roughly the same kind of problem that we had in Florida when we initiated major construction there for the Apollo program. I can remember we had in our budget at that time a contingent liability of the order of \$15 million so we could stand behind those who were

building trailer parks, because the concern was they might get started and build the trailer parks and then the whole program might fold. We had to be prepared to step in, in that eventuality.

So this is a very serious and important problem. It is a matter now being reviewed by the Office of Management and Budget, and if we get into a commercial effort of the kind that the Senate has in the authorization bill, we will have to have some provision for this type of support.

Senator YOUNG. North Dakota has vast reserves of lignite coal and we have one of the better land reclamation programs for reclaiming strip mined land of any State. Do you get into the business of the environmental effect of strip mine land?

Dr. SEAMANS. We, of course, have an environment and safety program as part of ERDA. At this time—we are not very heavily involved, much as I believe we should be, in this type of activity.

When I was in Europe the last several weeks and in Germany, I did review their program for rehabilitation. What they do in effect is to rehabilitate as they move the surface mining ahead, they take the topsoil from where they are digging and move it back.

Senator YOUNG. That is exactly what what we are doing in North Dakota, and some of this land is restored to a condition that is better than it was before it was strip mined. Some not so well.

Dr. SEAMANS. That would have to be a condition, I would think, of any operation of this type. There should be provisions for rehabilitation of the land.

Senator YOUNG. Do you have any money that you give to States for this purpose?

Dr. SEAMANS. No. At this time we are not involved in that type of activity and we have no funds in this budget for that purpose.

Senator YOUNG. You are involved, though, in research on ways to use coal are you not?

Dr. SEAMANS. Yes; we are very definitely involved in all forms of coal research and I have tried to describe some of the major activities. Our environmental activities for that purpose have very limited funds at this time. I believe it is an area where we must do more in the future than we are today.

Senator YOUNG. The Grand Forks energy research program has been there for 20 years or more. They have been doing research in finding more uses for lignite coal. I have had some correspondence with you on that.

What assistance will you give them? For example, as a result of our correspondence with you on this matter, have you been able to allocate more personnel to Grand Forks? If so, how many?

Dr. SEAMANS. At the moment we have not been able to increase the activities of our energy research centers, of which we have five major ones. We have been trying to get some additional manpower for them. They have a very important role. They will have an increasing role in ERDA as time goes on, obviously.

I am not sure that I have the figures here on Grand Forks. I believe there is an increase of four in 1976 personnel over the number in 1975, which is not a very major increase.

Senator YOUNG. How big a budget do you have, \$5 billion or \$6 billion?

Dr. SEAMANS. Our total ERDA budget? Our total ERDA budget for research and development is a little under \$2 billion. Our total budget is \$5.2 billion, which includes all the work we are doing in the national security area as well as the production of uranium.

Senator YOUNG. And you only plan to add four additional staff members to this lignite coal research laboratory at Grand Forks?

Dr. SEAMANS. We requested additional personnel for the ERC's from OMB. At this time we do not have final resolution of the ERDA fiscal year 1976 staffing ceiling.

Senator YOUNG. I think there is something wrong with the whole program if you don't want to use coal research laboratories that have been in this business for 20 years. You want to establish new ones and disregard the old ones. I have had a good relationship with you, Dr. Seamans, for years. I can't quite understand this.

Dr. SEAMANS. This whole matter of the roles of our various laboratories including the national labs and our field operations that we have inherited from a variety of sources are currently under review. We have put together a top-level board to do this and they are coming in with their findings in about 2 weeks time. But there is no question that our field operations have got to be strengthened.

Senator YOUNG. I hope you will give me the result of these findings which you mentioned. I hope you will utilize these coal research laboratories and other laboratories that have been working on energy for years. They are way ahead, I will bet you. You are just starting.

Dr. SEAMANS. Unfortunately, I haven't had a chance to visit Grand Forks. I was in Laramie quite recently and reviewed the work they are doing in another one of our research centers and, of course, reviewed the activities of our center in Bartlesville and the ones here in the East, so there is no question that they have a fund of knowledge and a real hand on experience that is extremely important to our total program.

Senator YOUNG. This is a federally operated program with a lot of expensive equipment. I can't see why you don't utilize it.

That is all I have.

Senator ROBERT C. BYRD. Senator Hatfield?

WOOD WASTE CONVERSION

Senator HATFIELD. Thank you, Mr. Chairman.

Dr. Seamans, we have met each other, as you know, in the authorization committee. In that testimony we went into this matter of wood waste conversion and the project which had been undertaken some 3 years ago and was nearing completion. In your budget request you had concluded the amount necessary to complete the project was \$2.8 million: \$1.8 million to complete the physical structure and \$1 million to make it operational. As I recall the figures, this represents a total of about \$5 million or \$6 million investment under the Bureau of Mines.

Then the Office of Management and Budget, in one of its mad moments, deleted this amount from your budget request.

During the authorization hearings we went into the matter of the 55 million tons of wood waste that we have between the forest and the mills operating in our area and the transferable character of such

technology—the other waste which can be utilized. They represent a very important potential. We can take 1 ton of wood waste and prototype studies indicate we can translate that through hydrogenation to $1\frac{1}{4}$ barrels of low sulfur content oil.

I only give you these few facts to refresh your memory, because in the report language of the authorization bill, the committee saw fit to include the language that we were aware of the \$2.8 million that you have requested and its deletion by the Office of Management and Budget. The language is:

In the committee's judgment, this project should be continued as part of ERDA's coal liquefaction research program. Accordingly, it is the intention and expectation of the committee that \$2.8 million of the ERDA's authorization for coal liquefaction research be used to fund the completion of this project during fiscal year 1976.

Whether it belongs under coal liquefaction or whether it should be in conservation makes little difference to me personally. I wouldn't want to run head-on into my chairman on diminishing the total of the coal liquefaction budget by \$2.8 million. I would like to make an amendment to add on \$2.8 million to that budget if we ran into that problem.

I do want to ask you whether you are satisfied that in the budget that we are now considering, that either under the conservation activity or coal liquefaction, that you have sufficient funds included to complete this project and make it operational?

Dr. SEAMANS. My understanding is that when we do have the authorization, that we are planning to finish the project and certainly should carry out research and development on the use of wood waste.

I think even though you have named two elements in our organization, I think it has actually ended up under our solar program as being the most logical place to have it at this time, because we have work on biomass and so on. But however we organize it, I can assure you that this is an important project and we are planning and will proceed with it to its logical conclusion.

Senator HATFIELD. You will proceed with it.

I will be meeting you in the Public Works Subcommittee, so if it gets transferred under solar, I will be there. You can't get away from me.

Dr. SEAMANS. That is fine.

Senator HATFIELD. Thank you, Mr. Chairman.

Senator ROBERT C. BYRD. I think we ought to keep this item within this subcommittee.

Senator HATFIELD. Mr. Chairman, I would like to keep it in this subcommittee. On the other hand, I am concerned that we not let it drop between the cracks.

Senator ROBERT C. BYRD. Let's not let it drop between the cracks. Would you like to pursue this further?

Senator HATFIELD. No.

Senator ROBERT C. BYRD. Is that amount of money sufficient?

Senator HATFIELD. It is sufficient. It is a very small project but it holds great potential.

Dr. SEAMANS. The whole matter of using waste in this country is just so important, not because of just energy considerations, but also a great deal of the time when we have trouble disposing of the waste. It comes in very large amounts from our cities and elsewhere, agriculture

waste, wood waste, municipal waste. We have to learn how to use it all, I think.

Senator HATFIELD. Indeed so. That is why I emphasized the point that the technology developed here, even though it may be geared to the wood waste, as I understand it, is transferable and easily expanded for other waste besides the wood.

INDUSTRY PARTICIPATION IN ERDA PROGRAMS

I note in your testimony that in your coal program your pilot plants receive one-third of their funding from industry and that the demonstration plants receive one-half of their funding from industry. How does this compare with the funding of pilot plants and demonstration plants in other ERDA programs?

Dr. SEAMANS. Depending upon the technology involved, ERDA pursues pilot plant and demonstration plant activities in a wide variety of ways. In those instances in which active private sector R. & D. programs are being pursued, we use a wide variety of financial incentives to promote program activities which fit into ERDA's energy mission. For example, loan guarantees are used in the geothermal area while joint funding is used in the coal program. Joint-funded demonstrations were also used in the nuclear reactor program when that industry was first reaching a commercialization status. In some cases, the industry share is as high as 70 percent, as in ERDA's tertiary recovery demonstrations in the petroleum and natural gas area, while in other cases, ERDA supports the entire R. & D. program as in the case of nuclear fusion.

Senator HATFIELD. Is it possible to bring industry participation up to this level in other programs?

Dr. SEAMANS. The level of industrial participation in ERDA's demonstration programs will vary depending on many factors including the state of technology, the level of industrial expertise in the area, the amount of investment required, and the extent of financial risk involved. For that reason, we do not believe that the level of industrial participation should be the same in all joint ERDA industry demonstration efforts. The requirements for such participation should be evaluated on a case by case basis keeping in mind the objectives of the particular demonstration effort.

Senator HATFIELD. Thank you very much, Mr. Chairman.

UMW COMMENTS ON ENERGY RESEARCH PRIORITIES

Senator ROBERT C. BYRD. Thank you, Senator Hatfield.

The United Mine Workers of America wrote to the committee on the question of energy R. & D. priorities. The letter is dated July 25, 1975, and is as follows:

HON. JOHN L. McCLELLAN,
Chairman, Senate Appropriations Committee.

DEAR SENATOR McCLELLAN: The U.S. Senate will consider fiscal year 1976 Appropriations for the Energy Research and Development Administration, ERDA. On many previous occasions the UMWA has urged Congress to substantially increase energy research and development. We continue to believe such action is necessary.

However, we are greatly concerned that the proposed ERDA budget is so heavily weighted toward quick development of nuclear energy that the vast potential of other energy sources is being downgraded.

When Congress created ERDA in 1971, the UMWA expressed fears that fossil fuel R. & D. would not receive adequate consideration due to the nuclear orientation of the many ERDA employees transferred from the Atomic Energy Commission.

After only five months of operation, our fears are reality and the agency responsible for unified leadership and direction under Federal programs engaged in developing technology is so heavily funding nuclear energy research that the progress of other energy alternatives is and will continue to suffer.

One single nuclear project, the Liquid Metal Fast Breeder Reactor (LMFBR) is receiving more R. & D. funds than the combined allocations for fossil fuel, solar and geothermal development programs. The breeder reactor, by far the most controversial and potentially the most hazardous energy source presently being studied, is scheduled to be a major demonstration project despite its cost and unresolved problems.

Yet to be discovered is any safe method for disposing or reprocessing of the large amounts of radioactive wastes which are by-products of the LMFBR. Yet to leave the drawing board is a LMFBR plant blueprint which contains adequate safeguards against a catastrophic nuclear accident.

Yet to be presented to Congress is a national security plan protecting the thousands of pounds of radioactive plutonium which are to be produced annually from sabotage activities. Of more immediate concern is, there exists no known safe method to store the tons of radioactive waste already created by operating nuclear power plants.

Rather than the one-year appropriation for the breeder reactor program, ERDA seeks Congressional authorization of the LMFBR program with no year limitation, a de facto commitment to the \$10 billion or \$20 billion project.

While the breeder reactor may be one of the long-range solutions to the world's energy crisis, its potential effectiveness can only be enhanced by a rational and balanced development program which seeks solutions to the potentially devastating risks.

The one-year appropriation will insure ERDA's continuing response to Congressional questions about the LMFBR program. Other energy sources are near cost effective production and do not present the hazards of nuclear power.

Harnessing solar energy would make nuclear energy obsolete. Coal gasification and liquefaction will supply the nations energy needs for hundreds of years. The feasible development and production of these energy alternatives require a commitment from ERDA, one that is lacking in the FY-1976 budget request.

The tremendous public and private investment required by accelerated development could foreclose our present options of developing other energy alternatives.

In recent testimony before the Joint Atomic Energy Commission Committee, ERDA Administrator Dr. Seamans said speculation that the funding reductions for the LMFBR would lessen ERDA's resolve to continue the breeder program was erroneous.

The UMWA believes that ERDA requires strong Congressional direction so reasonably priced and environmental acceptable energy will be made available within a suitable time frame.

The tunnel vision expressed in Dr. Seamans' remarks suggest that ERDA will continue its pursuit of a the single long-range energy option that is costly and dangerous without responding to fundamental questions raised by members of the Congress, as well as outstanding members of the scientific community.

The UMWA strongly urges Congress to assume responsibility for the direction of a balanced energy R&D program and we believe that adoption of the Tunney amendment to the ERDA appropriations bill will help to accomplish this objective.

The amendment would change the LMFBR authorization from a "program" authorization (with no year limitation) to a one-year authorization; it would delete \$94.1 million from the FY-1976 for long leadtime items for the Clinch River Breeder Reactor Project, the first demonstration reactor in the present breeder program; and it would direct a study of key breeder issues.

We suggest that this amendment will give the necessary perspective to the ERDA energy R&D programs and will also assure our citizens the development of safe as well as effective energy sources.

Sincerely,

ROBERT NELSON.

LIQUID METAL FAST BREEDER REACTOR FUNDING

Senator ROBERT C. BYRD. As you can see from the letter, the UMWA is highly critical of the budget emphasis ERDA is giving to the liquid metal fast breeder reactor, which the letter says is receiving more funding than fossil fuel, solar and geothermal programs combined. This labor organization supports more funding for safer and more effective energy development. What is your comment?

Dr. SEAMANS. My comment is that at this time it would be a very grave mistake, grave for this country to eliminate the possibility of a liquid metal fast breeder reactor while continuing the development plan.

I have in the last 2 weeks visited, for example, in France, the Phoenix project which is in operation there, which is delivering on the order of 250 megawatts on a reliable basis. It is a breeder reactor and is working very reliably and has been doing so for over a year.

I think for us to write off the possibility of increasing the energy that we can derive from uranium by the order of 50 times would just be extremely shortsighted.

I, of course, am completely sympathetic and I think my testimony here today shows that we must increase our effort on the utilization of coal. We must maximize the use of our oil and gas reserves.

We must move out on our solar and geothermal activities, but the amount of energy that can be derived from the solar and the geothermal in the next 25 years will be very, very small indeed compared to the amount that can be derived from the proper use and the proper safeguards of uranium, so I disagree with the thrust of that letter.

Senator ROBERT C. BYRD. Could you have any comment on the statement in the letter to the effect that the UMW expressed fears that fossil fuel R. & D. would not receive adequate consideration due to the nuclear orientation of the many ERDA employees transferred from the Atomic Energy Commission?

Dr. SEAMANS. I think what you see here today is ample proof that ERDA is not dominated by the old AEC. The people who are testifying with me here today all came from other activities, either in industry or the Office of Coal Research of Interior or elsewhere, and I can assure you that what we do in the fossil fuel area is hinged entirely to what makes sense for the country and how rapidly we can move ahead developmentally and is not hinged to put fossil fuel at a given percentage to the nuclear program.

The two are unrelated. We want to move ahead as fast as we can in the area of fossil fuels and their use.

Senator ROBERT C. BYRD. And as fast as we responsibly can in the nuclear energy, do you agree with that?

Dr. SEAMANS. Of course.

DISPOSAL OF LMFBR WASTES

Senator ROBERT C. BYRD. I wish to emphasize by reading again the following: "Yet to be discovered is any safe method for disposal or reprocessing of the large amounts of radioactive waste that are by-products of the LMFBR."

Do you refute that statement or do you agree with it?

Dr. SEAMANS. I think that we have made a mistake in this country not to have in demonstratable form on a full-size basis recycling of spent fuel as well as the storage of radioactive waste.

However, and again referring to my visit to France, they are vitrifying or putting in glass form their waste, and I went through the process there, and they are storing it at this time.

We have been storing in this country for some time wastes that have come out of our military programs. It remains, however, to demonstrate that this can be done on a full-scale commercial basis, and this is one of the programs that I think is extremely important for ERDA which it does not yet have under way.

It is a matter that is now being reviewed within the administration.

Senator ROBERT C. BYRD. Are you saying then that there is or is not a safe method that has been discovered for disposal or reprocessing of the radioactive wastes that are byproducts?

Dr. SEAMANS. I am saying there are a variety of methods that have been conceived for doing it, and it has been done on—call it a pilot basis—but it has not been done on a large scale basis.

Senator ROBERT C. BYRD. Are you saying that what has been done on a pilot basis is a safe method?

Dr. SEAMANS. Yes; I am.

SAFETY OF LMFBR

Senator ROBERT C. BYRD. The next sentence is as follows: "Yet to leave the drawing board is an LMFBR which contains adequate safeguards against a catastrophic nuclear accident."

What do you have to say on that?

Dr. SEAMANS. We are currently carrying out two designs for the Clinch River installation, one of which has a core catcher and one of which doesn't. We are doing this so that as we get closer to the licensing of this particular project, we will be able to have what will certainly be a completely safe method such as the core catcher against a less expensive method believed by most to be adequately safe.

But we want to have the two alternatives to compare, and I only mention this because it indicates that we are very conscious of safety and safeguards and we are considering the possibility of increasing the scope of the program by maybe \$100 million to provide additional safeguards.

So I believe that we are properly considering all safety aspects of the breeder projects as we go into the development.

Senator ROBERT C. BYRD. The next sentence, "Yet to be presented to Congress is a national security plan protecting the thousands of pounds of radioactive plutonium which are to be produced annually from activities."

What comment do you have on that sentence?

Dr. SEAMANS. This is a matter that has been discussed with the joint committee. We have in our budget on the order of, I think, \$115 million for safeguards in this country which includes everything from appropriate guards and other protective devices around our various plants, for safeguards during transportation, for the implementation of a new fleet of trucks as well as for R. & D. at a level of about \$10 million a year, in the whole field of safeguards.

I think we have a very extensive program and that we are properly considering all aspects of safety and safeguards.

Senator ROBERT C. BYRD. All you need is the failure of one security guard. Suppose one security guard goes to sleep? What happens?

Dr. SEAMANS. There is a great deal of redundancy in the system, and the failure of one guard would not invalidate the system.

STORAGE OF NUCLEAR WASTES

Senator ROBERT C. BYRD. The next sentence, "Of more immediate concern is that there exists no known safe method to store the tons of radioactive waste already created by operating nuclear powerplants."

Is the letter factual in this regard?

Dr. SEAMANS. There are a variety of known methods. As I said earlier, from my own standpoint, I like the concept of vitrification, of turning the waste into glasslike form so that it can then be stored geologically for indefinite periods of time.

So I believe there are known methods for waste storage. However, it remains to be demonstrated on a large scale basis.

Senator ROBERT C. BYRD. So what you are saying is that there are no known feasible economic safe methods that have been demonstrated on a large basis.

Dr. SEAMANS. For permanent storage, that is correct.

Senator ROBERT C. BYRD. Do you agree with the statement that other energy sources are near cost-effective production and do not present the hazards of nuclear power?

Dr. SEAMANS. I think it remains to be seen as to the cost effectiveness of solar electric for example. At this time it appears that it is much more expensive.

Senator ROBERT C. BYRD. Doesn't it also remain to be seen as to the safe methods to store the tons of radioactive waste already created by operating nuclear powerplants on a large basis? You just said that that hasn't been demonstrated on a large basis.

Dr. SEAMANS. I said that; yes. I thought you were asking me whether we didn't have other methods for deriving energy on a cost effective basis.

Senator ROBERT C. BYRD. That is right, I did. I'm not sure you answered.

Dr. SEAMANS. I am saying that solar electric is not available at this time.

NON-NUCLEAR-ENERGY ALTERNATIVES

Senator ROBERT C. BYRD. How about the other energy sources? For example, liquefaction, gasification of coal; aren't these near cost effective?

Dr. SEAMANS. That is the reason we have our whole program, if you will, to determine whether they are cost effective. At this time it appears that they are not cost effective. If we use the technology, say, derived from the Germans, we believe that we are making progress in coming up with more cost-effective technologies, but that has not been fully demonstrated at this time.

I think that the overall thrust of this is that we don't have in hand today proven methods for supplying the energy that this country needs, and we have to carry out a very strong R. & D. program in

many different fields to have the assurance that we are going to succeed.

Senator ROBERT C. BYRD. I think the thrust of my questions and the thrust of the letter from the UMWA is that you also don't have the known safe methods of dealing with nuclear powerplants, storing the radioactive waste. And yet the great budgetary emphasis seems to continue to be, as it has been all along, on this approach rather than on developing other technologies. I agree you are doing some of it now, you are doing more than was formerly done, and there is a great deal more money in the budget now for developing new energy sources, and some of them are exotic, some are conventional, developing, synthetic fuel from coal.

But the thrust of my questions and the thrust of this letter is the fact that in my judgment and in the judgment of a good many people around this country, the emphasis is still greatly weighted in the direction of nuclear power and not enough in the direction of developing synthetic fuels from coal, for example.

Dr. SEAMANS. Let me just say, when we submitted the amendments in the various areas, as a result of the plan that we submitted to the Congress on June 30, we increased by \$143 million the fossil area, solar, geothermal, and so forth. We actually reduced the effort on fission reactors by \$54 million. So I think we are cognizant of the need for increased effort in the fossil area, solar area, and geothermal, but we also think it is extremely important to carry out work on nuclear fuels and nuclear reactors.

BUDGET EMPHASIS ON NUCLEAR

Senator ROBERT C. BYRD. What percent of the energy research budget is nuclear and what percent is fossil fuel?

Dr. SEAMANS. If you include the fusion program with conservation, geothermal, fossil, solar energy, and advanced energy systems it comes out that well over half is in that area as compared to the work on fission reactors, and the nuclear fuel cycle. It comes out \$917 million on one and \$765 million on the other.

Senator ROBERT C. BYRD. What is it if you leave out the conservation factor? I don't think that the conservation factor should be included.

Dr. SEAMANS. I have got the numbers here.

In the fossil energy area, the total is \$418 million, and that compares with the work on fission reactors of \$625 million. So if you want to balance those two together, you can see it is roughly 2 to 3, 50 percent more effort going into the fission reactor than the fossil area.

Senator ROBERT C. BYRD. That is without any conservation factor cranked in?

Dr. SEAMANS. That is right, that includes only fossil energy.

Senator ROBERT C. BYRD. As to the total budget, how does it come out?

Dr. SEAMANS. In the total energy, R. & D. budget, fossil energy comes out roughly 20 percent of the effort, and fission reactors are roughly 30 percent.

Senator ROBERT C. BYRD. As to your complete overall budget, what percent is fossil fuel research?

Dr. SEAMANS. The complete overall budget, including everything that we are doing, including uranium enrichment and the national security program and the whole thing, fossil energy comes out to be 9 percent.

Senator ROBERT C. BYRD. That is for fossil. Now what percent does nuclear have?

Dr. SEAMANS. The fission reactor work, including a breeder, would come out to 14 percent.

Senator ROBERT C. BYRD. What percent is total nuclear?

Dr. SEAMANS. The total nuclear, including the fuel cycle, the uranium enrichment, and the weapons activity is about 70 percent.

Senator ROBERT C. BYRD. How much?

Dr. SEAMANS. About 70 percent.

Senator ROBERT C. BYRD. Seventy percent. Seventy percent for nuclear and 9 percent for fossil?

Dr. SEAMANS. Seventy percent nuclear including the weapons and enrichment work.

Senator ROBERT C. BYRD. It is 70 percent for nuclear and 9 percent for fossil.

COMPARISON TABLE

Dr. SEAMANS. About 45 percent of our budget is in weapons and production, entirely separate from the energy R. & D. activity.

To clarify the percentages we just discussed I would like to submit a comparison table for the record.

Senator ROBERT C. BYRD. Without objection that will be included in the record.

[The information follows:]

	<i>ERDA request (budget authority) in millions</i>
<i>Direct energy R. & D.</i>	
Fossil energy (20 percent of total energy R. & D.; 9 percent of total budget) -----	\$418
Solar, geothermal, advanced energy systems, conservation, fusion -----	499
Subtotal -----	917
<i>Fission reactors (30 percent of total energy R. & D.; 14 percent of total budget)</i>	
Nuclear fuel cycle R. & D. -----	140
Subtotal -----	765
Total direct energy R. & D. -----	1,682
Other supporting energy R. & D. -----	298
Total energy R. & D. -----	1,980
Total budget -----	4,573

NUCLEAR ENERGY R&D

Senator ROBERT C. BYRD. Senator Bellmon has some questions.

Senator BELLMON. Could you give us the figure for nuclear energy research and development?

Dr. SEAMANS. \$765 million includes fission reactor work and nuclear fuel cycle R. & D.

Senator BELLMON. What percent is that?

Dr. SEAMANS. That is around 40 percent of all energy R. & D. programs compared to 20 percent for fossil energy R. & D.

FOSSIL ENERGY CARRYOVER FUNDS

Senator ROBERT C. BYRD. How was your performance in fiscal year 1975 in pursuing the expanded fossil fuel program? Are you on target?

Dr. SEAMANS. There are some carryover funds. A little over \$100 million of carryover funds into 1976, and I believe in an expanding program, that is possibly a little on the high side, but is a fairly reasonable figure.

Senator ROBERT C. BYRD. What percent of the total would that represent?

Dr. SEAMANS. Roughly 25 percent of available funds.

Senator ROBERT C. BYRD. Why would there be that much in carryover funds?

Dr. SEAMANS. Well, it represents in part the fact that we can't move ahead with new programs until they are authorized and appropriated. It won't occur this year until roughly 6 months into the fiscal year.

Another aspect of this situation is that with a program that is growing—and we are bringing in new people and developing our organization—it takes some time to reach equilibrium. Also our contracting process, going out on procurements and assuming competition and so on, also takes some time after we have received the authorization to proceed. So these all put a delay into the actual obligation of the funds.

Senator ROBERT C. BYRD. How much carryover was there on the nuclear side?

Dr. SEAMANS. Roughly \$40 million on the nuclear side which is an ongoing program proceeding at roughly the same level as it has in the past.

UNOBLIGATED BALANCE FOR COAL RESEARCH

Senator ROBERT C. BYRD. Supply for the record a complete statement of the unobligated funds as of June 30, 1975, for all programs under this subcommittee's jurisdiction indicating which activities are involved. Include with your submission a graph on fossil fuel obligations provided to the staff earlier.

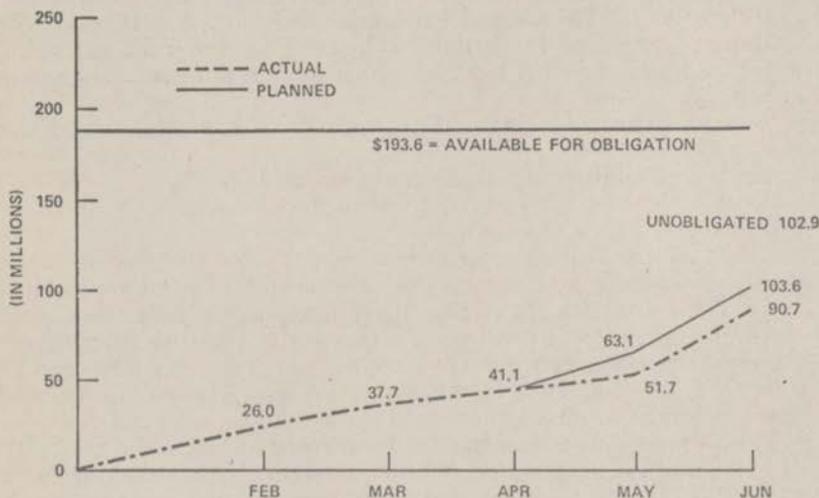
[The information follows:]

Summary of fiscal year 1975 unobligated funds

	<i>Preliminary estimated amount unobligated June 30, 1975 (thousands)</i>
<i>Operating expenses</i>	
Fossil Energy:	
Coal	\$100, 811
Petroleum and natural gas.....	1, 351
Oil shale.....	739
Subtotal	102, 901
Plant and capital equipment.....	8, 250
Subtotal	111, 151
Advanced energy systems.....	2, 946
Conservation	¹ 1, 684
Total unobligated.....	\$115, 781

¹ Total for Conservation R. & D. program. Financial reports available from the inception of ERDA are being analyzed to determine that portion of this amount which falls within the subcommittee's jurisdiction.

**FOSSIL ENERGY
OBLIGATIONS
AS OF JUNE 30, 1975**



UNOBLIGATED BALANCE FOR TOTAL RESEARCH

Senator ROBERT C. BYRD. Exactly what is the unobligated balance for total research as of June 30?

Dr. SEAMANS. For all programs or the solar?

Senator ROBERT C. BYRD. Coal research.

Dr. SEAMANS. That is \$109 million in obligations for the coal program including plant and equipment.

Senator ROBERT C. BYRD. I knew it was somewhere between \$102 and \$120 million, but it is \$109 million to be exact.

Last year when the Office of Coal Research appeared in support of a budget request, the indication was that all funds would be obligated by the end of fiscal 1975. What caused the slow down in obligation?

Dr. SEAMANS. I think the slowdowns are for the reasons I have already mentioned. It relates particularly to gearing up to handle the increasing volume of contractual work necessary for conducting a greatly expanded program.

Senator ROBERT C. BYRD. What steps are being taken to see that funds are obligated in a timely and effective manner?

Dr. SEAMANS. There are a variety of things we are doing. One is to have a monthly review of all of our key programs including reporting of the funding situation. The controller puts together a monthly report which I receive as do the other responsible people in ERDA.

In addition to that, as you know, we just added quite a number of key people in the fossil fuel area and made some organizational changes, and all of these are directed toward moving ahead on an expanding and more aggressive basis.

Senator ROBERT C. BYRD. Do you feel the appropriations requested in this budget can be feasibly and effectively and timely obligated?

Dr. SEAMANS. I think that they can be. I don't think it will be easy; I think it will be hard work. I think it is important, however, to make

the effort, and I think we can effectively use the authority that we are hereby requesting before this committee.

Senator ROBERT C. BYRD. I am talking about coal research specifically.

Dr. SEAMANS. So am I, Mr. Chairman.

HIGHLIGHTS OF FOSSIL FUEL ACHIEVEMENTS

Senator ROBERT C. BYRD. It will be helpful to the committee if you would attempt to summarize or highlight some of the actual energy R. & D. achievements ERDA is planning in the fossil fuel area for 1975.

Dr. SEAMANS. I would mention, for example, the Synthane plant that has been constructed at our Energy Research Center outside of Pittsburgh. I have had a chance to go there and inspect the facility before it was actually completed. That project has now started to yield results, and to me that is a very significant program.

I would mention some of the work that is going on in connection with our operation out at Laramie where we are working in similar type operations.

Also the work that is going on in connection with shale. I have not had a chance yet to visit the operation at Rifle, but I will be there this week.

I think the work that is going on in connection with our contractor, Coalcon, in preparation for site selection is very significant, site selection for the demonstration plant for clean boiler fuel.

A complete listing of all the projects and their status, I think, will show that things are proceeding on a broad front and that, I don't say that all projects are living up to all hopes, but that is part of the development, research and development process, and part of what we find out is that some of these technologies are not as effective as others.

Senator BELLMON. I am surprised you didn't mention anything about the merits of tertiary recovery.

Dr. SEAMANS. I stressed how important that was earlier, because of what I personally saw when we were in Osage County, although it was just beginning. I think it is important obviously as a start.

I am cognizant of the laboratory work that has been carried out by Phillips and others preparatory to proceeding with that project. But it is going to be another year or so before we will be able to determine how effective that particular project is. We have high hopes for it.

Senator ROBERT C. BYRD. Do you feel that the budget estimates increasing most areas of ERDA's budget request accurately reflect the priorities established by the national plan?

Dr. SEAMANS. Yes, I do.

Senator ROBERT C. BYRD. In terms of costs, the increase in the budget amendments for fossil fuels is only \$12.4 million or 4 percent. Yet fossil fuels R. & D. has been given high priority, I would hope the highest priority, as far as developing domestic fuel sources.

Why did fossil fuels not get more acceleration in the budget amendment?

Dr. SEAMANS. Each one of these areas was looked at on a project-by-project basis. In the amendment we asked for increased funds for oil and gas recovery. We felt it was important to increase the scope of that work, as well as the direct use of coal and shale. The decision was

not worked out on a percentage basis. It was made because we felt we could implement various projects during this coming year. By direct combustion, I refer to the work in coal.

Senator ROBERT C. BYRD. Pardon?

Dr. SEAMANS. The increased amount included in the budget amendment for use in coal, part of which is for direct combustion of coal, is an important project.

Senator ROBERT C. BYRD. Say again why fossil fuels did not get more acceleration in its budget.

Dr. SEAMANS. We did look at a variety of projects that might be initiated or expansion of existing projects. We arrived at these figures by reviewing with OMB these specific projects.

Of course, we had to receive their approval before they went into the amendment that the President sent to the Congress. These were reviewed on a case-by-case basis.

It is out of that review that we arrived at the \$26 million in budget authority.

Senator ROBERT C. BYRD. How did you come out with OMB? Did they scale down the fossil fuel R. & D. research?

Dr. SEAMANS. Yes; they did.

Senator ROBERT C. BYRD. How much?

Dr. SEAMANS. We requested an increase of \$75 million and they approved about \$26 million.

Senator ROBERT C. BYRD. What was dropped between the \$26 million and the \$75 million?

Dr. SEAMANS. They dropped \$5 million in liquefaction. They reduced the direct combustion from \$17 million to \$7 million. Advanced power systems, which is included in this, was reduced from 12 to 3.

We had \$16 million for demonstration plants that was completely eliminated.

Senator ROBERT C. BYRD. What was this demonstration plant? What did it involve?

Dr. SEAMANS. This was to further conceptual work on high- and low-Btu gas. The OMB allowance reduced the recovery of oil and gas from \$15 to \$11 million, oil shale from \$10 to \$6 million.

Senator ROBERT C. BYRD. For the overall fossil fuels research, what percent of cut was forced on you by OMB?

Dr. SEAMANS. They reduced our request from \$75 million to \$26 million. That is a reduction of 3-to-1, if you want to look at it that way. Another way of looking at it is that we had recommended a further increase of roughly 20 percent and instead we have an increase of a little less than 8 percent, 7 or 8 percent.

Senator ROBERT C. BYRD. What did OMB do in regard to the nuclear research effort?

Dr. SEAMANS. There, as you remember, we recommended a reduction and they agreed with the reduction.

Senator ROBERT C. BYRD. You recommended the reduction?

Dr. SEAMANS. Yes; we did.

Senator ROBERT C. BYRD. They imposed on you without your recommendation the reduction with regard to fossil fuel research?

Dr. SEAMANS. Oh, yes. It is a reduction of our requested increase, however. We requested an increase and they reduced the amount of the increase.

SUMMARY OF OMB ACTIONS ON FY 1976 BUDGET AMENDMENT

Senator ROBERT C. BYRD. Supply for the record details on each of the items that were reduced.

Dr. SEAMANS. I will be happy to do so.

Senator ROBERT C. BYRD. And what justification did you have for that increase as you requested it?

Dr. SEAMANS. You want me to include in the material the reason we recommended the increase?

Senator ROBERT C. BYRD. Yes.

Dr. SEAMANS. I will be happy to do that.

Senator ROBERT C. BYRD. I want to put that money back in if I can, if it is needed and justified.

What specific areas of fossil fuels and conservation do you think ERDA could most effectively expand if more funding were available?

Dr. SEAMANS. I would single out—I would want to get Dr. White's view on this, and perhaps you will be asking him the same type questions, but direct combustion of coal is an extremely important area. That could be expanded.

Senator ROBERT C. BYRD. That was one of the items cut by OMB?

Dr. SEAMANS. That is correct. I would single that one out, and I would like to see more funds for a demonstration plant. We recommended a \$16 million increase, and that was completely eliminated.

Senator ROBERT C. BYRD. The committee will be supplying you with questions on these items so as to elicit further details, Dr. Seamans.

[The information follows:]

FOSSIL ENERGY DEVELOPMENT
SUMMARY OF OMB ACTIONS ON
FY 1976 BUDGET AMENDMENT

OPERATING EXPENSES.
COAL PROGRAM:

		FY 1976 (In thousands)	
		Amendment Requested	OMB Allowance
Liquefaction	BA	\$ 5,000	0
	BO	2,000	0

Purpose: Permit added emphasis on the preparation of higher grade fuel products. Additional funds requested to initiate pilot and full-scale investigations of hybrid liquefaction processes.

Advanced Power Systems	BA	12,000	\$ 3,400
Subprogram	BO	5,200	1,600

Purpose: Permit an accelerated appraisal of the technological readiness of high performance open-cycle gas turbine systems, develop improved turbine system elements, and proceed to full-scale prototype engines as rapidly as possible. In addition, the closed-cycle gas turbine project, and the metal vapor turbine project, both with fluidized-bed coal firing, were to be accelerated.

Direct Combustion	BA	17,004	7,000
Subprogram	BO	6,855	3,300

Purpose: Expedite the development of both atmospheric and pressurized systems capable of burning high sulfur coals of all degrees of rank and quality in fluidized bed combustors in an environmentally acceptable manner.

Demonstration Plants	BA	16,000	0
Subprogram	BO	10,565	0

Purpose: Provide for an early full range assessment of the characteristics and relative value of processes and identify those elements of the subprogram which could impact indicated schedules. Additional data and information required include the performance of commercial capitalization and operating economics analyses, the identification of unresolved design problems, the calculation of projected types and levels of emission, the calculation of projected commercial plant reliability and on-stream availability estimates and the evaluation of the technology supporting the design of larger equipment through scaling.

		FY 1976 (In thousands)	
		Amendment <u>Requested</u>	OMB <u>Allowance</u>
Petroleum & Natural Gas Program:			
Gas and Oil Extraction	BA	\$ 15,000	\$ 10,000
Subprogram	BO	2,413	4,700

Purpose: Provide for initiation of four additional field demonstration projects for tertiary oil recovery and three additional projects for gas stimulation.

Oil Shale Program

In-situ Processing	BA	10,000	6,000
Subprogram	BO	3,000	2,800

Purpose: Permit expansion of the research to develop alternative technical approaches for exploiting low-grade oil shales. Planned to initiate one additional new field test of "true" in-situ retorting and to incorporate one field test of the "modified horizontal" approaches.

Advanced Energy Systems Program*

Magnetohydrodynamics	BA	15,010	15,000
Subprogram	BO	3,227	4,100

Purpose: Permit accelerated MHD generator channel development and component testing.

* Included under the Solar, Geothermal, Advanced Energy Systems Development Activity.

ADVANCED AUTOMOTIVE PROPULSION

Senator ROBERT C. BYRD. Senator Bellmon.

Senator BELLMON. Thank you, Mr. Chairman. I have an appointment at 12, and I would appreciate it very much if I can ask about three questions.

To be specific, what plans do you have, Dr. Seamans, for augmentation of the Bartlesville Research Center that works on advanced automotive propulsion? This is the only Government-owned laboratory that works across the board on that, as I understand.

Dr. SEAMANS. We have plans for a very modest increase in personnel at this time. We have no other plans for increasing the activity there.

Senator BELLMON. Do you have other laboratories that do that type of work that are owned by the Government?

Dr. SEAMANS. The only other Government facility that I can think of that is doing work that is close to that is the NASA Lewis Center in Cleveland, Ohio. We have no other ERDA operation that is involved in that type of activity.

Senator BELLMON. Doesn't it seem logical in light of the interest the President has shown in energy conservation for the Government to take a little more active role in advance automotive propulsion?

Dr. SEAMANS. I think so myself. Of course, we have expanded the R. & D. funding in advanced automotive propulsion. Most of that work, however, is being done by industry on contract to ERDA.

We are currently reviewing the status of all of our research centers and our laboratories in order to better determine how to use them more effectively, and out of this study may very well come a recommendation for increased activity at Bartlesville in connection with next year's budget, but at this time we have not made any such plans for any of the centers other than for a very, very modest increase in manpower.

ADVANCED AUTOMOTIVE POWER SYSTEMS

Senator BELLMON. I would like to say that I was very interested in the chairman's questions regarding the reductions OMB had made in your budget requests. Did you make a request for additional funding in the area of advanced automotive propulsion, and were they cut back?

Dr. SEAMANS. Yes; we did. For the total transportation area, we requested a \$13 million increase in obligational authority, and the amendment that was sent to the Congress was \$3 million. The extent to which that represents advanced automotive propulsion I will have to supply for the record.

Senator BELLMON. I would appreciate it if you would.

Dr. SEAMANS. I will be glad to.

[The information follows:]

COMPARISON OF ERDA REQUEST AND OMB MARK—ADVANCED AUTOMOTIVE POWER SYSTEMS

The FY 1976 amended ERDA request to OMB for the Advanced Automotive Power Systems Program totaled \$17.3 million in budget authority, an increase of approximately \$10.4 million from the \$6.94 million included in the President's

budget to Congress submitted in January 1975. OMB allowed a total of \$10.04 million, or an increase of \$3.1 million in budget authority.

Had the total requested funding been made available, efforts associated with the evaluation of electric and hybrid vehicles, gas turbine development, light weight diesel engines, and alternative fuels would have been expanded over the levels now being implemented.

TERTIARY RECOVERY

Senator BELLMON. On the tertiary recovery again, there are a great many areas where these kinds of projects could be started, and they are quite costly.

I remember the one we visited in Osage County that could potentially recover some 600 million barrels of oil, and it is going to cost literally billions to get this accomplished. But it seems to me the size funding in the budget is minimal. As I understand it, there is something like \$4 million. It doesn't seem like enough to even get one project off the drawing board.

Dr. SEAMANS. I believe that we have more than that, although I agree it is not a very large sum. I also agree it is an extremely important area.

Senator BELLMON. The problem is that we know the oil is there, we know we need it badly; but with the economics in the industry being what it is, it is hard to get those projects going.

Dr. SEAMANS. The total gas and oil program is around \$35 million in obligations. That includes the amended amount, \$10 million in the amended amount, plus \$25 million that was originally recommended.

Senator BELLMON. How much of that is for tertiary recovery on oil?

Dr. SEAMANS. I will have to refer to Dr. White here.

Dr. WHITE. About 60 percent is for tertiary oil recovery.

Senator BELLMON. That is 60 percent of—

Dr. SEAMANS. Of the \$35 million total. I think we better—this is what we believe it to be.

Let us straighten it out in the record to be sure we are giving you the correct figures.

Senator BELLMON. Very good. Could you give us an idea of how many projects you feel this will fund so we will have some view of the number of programs that can get started?

Dr. SEAMANS. Certainly.

[The information follows:]

FOSSIL ENERGY DEVELOPMENT TERTIARY OIL RECOVERY PROJECTS

Project	Fiscal year 1976 project starts	Total projects underway	Fiscal year 1975 estimated costs (budget authority, thousands of dollars)	
			Federal funds	Industry cost sharing
Micellar polymer.....	5	8	\$10,400	\$19,000
CO ₂ flooding.....	2	2	2,570	3,850
Improved waterflood.....	2	4	2,420	3,600
Thermal recovery.....	3	5	6,155	6,200
Total.....	12	19	21,545	32,650

THE CATLETTSBURG PROJECT

Senator BELLMON. Will it be possible to start construction of the coal project at Catlettsburg, Ky., with the money available or are we going to need a specific appropriation at a future date?

Dr. WHITE. We will need a specific appropriation.

Senator BELLMON. What will this be used for?

Dr. SEAMANS. Conceptual work plus the A. & E. work.

Senator BELLMON. When do you anticipate you might come forward with an appropriation for Catlettsburg?

Dr. SEAMANS. In connection with our fiscal year 1977 budget.

EUROPEAN ENERGY B. & D. EFFORTS

Senator BELLMON. Dr. Seamans, you mentioned you had just been to France and I heard you also say something about work being done in Germany on a breeder reactor. Are we in this country making use of the technology that they have developed over there, and if we are, why do we need to do so much research in this area?

Dr. SEAMANS. Well, to use the breeder technology, we have to have competence in this country which means we have to have the experience here. At the same time we must make use, to the best we can, of the developments carried out in France. There is very little in Germany in the breeder area.

In Germany I was visiting the work they are doing in high temperature gas and other type reactors. One of the reasons for my visit was to see how we might work jointly with the French Government and with the French Atomic Energy Commission.

However, the work they have in Phoenix is not at a stage where it could be commercialized here in this country. It will take additional development work for it to be applied here so that additional work is required and in addition to that we must develop our own industrial capability if we are to move into this field.

Senator BELLMON. Is it true that the British and the French and the Americans are all covering the same ground in this research effort? It seems to me this is a terribly expense undertaking and if each Government is duplicating the other Government's work, that some coordination might be to our mutual interest.

Dr. SEAMANS. This is one of the areas where I am attempting to work out joint agreements. It is not an easy area, however, let me point out, for reasons of national pride and national interest, to work these arrangements out in detail. But I think the desire is there today to do so on the part of the French and I know that we are very anxious to work with them and I am very hopeful that something will come of my visit.

Senator BELLMON. I certainly hope so.

Mr. Chairman, I would like to ask unanimous consent to insert a paper in the record relating to the fuels work going on at the Bureau of Mines Laboratory at Bartlesville.

Senator ROBERT C. BYRD. There being no objection, it will be included in the record, after which we will hear the Coalcon people.

[The statement follows:]

THE FUELS COMBUSTION RESEARCH LABORATORY
OF THE BUREAU OF MINES, BARTLESVILLE, OKLAHOMA,
ENERGY RESEARCH CENTER

Descriptive Resume' - The Facility and Its Operation

- The Character of the Operation
- The Nature of Its Mission

The Fuels Combustion Research activity is an operations group using engines, vehicles, fuels, and components of each of these together with test beds, instrumentation, and analytical equipment to study factors and influences that govern fuels and engine behavior. It is one of the nation's largest facilities of this type and the only governmental facility devoted to experimental inquiry that broadly relates fuels and engine technology including emission control.

The function of the group is essentially one of experimental inquiry into cause-and-effect coupled with engineering evaluation of parametric, operational, and/or design factors in engine/fuel technology.

While it is not the basic function of the group to do routine testing, the operation does require acquisition of large amounts of data by standardized methods, e.g. Federal standard auto emissions measurement. The laboratory has extensive facilities for such measurement. These include a computer for automated data acquisition and reduction.

The traditional and still current mission of the activity is to provide information for mutual adaptation of fuels and engines to best advantage in the national interest. In terms of experiment this translates into generating engineering data on options that exist for design, selection, and mating of fuels and engines for transport power. A significant part of this task is to reveal, describe, and as possible quantify, the strong interaction that often exists between fuel, engine, and emission control strategy (and level) as they jointly influence engine performance and overall net energy requirement.

The experimental work of the group encompasses the conventional forms of hydrocarbon fuels and solid fuel derivatives as they are used, or as would be used, in traditional transport power. Work currently also is done with prototype or development units of advanced automotive power systems.

A Digest of Principal Research Activity and Illustrative Related Achievements.

- Selection, Modification, and Mutual Adaptation of Engines and Conventional Fuels and Fuel Additives for Improved Energy Efficiency.

Experimental work is done with both conventional and advanced engines and their associated emissions control systems. Some achievements in this work have been:

1. To show that there are highly significant trade-off options between fuel penalty or improvement on the one hand, and, on the other, the mandated level of emissions control that constrains engineering choice for the more energy-efficient fuel/engine features.

2. To find that traditional fuel practice with respect to fuel additive usage (excepting lead) and with respect to fuel volatility are compatible with emission control objectives and that extensive reformulation with attendant severe process losses is not necessary.

3. To find that auto emissions control systems may suffer drastic loss in effectiveness at ambient temperatures either higher or lower than the median 60-80 °F U.S. range. The implication is that the engineering solution requires careful ordering of priorities and that great caution is imperative lest "corrective" standards or other action entail further substantial fuel penalty.

◦ Alternative Fuels for Engines.

The physical and combustion properties of fuels derived from non-petroleum sources are determined both by laboratory inspection of the fuels (and fuel components) and by experimental work with engines using the fuels.

The work is too-recent to cite achievement, but is providing engineering data for proper evaluation of the problems and potential in use of fuels that could be made from coal or other non-petroleum sources. Prominent in the program is engine work to develop fuel formula and engine/fuel-metering systems for satisfactory use of methanol as an emergency fuel or fuel supplement.

◦ Use of Diesel Engines.

- A. For improved fuel economy in transport.
- B. For use underground to replace more-hazardous electrical power.

A. Preliminary work has shown a potential for reducing the fuel requirement of vehicles in some types of duty by as much as 40 to 50% in switching from traditional gasoline to diesel-fueled engines. Results of the work will show where and under what circumstance a switch to diesel would be advantageous.

B. Results of the work related to the use of diesels underground established that the principal hazard in such operation is from engines "rebreathing" exhaust products. Instrumentation to detect dangerous rebreathing has been developed and is now being demonstrated in use on engines in production mines. Other work has shown how emissions from diesels can be reduced to a level compatible with minimum mine ventilation requirements. The result could markedly reduce the escalation of mine development costs.

PRINCIPAL RESEARCH EQUIPMENT ITEMS

Engine and Vehicle Test Equipment:

- 3 - Chassis dynamometers including one equipped to simulate air velocity and air temperature around the vehicle at speeds to 60 mph and temperature between 5 and 120 °F with humidity appropriate to the simulated ambient temperature.
- 6 - Engine stands with eddy current dynamometers having power absorption capabilities from 175 to 350 hp. All are remotely controlled and are comprehensively instrumented for measurement of engine performance, emissions, and fuel economy. Various combinations of inertial loading and automatic cycled operation are provided within the capability.
- 1 - Single cylinder research engine coupled to a DC-dynamometer.

Analytical Equipment:

Routine

- 5 - separate sets of emissions measurement instruments. One bank provides on-line real-time measurements.
- 4 - gas chromatographs with automatic readout for analysis of fuels and exhaust products.

Advanced

- Electron microscope (for measurement and characterization of smoke and other fine particles.)
- Time-of-flight mass spectrometer.
- Gas and liquid chromatographs (for non-routine determination of fuel and exhaust components.)

Data Acquisition and Computing Equipment:

Hewlett Packard Model 2100 for shared-time computing and control functions controlling engine and dynamometer operations with simultaneous on-line acquisition of engine and vehicle test data.

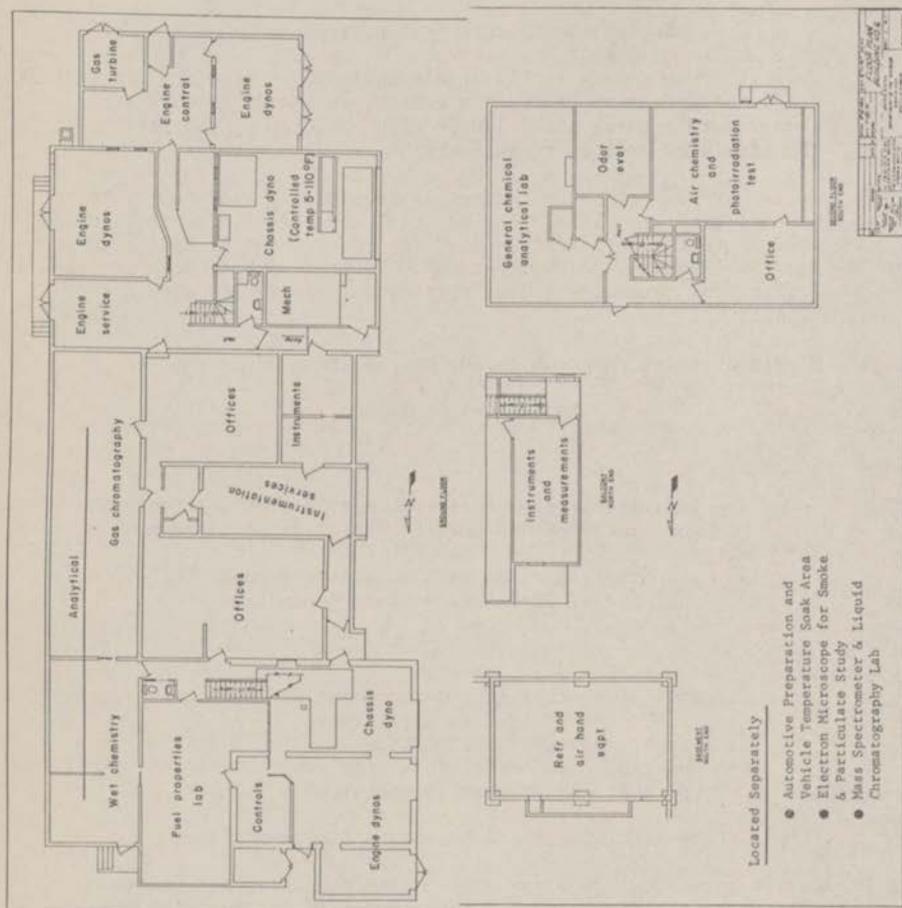
Hewlett Packard 9820A desk computer suitable for small computing jobs and data compilation involving relatively short experimental series.

Other Facilities:

Vehicle diagnostic center.

"Smog Chamber" for determination of rates of reactions of various pollutants in a controlled atmosphere while irradiated by simulated sunlight.

Odor room - facilities for dilution of diesel exhaust and subsequent determination of its odorant characteristic by a trained panel.



Located Separately

- Automotive Preparation and Vehicle Temperature Soak Area
- Electron Microscope for Smoke & Particulate Study
- Mass Spectrometer & Liquid Chromatography Lab

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(Last five years only. Approximately fifty prior
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FUELS COMBUSTION RESEARCH

MANUSCRIPTS IN PROGRESS

<u>Title</u>	<u>Authors</u>	<u>Form</u>
Fuel Volatility as an Adjunct to Auto Emission Control	R. W. Hurn, D. B. Eccleston, and B. H. Eccleston	Symposium series
Optimum Use of the Combustion Characteristics of Gas from Coal--Low Pollution Considerations	R. D. Fleming and J. R. Allsup	Bureau of Mines Report of Investigations
Emission Control for Diesels Operated Underground	W. F. Marshall, R. D. Fleming, and R. W. Hurn	Bureau of Mines Report of Investigations
An Alarm System for Unsafe Levels of Toxicants from Engines Operated Underground	J. O. Chase and R. W. Hurn	Bureau of Mines Technical Progress Report
The Influence of Fuel Composition on Diesel Emissions	W. F. Marshall	Bureau of Mines Technical Progress Report
The Role of Fuel Composition	B. Dimitriadis	Book chapter
Development and Utility of Reactivity Scales from Smog Chamber Data	B. Dimitriadis, G. P. Sturm, Jr., T. C. Wesson, and F. D. Sutterfield	Bureau of Mines Report of Investigations
Emissions Characteristics of a Prime Mover for Hybrid Engine Use	J. R. Allsup and R. D. Fleming	Bureau of Mines Report of Investigations

Title	Authors	Form
Rapid Determination of Toxicants in Mine Atmospheres--Feasibility Study	J. O. Chase and R. W. Hurn	Bureau of Mines Technical Progress Report
Diesel Engine Emissions: Measurement and Control	R. W. Hurn	Symposium proceedings
Fuels	R. W. Hurn	Book chapter
NO Emissions from Diesel Engines--Control and Measurement Techniques	W. F. Marshall	Symposium Series
Influence of Ambient Temperatures on Vehicular Emissions	H. A. Ashby, B. H. Eccleston and R. W. Hurn	Society of Automotive Engineers publication
A System for Obtaining Representative Exhaust Samples from Automobiles	W. F. Marshall and J. O. Chase	Bureau of Mines Report of Investigations
Methanol as a Fuel for Automotive Engines	R. D. Fleming, T. W. Chamberlain, and R. W. Hurn	Society of Automotive Engineers publication
Alternative Fuels--Methanol	R. W. Hurn	Symposium series
Methanol as a Motor Fuel	R. W. Hurn	Engineering Foundation Conference publication
Energy Conservation Aspects of Automotive Emissions Control	R. W. Hurn	American Chemical Society special publication

DEPARTMENT OF THE INTERIOR

NONDEPARTMENTAL WITNESSES

COALCON

STATEMENT OF MR. ANTHONY M. FAZZARI, ASSISTANT TO THE
PRESIDENT, COALCON

ACCOMPANIED BY:

CARL CREBAR, VICE PRESIDENT, PROGRAMS
SHARON CLANCY, PUBLIC COMMUNICATIONS CONTACT

PROJECT PHASES

Senator ROBERT C. BYRD. The subcommittee will resume.

On January 25, 1975, the Office of Coal Research awarded a contract for \$233,250,000 to Coalcon, Inc., a consortium organized by the Union Carbide Corp. for development and construction of a clean boiler fuel demonstration plant.

Under this contract Coalcon is to design, construct and operate a pilot plant capable of utilizing 2,600 tons per day of coal that would produce approximately 3,900 barrels per day of a clean boiler fuel and 22 million cubic feet daily of a pipeline quality gas. This contract covers the four phases of this project.

Phase I, which involved preliminary site selection and design assessment, is estimated to cost a total of \$4 $\frac{3}{4}$ million and to be 100 percent Government financed. This phase is scheduled to take approximately 9 months to perform.

Phase II involves detailed engineering design and is estimated to cost approximately \$17.7 million. This phase is also estimated to take approximately 9 months and is 100 percent Government financed.

Phase III involves the construction of the demonstration plant at a cost of approximately \$142.3 million. This phase is currently scheduled to be cost-shared with private industry contributing 50 percent of the cost. The projected construction time for this facility is 30 months.

Phase IV involves the actual operation of the plant for 40 months, at a total cost of \$72.4 million and is scheduled to be 50 percent cost-shared by industry.

Thus the total demonstration project as presently envisioned requires the Government to contribute \$129.8 million and industry to contribute \$107.35 million.

The pending ERDA budget contains a total of \$30 million which is being requested for the Coalcon project.

PROJECT SUPPORT

By way of background, I want to note that I was active in trying to gain approval of this project and get the contract awarded during

the period that coal research activities and this project in particular were under the Office of Coal Research in the Department of the Interior.

My interest in expediting this project was to get the project planned, to get it designed and to get it operational at the earliest possible date. Toward that objective, I requested that this contract be awarded prior to the merger into ERDA of OCR activities because I felt that considerable time would be saved. That contract was awarded shortly before ERDA assumed OCA jurisdiction.

Thereafter, I requested an opinion from the legal counsel of ERDA attesting to the fact that this contract would not be subject to ERDA's reporting requirements. A copy of that opinion dated February 13, 1975, signed by Mr. Hudson B. Ragan, Acting General Counsel of ERDA, will be included in the record at this point.

[The statement follows:]

LEGAL OPINION REGARDING APPLICABILITY OF SECTION 8(e) OF PUBLIC LAW 93-577
TO COALCON CO. CONTRACT

This office has been requested to consider the applicability of section 8(e) of Public Law 93-577 (the Federal Nonnuclear Energy Research and Development Act of 1974) to a demonstration project for a coal-to-clean-boiler-fuels plant. A contract for this demonstration project was awarded to Coalcon Company by the Office of Coal Research on January 17, 1975. The estimated cost of the contract is \$237,222,300, and the Federal investment is estimated to be in excess of \$50,000,000.

Section 8(e) of Public Law 93-577 provides that "if the estimate of the Federal investment with respect to construction costs of any demonstration project proposed to be established under this section exceeds \$50,000,000, no amount may be appropriated for such project except as specifically authorized by legislation hereafter enacted by the Congress."

Section 8(e) of the Act is not for application to this contract since the contract was:

1. entered into by the Department of the Interior (Office of Coal Research) under the authority of P.L. 86-599 pursuant to valid congressional authorization and appropriation of funds; and
2. entered into prior to the effective date of the activation of the Energy Research and Development Administration and the transfer from the Department of the Interior of the Office of Coal Research and its functions.

HUDSON B. RAGAN,
Acting General Counsel.

INTRODUCTION OF WITNESSES

Senator ROBERT C. BYRD. Now, for the introduction of some of the officials of Coalcon who are here and who are connected with the project very intimately. These gentlemen come to Washington at the committee's request to bring the committee up to date on Coalcon's site selection processes and to inform the committee of their progress regarding this projected coal conversion facility which, if successful, can mean much to the Nation.

Mr. Anthony Fazzari, assistant to the president of Coalcon, who has been directing the site-selection activities of Coalcon to date. Mr. Fazzari is familiar with all aspects of Coalcon's interests to develop and convert a coal conversion demonstration plant.

Mr. Carl Crebar, vice president of Coalcon for program management and I believe Mr. Crebar is a West "by golly" Virginian. Am I correct?

Mr. CREBAR. Yes, indeed.

Senator ROBERT C. BYRD. Here is Miss Sharon Clancy, director of public relations of Coalcon.

The subcommittee is very pleased to have you gentlemen and lady appear before the subcommittee and I will have a few questions regarding Coalcon's current status and your site selection activities but I should state at this point, I think, that Mr. Stanley Noss, president of Coalcon, Inc., with whom I have met on previous occasions would have been present at these hearings except for a longstanding commitment which he had on the west coast. He did agree, however, to making himself available to the subcommittee on any other date if the need should arise.

PREPARED STATEMENT

Mr. Frazzari, would you like to present a statement? If you have one that is prepared already, we will be very glad to have you read it into the record, or if you would like to extemporize on it, you may do so.

[The statement follows:]

I am Anthony Fazzari, Assistant to the President of Coalcon Company. With me today are Mr. Carl Crebar, Coalcon's Vice President of Programs and Mr. John Convy, Vice President, Washington Operations, Aerojet-General Corporation.

Coalcon Company was formed in May, 1974, evolving from the mutual capabilities of its joint owners, Union Carbide and Chemical Construction Corporation, a unit of Aerojet-General Corporation.

Over the years, Union Carbide had developed outstanding proprietary coal conversion and related technology and Chemico had been a recognized architectural and design firm with experience in materials handling and process technologies similar to those which were to be utilized. The capabilities of our parent companies were integrated into Coalcon with the express purpose of bringing coal conversion technology to commercial fruition through a series of major steps demonstrating the industry's viability and using our own contemporary and second generation technologies.

Our goals and abilities fortunately matched the requirements of the Energy Research & Development Administration's program to establish the commercial viability of coal conversion. On January 17, 1975, ERDA's Clean Boiler Fuels Program was awarded to us. We are pleased to be the prime contractor for this program, and we are also well aware of the potential impact this program can have in helping the U.S. realize its plans for domestic sufficiency in energy.

Copies of our Coalcon Company Fact Sheet and ERDA Contract Fact Sheet are attached as reference documents for the Committee.

We welcome any questions you may have regarding Coalcon, our program, and our role in the ERDA Clean Boiler Fuels program.

COALCON COMPANY FACT SHEET

<u>NAME</u>	Coalcon Company (Contraction of <u>Coal Conversion</u>)
<u>OWNERSHIP</u>	Equally by Union Carbide Corporation and Chemical Construction Corporation (Chemico).
<u>GOAL</u>	To help meet U.S. energy needs by providing commercial plants to economically produce clean liquid and gaseous fuels and chemical feedstocks from coal.
<u>EXPERTISE</u>	Combined strengths of Chemico Construction Corporation's 60 years experience in designing, engineering and constructing solids handling and gas processing facilities and Union Carbide's coal conversion process technology, an investment of more than \$60 million and over 3,000 man-years in research and development in all aspects of coal energy utilization.

Chemico commercial plants built include systems producing ammonia from coal and hundreds of gas handling facilities. Union Carbide has built and operated pilot plants for over 30 years with capacities of up to 25 tons per day of coal, and one 300 tons-per-day semi-works facility in a program to develop proprietary processes for the production of clean energy and chemical feedstocks from coal.

SEMI-WORKS
AND PILOT
FACILITIES

One 300 t/d semi-works facility covering all phases of coal conversion and featuring high pressure hydrogenation to produce a wide variety of chemicals.

One 20 t/d pilot plant using low pressure hydrogenation to produce 5,000 cf of 900 Btu gas and one barrel of high molecular wt. fuel oil from each ton of coal processed.

Several additional pilot plants to prove Union Carbide's technology including the Agglomerating Ash Gasifier. AAG produces hydrogen or a medium Btu gas that is clean and particulate free and can be used directly by utilities.

25 t/d PDU (Pilot Demonstration Unit) under construction for Battelle sponsored by American Gas Association and the Energy Research and Development Administration, Fossil Energy (ERDA).

SCOPE

In January, 1975, Coalcon received the largest contract ever awarded by the Interior Department for coal conversion. The \$237.2 million contract, jointly funded by the government and private industry through a consortium, calls for the analysis, design, construction, testing, evaluation and operation of the nation's first demonstration plant to prove the commercial viability of coal conversion.

Coalcon will offer plants based on the technology of Union Carbide and others, while developing second generation systems needed in the 1980's and beyond.

FINANCIAL

\$60 million investment in Coalcon proprietary technology over 37-year period by Union Carbide.

\$237.2 million contract with ERDA and private industry.

COAL CONVERSION
EXPERIENCE

Work has covered hydrogenation, carbonization, gasification (AAG), hydrocarbonization and combustion as well as coal mining, cleaning, grinding, drying, feeding, etc.

PATENTS

25 separate U.S. patents in coal conversion based on Union Carbide technology.

PROPRIETARY
PROCESSES

High pressure hydrogenation, dry fluid bed hydrogenation and agglomerating ash gasification (AAG).

MANAGEMENT

Stanley Noss, President and General Manager
 Dr. Thomas K. Brotherton, Vice President, Consortium
 Edward T. Coles, Vice President, Engineering
 Carl Crebar, Vice President, Programs
 Dr. Arthur K. Ingberman, Vice President, Business
 Development

Jay R. Martin, Vice President, Technology

Public Communications Contacts

M. Sharon Clancy, Coalcon (212) 239-5925
 James H. Mackin, Jr., Chemico (212) 239-5921
 Paul Jordan, ERDA, Fossil Energy (202) 523-5923
 G. Dennis Holt, Union Carbide, (212) 551-3006

LOCATIONS

Coalcon (Headquarters)
 One Penn Plaza
 New York, New York, 10001
 (212) 239-5842

Coalcon
 P.O. Box 8361
 S. Charleston, W. Va. 25303
 (304) 747-5248

Coalcon
 61 E. Park Drive
 Tonawanda, New York 14150
 (716) 877-1600

COAL CONVERSION DEMONSTRATION PLANT CONTRACTFACT SHEET

- COALCON -- A joint venture of Union Carbide and Chemical Construction Corporation (Chemico). Chemico is a member of The General Tire family of companies.
- CUSTOMER -- Fossil Fuels, Energy Research and Development Administration, (ERDA).
- PURPOSE -- Analysis, design, construction, testing, evaluation and operation of the nation's first demonstration plant to prove the viability of coal conversion.
- Demonstrate the commercial feasibility of a chemical process for conversion of high sulfur coal to clean burning liquid and gaseous hydrocarbons.
- Demonstration plant--2,600 t/d using hydrocarbonization process for producing 3,900 barrels/day of liquid and 22 million cubic feet of pipeline quality gas per day. Total energy produced is the equivalent of a 20,000 barrel a day oil refinery.
- FUNDING -- The \$237.2 million contract will be jointly funded by the government and private industry through a consortium.

CONSORTIUM MEMBERS

<u>Company</u>	<u>Specialty</u>
Ashland Oil, Inc.	Petroleum
Atlantic Richfield Co.	Petroleum
Consolidated Gas Supply Corp.	Gas
DuPont Company	Chemicals

Martin Marietta Corp.	Heavy Construction
Mobil Research & Development Corp.	Petroleum
Reynolds Metals Co.	Metallurgy
Sun Oil Company	Petroleum
Y & O Coal Company	Coal
Belmont County (Ohio)	Public Sector
Ohio Air Quality Development Auth.	Public Sector
State of Ohio	Public Sector
State of West Virginia	Public Sector
Wood County, W. Va. Development Auth.	Public Sector

PHASESPhase I -- Preliminary Engineering

12-15 months (1976)	Includes: Commercial plant process design, demonstration plant process design, technical support, site selection, management, reliability and quality assurance, demonstration plant environmental analysis, documentation and reporting.
Government funding	
\$4,450,000	

Phase II -- Demonstration Plant Engineering

18 months (1978)	Detailed plant engineering, design and planning. Preparation of detailed specifications, drawings and a construction bid package.
Government funding	
\$17,000,000	

Phase III -- Demonstration Plant Construction

30 months (1980)	Site preparation, equipment purchase, construction field erection, plant acceptance and check-out.
Government/Private	
50-50 Cost sharing \$142,300,000	

Phase IV -- Demonstration Plant Operation

42 months (1983)	Test and evaluation. Start-up and operation of the plant. Assessing full-scale commercial production.
50-50 Cost sharing	
\$72,472,300	

Total program estimated duration -- 8 years

Total projected cost: \$237,200,000

COALCON OFFICERS

Stanley Noss, President and General Manager

Dr. Thomas K. Brotherton, Vice President, Consortium
 Edward T. Coles, Vice President, Engineering
 Carl Crebar, Vice President, Programs
 Dr. Arthur K. Ingberman, Vice President, Business Development
 Jay R. Martin, Vice President, Technology

PUBLIC COMMUNICATIONS CONTACTS

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 James H. Mackin, Jr., Chemico (212) 239-5850
 Paul Jordan, ERDA (202) 523-5923
 G. Dennis Holt, Union Carbide (212) 551-3006

HISTORY OF COALCON CO.

Mr. FAZZARI. Thank you, Mr. Chairman. I would like to briefly bring you up to date on our corporation.

Coalcon Co. was formed in May 1974, evolving from the mutual capabilities of its joint owners, Union Carbide and Chemical Construction Corp., a unit of Aerojet-General Corp.

Over the years, Union Carbide had developed outstanding proprietary coal conversion and related technology and Chemico had been a recognized architectural and design firm with experience in materials handling and process technologies similar to those which were to be utilized. The capabilities of our parent companies were integrated into Coalcon with the express purpose of bringing coal conversion technology to commercial fruition through a series of major steps demonstrating the industry's viability and using our own contemporary and second generation technologies.

Our goals and abilities fortunately matched the requirements of the Energy Research and Development Administration's program to establish the commercial viability of coal conversion. On January 17, 1975, ERDA's clean boiler fuels program was awarded to us. We are pleased to be the prime contractor for this program, and we are also well aware of the potential impact this program can have in helping the United States realize its plans for domestic sufficiency in energy.

Copies of Coalcon Co. fact sheet and ERDA contract fact sheet are attached as reference documents for the committee.

We welcome any questions you may have regarding Coalcon, our program, and our role in the ERDA clean boiler fuels program.

I might also state that we are aware of and appreciative of your own early and ongoing interest in our program and we are most happy to be here.

Senator ROBERT C. BYRD. Thank you, very much. Mr. Crebar, do you have any statement at this point?

Mr. CREBAR. Not at this time, Mr. Chairman.

Senator ROBERT C. BYRD. The subcommittee will stand in recess for 2 minutes.

[Brief recess taken.]

Senator ROBERT C. BYRD. The subcommittee will resume.

COALCON CONSTRUCTION MAKEUP

Mr. Fazzari, Coalcon is a consortium, as you have indicated, composed of different entities. The consortium will be working with ERDA in a joint financed project directed toward commercialization of coal conversion and processes.

The members of that consortium, now: Would you identify them, please?

Mr. CREBAR. Mr. Chairman, the members of the consortium are Ashland Oil, Inc., Atlantic Richfield Co., Consolidated Gas Supply Corp., DuPont, Martin Marietta, Mobile Research & Development, Reynolds Metals Co., Sun Oil, the Y. & O. Coal Co., these are the members from the private sector.

We have members from the public sector, Belmont County of Ohio, the Ohio Air Quality Development Authority, the State of Ohio,

State of West Virginia and Wood County, West Virginia, Development Authority.

Senator ROBERT C. BYRD. Why was Coalcon selected to develop and construct the first demonstration plant?

Mr. CREBAR. In the first instance, I suppose that question might be more appropriately answered by ERDA. We won it on a competitive procurement.

However, on our own behalf I believe it started with the fact that when Coalcon was formed we were directing our energies toward the same goals that ERDA subsequently did, in the field of coal conversion, based upon the combined experience of Union Carbide and the Chemical Construction Corp.

Senator ROBERT C. BYRD. Has Coalcon or your consortium members constructed or developed other coal conversion plants?

Mr. CREBAR. Yes. As a matter of fact, Mr. Chairman, there is extensive experience in the field of petrochemicals and coal conversion activities. Chemico's experience is of some 60 years building commercial plants that contain systems that would produce ammonia from coal plus hundreds of gas handling facilities throughout the world.

More specific to the subject at hand is Union Carbide's 30 years experience and some \$60 million of investment proceeding from an extensive bench scale testing work to the building of a 300-ton-per-day, semiworks facility, which was a high pressure, hydrogenation process for coal liquefaction in Institute, W. Va.

This plant was operational some 6 years in the midfifties. They proceeded on to built a 20-ton-per-day fluid-bed hydrogenation pilot plant, which was active from 1960 to 1964.

CONVERSION PROCESS

Senator ROBERT C. BYRD. Would you state what coal conversion process you intend to use in your demonstration plant?

Mr. CREBAR. The demonstration plant process that we are talking about for the CBF program is a hydrocarbinization process involving a noncatalytic fluid-bed, hydrogenation of coal. This will produce a product mix of some 50 percent hydrocarbon liquids and 5 percent pipeline quality gas on a Btu basis.

The system is unique in that the balanced hydrogen needed for the reaction is generated by the char produced in the process and the output is usable fuels and disposable ash.

Senator ROBERT C. BYRD. Is this a proven process on a demonstration or commercial basis?

Mr. CREBAR. No, it is not. The 20-ton-per-day plant that I mentioned earlier that was piloted in the sixties utilized a Western nonglomerating coal.

The process that we will use, while similar, is required to operate on Eastern agglomerating coals. There was a design activity conducted by Union Carbide in the sixties for a 5,000-ton-per-day plant but the economics at that time did not suggest proceeding further with the development.

Senator ROBERT C. BYRD. Subsequent to the awarding of the first phase of this contract to Coalcon on January 25, 1975, have you per-

formed any process developmental functions or have you been primarily concentrating on site selection?

Mr. CREBAR. We actually have two parallel activities as follows: Mr. Fazzari has the responsibility for our site evaluation efforts and I have been instrumental in developing, directing the activities of the preliminary design work which involved some 38 trade-off studies, a re-examination of the field, if you will, to insure that we put forth the best possible commercial process. We have completed that activity.

SITE SELECTION PROCESS

Senator ROBERT C. BYRD. I have been following your site selection work very closely. How many sites were proposed or submitted for your proposed demonstration plant?

Mr. FAZZARI. Sixteen sites were presented by the State governments of six States east of the Mississippi River.

Senator ROBERT C. BYRD. Would you list the six States?

Mr. FAZZARI. West Virginia, Ohio, Pennsylvania, Illinois, Indiana, and Kentucky.

Senator ROBERT C. BYRD. What have been your elimination processes to date? In other words, how many sites did you seriously initially consider and how many are you seriously considering today? What were the processes by which some of these were eliminated?

Mr. FAZZARI. Our initial activity in this area was to establish a comprehensive list of technical and environmental site criteria which we felt must be fulfilled for the construction of a successful demonstration plant.

The site criteria were presented to the Governors of the 6 States who had expressed interest in the program and they used this criteria along with our guidance in screening a multitude of potential sites and screening that number down to the 16 finally presented to us.

So Coalcon's evaluation began with 16 States which had already passed the scrutiny of the State governments. We then evaluated these 16 sites against the list of site criteria and had each of the sites evaluated by a multidiscipline team of technical experts drawn from both parent corporations as well as Coalcon and also outside consultants.

We evaluated each of the sites presented to us and ranked them for relative attractiveness and then proceeded to visit and evaluate in depth those sites which appeared most attractive to us.

Senator ROBERT C. BYRD. And they are boiled down to what number now?

Mr. FAZZARI. We are giving quite considerable attention to 8 of the original 16 candidate sites.

Senator ROBERT C. BYRD. What are the basic requirements for the consideration of a site?

Mr. FAZZARI. There were a number of technical considerations such as the availability of coal, water, transportation, and distribution facilities and also some environmental factors which included air quality, water quality, an adequate socioeconomic base. Some factors related to the communities, such as zoning, availability of labor, and community interest in the program.

Senator ROBERT C. BYRD. How do you measure a site against your requirements? Did you personally visit each site or did you, say, send

in a survey team of multidisciplinary experts? How was each site physically considered?

Mr. FAZZARI. The site, the attractive sites were visited by myself personally as well as a team of people that included experts in the field of distribution, environmental experts, community relations people, labor relations people and that type of evaluation.

Senator ROBERT C. BYRD. How did you measure each site against the criteria?

Mr. FAZZARI. Many of the criteria are quantitative in nature such as the requirements for coal, water, labor, that type of thing.

Other factors are not quantifiable in that sense but could lead to delays in the program or difficulties in developing the site and wherever possible, we attached a dollar value to the level at which the site met these requirements or interpreted their capabilities in terms of the risk of program delays which in itself can be converted to a dollar value. We tried to make the analysis of these sites as quantitative and financial as possible.

Senator ROBERT C. BYRD. Were you looking for a particular quality of coal?

Mr. FAZZARI. No, our contract requires that in the operating phase of the contract which you referred to, that we be prepared to evaluate three different types of coal and therefore we placed no restrictions on the type of coal associated with each site other than it had to be a high sulfur coal, over 21½ percent sulfur.

Senator ROBERT C. BYRD. What were the three types of coal?

Mr. FAZZARI. We have assumed in our proposal that they would be similar to a Pittsburgh 8, Kentucky 11, and Illinois 6.

However, ERDA, under the contract can specify a type of coal without prior knowledge of Coalcon and we do not know at the time what the three types of coal would be.

Senator ROBERT C. BYRD. Will all three types be utilized in this plant?

Mr. FAZZARI. Yes, under the 42-month operating phase, all three types of coal would be run.

ENVIRONMENTAL FACTORS

Senator ROBERT C. BYRD. Did environmental considerations rule out any of the sites?

Mr. FAZZARI. We had a variety of environmental factors that we considered and each of the sites were ranked against that criteria.

For instance, air quality, water quality, terrestrial, and aquatic biology, noise levels, that type of evaluation was performed for us by a subcontractor who was an expert in that field and that subcontractor ranged each of the sites against that criteria.

Senator ROBERT C. BYRD. Were any of the sites ruled out basically on environmental considerations?

Mr. FAZZARI. There were several sites that had what we would consider serious disadvantages of an environmental nature which would take significant time and money to rectify.

Senator ROBERT C. BYRD. What types of difficulties did you encounter in those sites?

Mr. FAZZARI. There were some sites where the ambient air quality as well as metallurgical conditions would lead to problems in the operation of the plants. There were some sites where there were problems

with archeological sites, Indian remains. Other sites where the creek running or the river drains into parklands.

Senator ROBERT C. BYRD. In looking at potential sites, did you take into consideration the expansion of the pilot plants into a full-sized commercial plant?

Mr. FAZZARI. Very much so. Very early on in our participation with the State governments it was clearly established that the interest of the States lay in a commercial activity well beyond the 42-month operating phase of the demonstration plant and although we presented to the States site criteria for a demonstration plant, they all insisted on addressing the requirements for a commercial facility.

STATUS OF PLANTS FACILITY

Senator ROBERT C. BYRD. If your pilot plant proves to be successful and you decide to progress to a commercial-sized plant, how would the pilot plant facility then be treated?

Would it be considered as jointly owned by ERDA and Coalcon or would it be turned over to its consortium or would it just be put up to the higher bidder?

Mr. FAZZARI. Under article 21 of our contract, the contractor, Coalcon, agreed to purchase the interest of the Government upon completion of the demonstration phase of the contract. ERDA is not obligated to sell the plant to the consortium or to Coalcon but presuming that mutually satisfying terms can be agreed upon, Coalcon agreed to buy.

Senator ROBERT C. BYRD. In other words, you are being given first right of refusal?

Mr. FAZZARI. ERDA has considerable flexibility in what they do to dispose of the plant. We have made a proposal of terms under which we would consider buying the plant but no final resolution has occurred.

FINAL SITE SELECTION

Senator ROBERT C. BYRD. Back to your potential sites, are you down to your finalists?

Mr. FAZZARI. We have a number of preferred sites that we are considering in depth at the present time.

Senator ROBERT C. BYRD. Would you tell us again how many finalists you have?

Mr. FAZZARI. There are eight.

Senator ROBERT C. BYRD. Would you want to rank these locations in the order of preference for ERDA?

Mr. FAZZARI. We are not ranking them in order of preference. We are evaluating them against the predetermined criteria and each site individually is ranked against the multitude of site requirements that we have established.

Senator ROBERT C. BYRD. Could the Coalcon plant be feasibly and economically constructed on any one of these locations?

Mr. FAZZARI. The eight preferred sites all have the technical requirements to support the construction of the demonstration facility.

Senator ROBERT C. BYRD. How will you indicate your preference to ERDA in turning over your findings or will you?

Mr. FAZZARI. Beyond the indication of the eight preferred sites and the ranking of these sites against the criteria, technical, environmental, economic, we would not express any further preference.

Senator ROBERT C. BYRD. Will ERDA then take your information and make their own analysis or will ERDA make its decision on the basis of your findings?

Mr. FAZZARI. It is our expectation that ERDA will take our input as well as the input of their own staff and do a thorough analysis of the sites.

Senator ROBERT C. BYRD. How closely have you maintained contact with the ERDA officials?

Mr. FAZZARI. On the management level and also on the operating level we have maintained very close contact. We have supplied information gathered from the States for the evaluation of the subcontractor who is monitoring Coalcon.

Senator ROBERT C. BYRD. Are all six States which initially submitted potential sites still represented on your eight finalists, on your list of eight finalists?

Mr. FAZZARI. Yes, they are.

Senator ROBERT C. BYRD. They all are still represented?

Mr. FAZZARI. All six States, yes.

WEST VIRGINIA SITES

Senator ROBERT C. BYRD. This would indicate that West Virginia is still included?

Mr. FAZZARI. Most certainly.

Senator ROBERT C. BYRD. How many sites were submitted by West Virginia?

Mr. FAZZARI. The original discussions centered around five sites, four along the Ohio River and one on the Monongahela River.

However, Governor Moore in his formal presentation limited it to four sites, dropping one site along the Ohio River.

Senator ROBERT C. BYRD. Which site did Governor Moore drop?

Mr. FAZZARI. I believe there was a problem with the South Point Pleasant site due to flooding and multiple ownership.

Senator ROBERT C. BYRD. Where were the other sites?

Mr. FAZZARI. Bens Run, North Point Pleasant, Ravenswood, and Morgantown.

Senator ROBERT C. BYRD. Did you carefully review and study each West Virginia site considered?

Mr. FAZZARI. Yes, we did.

Senator ROBERT C. BYRD. How many of those four sites are still in the running?

Mr. FAZZARI. Among the final eight sites, there are two in West Virginia.

Senator ROBERT C. BYRD. Are you convinced in your own mind that the two remaining sites in West Virginia are in every respect the best sites that that State has to offer?

Mr. FAZZARI. Certainly, we feel that the State government did a fine job in screening alternative sites and presented four sites that had attractive features to them. The two sites that we are still considering we felt had a little more to offer than the two that ranked a little below.

Senator ROBERT C. BYRD. Would you be able to state whether or not one of those West Virginia sites should be ranked over the other West Virginia site or would you say they are both equal in all respects?

Mr. FAZZARI. It would be difficult to rank one over the other. They are geographically in different areas and each has their own very

strong points. I hesitate to preempt ERDA's decision by making a recommendation.

Senator ROBERT C. BYRD. Would you care to identify the two remaining sites in West Virginia that are on your final list?

Mr. FAZZARI. We have tended not to disclose this kind of information, primarily because we feel that all four sites had a great deal to recommend them and we received a great deal of attention from each of the people and we would like to notify the preferred sites and the less preferred sites personally since we have had a very pleasant personal relationship with them all.

Senator ROBERT C. BYRD. I can certainly understand that and I won't question you on that point. I realize that there are problems that could be created by the premature release of any information concerning a project of this magnitude.

I would be derelict if I did not state my own feelings on the matter. I believe in view of West Virginia's long history as one of the leading coal producing States in the country, its centralized location, which would be ideal for the distribution of products and the accessibility of rail and water transportation, these things would tend to make the State a prime and even ideal location for the demonstration plant and I hope that you gentlemen have already or will in the future come to the point of sharing these beliefs with me.

I appreciate your appearance before the subcommittee today. I say the same to you, Mr. Crebar, on your willingness to testify on this important project which does hold much promise for America's energy future.

Does either of you have anything further to state at this time?

Mr. FAZZARI. No.

SUBCOMMITTEE RECESS

Senator ROBERT C. BYRD. Thank you, gentlemen. The subcommittee will stand in recess until 3 p.m. today.

[Whereupon at 1.30 p.m., the subcommittee was recessed, to reconvene at 3 p.m., the same day.]

[AFTERNOON SESSION, 3 O'CLOCK, MONDAY, OCTOBER 6, 1975]

ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION

STATEMENT OF DR. ROBERT C. SEAMANS, JR.—Resumed

Dr. SEAMANS. We had \$16 million for demonstration plants and that was entirely eliminated and I guess that relates to the initiation of 10 commercial scale plant conceptual designs to allow power development, the understanding of processes, and the understanding of the scheduling impact of the various elements. That was taken out. I think those are the essential items.

OMB REDUCTION OF OIL SHALE PROGRAM REQUEST

The OMB reduced by \$4 million our request for the oil shale program. Our request was to expand research to develop in situ technologies for low-grade oil shale. We can give you a more complete breakdown for the record.

Senator ROBERT C. BYRD. We would appreciate that.
[The information follows:]

OMB REDUCTION OF OIL SHALE PROGRAM REQUEST

	Fiscal year 1976 (in thousands)	
	Amendment requested	OMB allowance
Oil shale program:		
In-situ processing.....	BA 10,000	6,000
Subprogram.....	BO 3,000	2,800

Purpose: To permit the expansion of research to develop alternative technical approaches for exploiting low-grade oil shales. Planned to initiate 1 additional new field test of "true" in-situ retorting and to incorporate 1 field test of the "modified horizontal" approaches.

FOSSIL ENERGY BUDGET AMENDMENT REDUCTION

Senator ROBERT C. BYRD. The subcommittee will come to order.

Doctor, you lost more than \$50 million from your original division request for \$337.6 million for coal research in the budget amendment. For the record, could you state in what specific programs the \$50 million would have gone and what coal programs you lost in your original budget request?

Dr. SEAMANS. As I indicated this morning, Mr. Chairman, we requested \$5 million for coal liquefaction and this was for use in testing 10,000 barrels of fuel product from an operating liquefaction pilot plant in an existing refinery, and that was eliminated from the budget amendment requested. The direct combustion area was reduced from \$17 to \$7 million but I am afraid that I cannot give you the specifics.

Senator ROBERT C. BYRD. And you were to supply the details for the record?

Dr. SEAMANS. Yes, as you requested earlier.

COAL LIQUEFACTION AND GASIFICATION

Senator ROBERT C. BYRD. Coal liquefaction and gasification received relatively modest increases over fiscal 1975 in terms of budget authority and no increase at all in the July budget amendment. Low-British thermal unit gasification actually declined. What does that mean?

Dr. SEAMANS. I think in the case of the gasification, the authority shows. I guess if anything, a decrease, but the outlays show a rather marked increase and this is taking into account the fact that we are going to have carryover funding from 1975 to 1976.

Senator ROBERT C. BYRD. How much carryover funding is there for gasification?

Dr. SEAMANS. I don't have the breakdown here but we show in 1975 outlays at \$22 million and our amended request is \$51.6 million in 1976, so that, where the authorization was decreased, the actual level of effort is going to increase by more than 2 to 1.

For the high-British thermal unit and the low-British thermal unit gasification \$30.9 million is a carryover from 1975 to 1976.

Senator ROBERT C. BYRD. Would you explain the fact that there is no increase at all in the July budget amendment solely on the basis of the carryover?

Mr. GREER. Senator Byrd, in going through the July budget, we looked at those programs that needed increased funding in accordance with the priorities in the plan and then we looked at the status of those programs in the April, May, July time frame and we realized there would be carryover funding in those and that was one of the reasons there was not additional funding requested, yes, sir.

Senator ROBERT C. BYRD. What were the other reasons?

Mr. GREER. I think that is the principal one.

Senator ROBERT C. BYRD. You said that was one of the reasons.

Dr. WHITE. If I could answer that, Senator Byrd, this is where the major thrust of the coal money is being spent, in the gasification and liquefaction program.

We have a number of pilot plant approaches currently in very advanced stages. They have been in operation. We felt there was not a need to increase that particular part of our overall program on fossils as much as in other areas.

Senator ROBERT C. BYRD. What other areas?

Dr. WHITE. Shale, fluidized combustion, MHD, areas that are really in a more embryonic stage than gasification and liquefaction.

COALCON DEMONSTRATION PLANT

Senator ROBERT C. BYRD. ERDA has three coal demonstration plants in the works. The coal liquefaction project in the design phase and two gasification plants for low- and high-British thermal unit gasification in the conceptual phase.

First, could you bring us up to date on the Coalcon plant?

Dr. SEAMANS. The contractor of course has been selected and has been in the process of carrying out the review of various sites, working with the six States that are involved, working with the Governor's offices. We are awaiting their findings. I believe that the results are going to be available to Dr. White this week.

He then has an in-house team of people who are going to go over the materials supplied by Coalcon so that we can then arrive at a determination in ERDA whether to support the recommendations of Coalcon or not.

And this is a process that should take on the order of about a month after we receive the information from Coalcon.

Senator ROBERT C. BYRD. So the designation of the location itself would come along about when, would you say?

Dr. SEAMANS. I would say that, this is now the first week in October, we will have the results by the first week in November. As far as our actual planning goes for site selection, we show that, as long as we make the determination prior to the first of January, we will not be slowing up the project.

We want to be sure we make the determination prior to January 1 and it appears that Coalcon has been working very effectively and we will be able to make the determination prior to that date.

Senator ROBERT C. BYRD. Prior to January 1?

Dr. SEAMANS. Right.

FUNDING OF COALCON PLANT

Senator ROBERT C. BYRD. Since this contract was negotiated on a cost-sharing basis, will the contractor, Coalcon, be contributing any funds to the project?

Dr. SEAMANS. Overall, they are contributing 50 percent of the constructing and operating funds.

Senator ROBERT C. BYRD. But in terms of dollars, how much?

Dr. SEAMANS. \$40 million in 1977.

Mr. GREER. I don't think there is any in 1976. It is phased.

Dr. SEAMANS. The first contribution will be in fiscal year 1977 projected at \$40 million.

Senator ROBERT C. BYRD. Inasmuch as the project was initiated in January 1975, why is Coalcon not required to obligate funds until fiscal year 1977?

Dr. SEAMANS. In this particular program it is a phased project and the cost-sharing provision is applying only to full construction and operation of the plant for test and evaluation, not for the original engineering design work, which are being wholly funded by the Federal Government.

Senator ROBERT C. BYRD. The cost sharing will be 50-50, I understand.

Dr. SEAMANS. Correct.

Senator ROBERT C. BYRD. Why is the contractor asked to commit \$40 million and the Government's share is \$30 million?

Dr. SEAMANS. Because it is about 50-50 overall and the Government has already contributed \$13 million in 1975 and \$20 million in 1976.

Senator ROBERT C. BYRD. So what you are saying is that the funds won't necessarily be allocated on an equal annual basis then?

Dr. SEAMANS. That is correct. It is looked at on an overall basis and they are in a catchup mode right now because the Government has been paying all of the cost to date.

COALCON PHASING

Senator ROBERT C. BYRD. Since there are some distinctions being made in allocating funds toward specific phases of the project, can you tell the subcommittee for what phase or phases of the project the fiscal year 1977 Federal authorized funds are slated?

Dr. SEAMANS. These funds will be used for both phases II and III. Our plan shows that \$8 million will be applied to completion of the demonstration plant final design and \$22 million to construction of the demonstration plants.

Senator ROBERT C. BYRD. Are there decision points during the life of the Coalcon contract when determinations will be made to continue the project?

Dr. SEAMANS. Yes; I think that there are. The contract specifies that the Government must provide the authorization to proceed for each phase of the project. There is also a general provision that allows the Government to terminate should a determination be made that the contract objectives are not going to be achieved.

Senator ROBERT C. BYRD. Would you, for the record, identify the Federal funding requirements beyond fiscal year 1977?

Dr. SEAMANS. The program is projected at a level of between 10 and 15 million dollars, \$15 million in 1978 and \$15 million in 1980. Ten for the other years.

PROGRESS OF PLANT PROJECT

Senator ROBERT C. BYRD. In the 6 months that the project has been in progress, what has Coalcon accomplished?

Dr. SEAMANS. Simply from my personal experience, what they have accomplished is to further define the site requirements and on the basis of these requirements to review various site locations and match one against the other.

They have also been looking at various subsystems to see which are the best for the plan and I guess they have looked at over 30 such subsystems and they have got to choose from among them 12 basic subsystems that will comprise the overall plan.

Senator ROBERT C. BYRD. In analyzing the performance progress, how does the actual progress made by Coalcon compare with the expected progress as provided by the contract?

Dr. SEAMANS. As I indicated, we had on our milestones chart the site selection by January 1. It appears we are going to beat that date. Obviously there have been some problems that have arisen but overall it appears that they are going to keep the total program on schedule.

Senator ROBERT C. BYRD. I suppose the problems that you refer to arose as a result of the great number of alternative sites that had to be studied; is that a fair statement?

Dr. SEAMANS. Well, it is true that there were a large number of sites to review. Of course they got considerable help from the individual States on that. They also had to look at quite a number of alternate technologies and subsystems and that also took a fair amount of time.

Senator ROBERT C. BYRD. Does the contractor seem to be confident that all of the milestones in the preliminary engineering phase will be met?

Dr. SEAMANS. Yes; they believe that they will. Of course, we have got to take perhaps a little more pessimistic view of things, but even so, we believe the contractor is performing very well in his job.

Senator ROBERT C. BYRD. What did you mean by a reference to a pessimistic view?

Dr. SEAMANS. Just because a contractor says he is going to meet the schedule, we have to get behind it and really be sure that the project is proceeding properly and when we have done that, we have found that the project really appears to be moving along very well.

Senator ROBERT C. BYRD. Do you have close liaison with the Coalcon people?

Dr. SEAMANS. Yes; we do.

Senator ROBERT C. BYRD. Are the Coalcon people clearing their input and thinking with you, or is this required?

Dr. SEAMANS. We have a project office that has a responsibility within ERDA for managing this large project and it is essential that the Coalcon people and our own people work closely together and then we review the project at the management level on a periodic basis.

COALCON SITE SELECTION

Senator ROBERT C. BYRD. What will be your procedure in making the plant location decision based on the recommendations of the Coalcon people?

Dr. SEAMANS. First of all, we have had an individual who has been working closely with Coalcon on site selection and so if any questions came up with regard to criteria and so on, we could give them a rapid response.

As I have already said, Dr. White has set up a group advisory to him to review the findings of Coalcon and when he is ready, he will present the findings of Coalcon and his own views of the Coalcon work, the thoroughness of it and so on, to me for final determination.

Senator ROBERT C. BYRD. And the final determination will be made by you, Dr. Seamans?

Dr. SEAMANS. Yes; that is true.

Senator ROBERT C. BYRD. And by you alone?

Dr. SEAMANS. I guess, as the old saying goes, the buck does stop with the administrator of ERDA.

OTHER DEMONSTRATION PLANTS

Senator ROBERT C. BYRD. The Senate authorization bill includes an additional \$53 million in obligations for plant and capital equipment to initiate construction on four demonstration plants. Given the state of existing technology, do you believe that ERDA will be able to effectively carry out this added program?

Dr. SEAMANS. Two of these four plants are for coal gasification, one high-British terminal units and the other low-British terminal units. It is our view that we could proceed with these two projects with the funding requested in the fiscal 1976 operating account and we don't need to have a new line item for them prior to fiscal year 1977.

We only have the other two projects in the Senate authorization bill under study—and we have funds in the operating account for those two projects as well—the only question, I think, is whether they each appear as a line item in the budget at this time as would be required if we were to initiate the architect and engineering design or whether it is sufficient to be carrying out the conceptual work with funds from our operating accounts.

Senator ROBERT C. BYRD. Do you have any indication as to whether private industry stands ready to participate in the accelerated demonstration program authorized in the Senate bill?

Dr. SEAMANS. I am sure we could get support from private enterprises for these projects.

Senator ROBERT C. BYRD. Is the fluidized-bed combustion technology far enough along to accelerate into the demonstration phase?

Dr. WHITE. I think without any question it is in atmospheric fluidized-bed combustion where we have quite a bit of experience.

The experience under pressurized boilers for fluidized-bed combustion is more limited but there are small units operating and there is optimism in some industrial concerns that they they are about ready to expand this. I think we would have a little more reservation but still it would be a fairly good gamble to accelerate that one, too.

TOTAL FUNDING FOR DEMONSTRATIONS

Senator ROBERT C. BYRD. What are your best estimates on the time and total funding needed for these various technologies?

Dr. SEAMANS. For the fluidized bed?

Senator ROBERT C. BYRD. Yes.

Dr. SEAMANS. I think we are still awaiting conceptual work that would give us a reasonable figure, a reasonable estimate.

Dr. WHITE. I wouldn't want to give a quick answer on the total funding. I would think, as indicated in the budget, that we would be going ahead with continued construction on the process demonstration unit scale and a smaller pilot type of pressurized unit this coming year.

DEMONSTRATION UNITS

These units are not too difficult to build and operate. We might well be in the design phase of full scale demonstration units in 1977 and certainly in the 1978 year.

Dr. SEAMANS. We will supply an estimate for the record.

[The information follows:]

FOSSIL ENERGY DEVELOPMENT
TOTAL ESTIMATED COST OF DEMONSTRATION PLANTS INCLUDED IN
SENATE AUTHORIZATION BILL FOR FY 1976

The FY 1976 amended budget request for ERDA fossil energy provides for the construction authorization under the Plant and Capital Equipment appropriation for a Clean Boiler Fuel demonstration plant. In addition, the Operating Expenses appropriation includes operating costs for this project as well as for the initiation of conceptual design activities for two additional demonstration plants, a High-Btu Pipeline Gas Plant and Low-Btu Fuel Gas Plant.

The Senate Committee on Interior and Insular Affairs, under S.598, has provided additional authorization under the Plant and Capital appropriation to further accelerate demonstration plant construction project efforts. A very preliminary estimate of the total costs and the time required to construct the demonstration plant projects authorized is as follows:

(a) High-Btu pipeline gas demonstration plant.

The Senate authorization provides for an additional \$20 million in FY 1976 to permit early procurement of long-lead equipment items. The ERDA FY 1976 request provides \$4.9 million for operating costs for a high-Btu pipeline gas demonstration project. No funding was included in FY 1976 under the Plant and Capital Equipment appropriation.

The ERDA demonstration plant subprogram assumes significant cost sharing for the projects. The present standard for cooperative Government-industry joint funding assumes 50-50 sharing for the construction and operating phases of demonstration plant projects. The very preliminary estimate for the Government's share of the construction phases of the demonstration plant is \$143,000,000 based on CY 1975 dollars. This estimate does not include cost escalation or a contingency factor. Approximately five years will be required from the initiation of conceptual design to the completion of construction for such a plant.

(b) Low-Btu fuel gas demonstration plant.

The Senate authorization provides for an additional \$15 million in FY 1976 for the project. The ERDA FY 1976 request provides \$4.9 million in the Operating Expenses appropriation for a low-Btu fuel gas demonstration plant. No funding was included in ERDA's FY 1976 request under the Plant and Capital Equipment appropriation. The very preliminary estimate for the Government's share of the construction phase of such a demonstration plant is about \$104,000,000 based on CY 1975 dollars. This estimate does not include cost escalation or a contingency factor. Approximately four years would be required to design and construct such a facility.

(c) Low-Btu combined cycle demonstration plant.

The Senate authorization provides for an additional \$5 million for the design and procurement of a special combustor gas turbine arrangement based on the combustion characteristics of the fuel gas to be produced. Without more precise information about the type of plant configuration assumed by the Senate an estimate of costs and the time required for construction is very speculative. A very preliminary estimate for a gas/steam turbine open cycle demonstration plant of 250 MW nameplate output, fueled by a low-Btu gasifier is \$500-600 million for

the design and construction phases. The Government's share of the project, assuming 50-50 cost sharing, would be \$250-300 million. The design and construction phases are estimated to cover a period of about five years.

(d) Fluidized-bed direct combustion demonstration plant.

The Senate authorization provides for an additional \$13 million for the design of a fluidized-bed boiler power plant with installed capacity of up to 800 MWe. Without more precise information on the type of plant envisioned by the Senate an estimate of costs and the time required for construction is highly speculative. A very preliminary estimate for a demonstration plant based on direct coal combustion to fuel a conventional powerplant of 800 MWe nameplate output is \$700-800 million for the design and construction phases. The Government's share of the project, assuming 50-50 cost sharing, would be \$350-400 million. The design and construction phases are estimated to require about five years.

ESTIMATED COSTS PER BARREL OF OIL EQUIVALENTS FOR COAL CONVERSION PROCESSES

Senator ROBERT C. BYRD. At the current stage of development, what is the estimated cost per barrel of oil equivalents for the various coal conversion processes? You might wish to do that for the record also.

Dr. SEAMANS. We will supply that for the record.

[The information follows:]

September 1976	Test of Soviet Built Electrode Module in a U.S. Facility (Phase I).
January 1977	Shipment and Testing of the U.S. Superconducting Magnet on the U-25 By-Pass Loop.
March 1977	Three Hundred Hour Evaluation Test of U.S. Built Electrode Module in Soviet U-02 Facility.
June 1977	Test of Soviet Built Electrode Module in a U.S. Facility (Phase II).
November 1977	Shipment of the U.S. Built MHD Channel in the U-25 Facility.
September 1978	Test of Soviet Built Electrode Module in a U.S. Facility (Phase III).
December 1977-December 1979	Joint Testing of the U.S. Channel in the U-25 Facility.
March 1977-December 1979	Joint Testing of U.S. and Soviet Built Channels on the U-25 By-Pass Loop Utilizing the U.S. Superconducting Magnet.

COSTS AT WHICH SYNTHETIC FUELS BECOME COMPETITIVE

The Synthetic Fuels Task Force estimates that synthetic fuels from coal conversion processes would have the following costs computed to include expenses and yield a return on investment of 13 percent:

	<i>Costs, 1975 dollars</i>
High Btu gas, (MBtu)-----	2.60
Utility/industrial fuel:	
Regulated industry:	
Coal \$17/ton (MBtu)-----	2.70
Coal \$11/ton (MBtu)-----	2.30
Unregulated industry:	
Coal \$17/ton (MBtu)-----	4.10
Coal \$11/ton (MBtu)-----	3.70
Syn crude:	
Coal \$17/ton (bbl)-----	25.70
Coal \$11/ton (bbl)-----	23.20

LOAN GUARANTEES FOR SYNTHETIC FUEL PLANTS

Senator ROBERT C. BYRD. The comment in your statement noted the administration's decision to support some changes in the \$6 billion loan guarantee program that was included in the Senate authorization.

Could you be more specific? Why are you backing this unbudgeted program, and what are the changes you intend to recommend?

Dr. SEAMANS. I would say that originally when the budget was submitted, the thinking on synthetic fuel programs was not far enough along to be included in the budget and even in May and June of this year when we were putting together our plans for ERDA, the OMB had not finished their study on synthetic fuels and so even the amended version of our budget did not include a synthetic fuel program because the studies were not complete.

Since then it has become apparent that not only is it very desirable to have a very major synthetic fuel program in this country, but that we should proceed really in two phases toward a million-barrel-a-day equivalent program by 1985, the first phase to be on the order of 350,000 barrels and the remainder, phase II, would depend really on how we make out with the first phase.

This pretty well coincides with what the Senate put in the authorization bill. Six billion dollars in loan guarantees would pretty well cover the 350,000 barrel a day capability. The two match up well.

For that reason we in ERDA recommended to the OMB that we be permitted to advise the House that the administration supported the Senate authorization with some modification and that is the way it has proceeded.

There is quite a bit of detail that one can get into on the various modifications. However, let's say in principle, we support the Senate version.

Originally, for example, OMB felt that we should drop our renewable energy sources. This would drop the geothermal and the solar as potential applications for the loan guarantee. Since then, that has been changed and on Friday I submitted a letter with the approval of the administration to the House saying that we would include renewable energy sources provided it is understood that we proceed first with the synthetic fuel program which includes the use of shale.

I can go into other aspects of this, Mr. Chairman, if you wish at this time.

Senator ROBERT C. BYRD. Well, it might be all right if you did.

ROLE OF PRIVATE INDUSTRY

Dr. SEAMANS. First, I might just pay mention to the kind of program that we are talking about. Obviously, what actually happens depends on what the private sector proposes and what they are willing to support.

The kind of program that we have in mind would lead to the total of roughly 350,000 barrels per day. It would include possibly two shale oil plants, each at about 50,000 barrels per day, three high Btu gas plants at about 40,000 barrels a day each, four medium and low Btu gas plants of about half the capacity of the shale plants, maybe

25,000 barrels per day equivalent, and about five biomass conversion plants at around 6,000 barrels per day each.

Of course what actually happens will depend entirely on what interests there are in the private sector in each of these areas, but that is the kind of program that we think the technology would permit and the kind of program that would make very good sense from a governmental standpoint.

Among the issues that I might mention in addition to the question of whether renewable energy sources are included or not, is the question, for example of whether we are talking about demonstration plants or just commercial plants. In our view this program should be entirely for commercial type plants and we should proceed with our demonstration plants the way we are currently doing so with the 50-50 type of cost sharing.

APPLICATION OF LOAN GUARANTEES

There has been some question as to what would be covered under the loan guarantee program. Whether we are just talking about the cost of the construction and initial operation or whether we are also talking about operational costs.

In our view we should only provide loan guarantees for the initial construction and startup operations and not for operational costs. There is some question whether the Senate, in the Senate bill, whether or not they are talking about operational cost as well.

There is a 2.5-million-barrel ceiling on high British terminal unit gas in the Senate bill, although it appears that ceiling is high enough we prefer not to really have any restriction and would like to see that eliminated.

There is the question on the limit of the guarantee. We both agree, that is the administration and the Senate, that the guarantee should be limited to 75 percent, that is, that the private sector should put up 25 percent of their own equity on guarantee.

However, the way the Senate bill is written, the authority could be to provide 100 percent guarantee during the construction phase and then less than 75 percent during operations, so the total would not come out 75 percent. We think we ought to eliminate authority to go to 100 percent during construction.

There is a question of elimination of the term of the guarantee. It is our belief that it should be, for 25 years or 90 percent of useful life, whichever is shorter.

There is the question of a fee. We believe there should be a 1-percent fee for administrative costs for managing a loan guarantee. And there is a question of reporting to Congress on each one of the projects.

In the Senate version there is a requirement that it should go to the Congress for review up to 90 days. We would like to see the review take place in 30 days.

There are other questions that come up that get into technicalities. I am not sure I am prepared to discuss them.

Such questions as loan guarantees for tax exemption and whether or not there should be loan guarantee. Should there be loan guarantees where third party lessors get tax sheltered leverage and that sort of

thing? I might bring these out to show there are some fine points to this and to the extent you want to get into it, we have people here who are well prepared to go into any detail that you may wish at this time.

Senator ROBERT C. BYRD. Very well. Some of the questions can be deferred at the moment and can be submitted in writing.

SYNTHETIC FUEL COMMERCIALIZATION PROGRAM

Would you include in the record at this point the summary of recommendations for a synthetic fuel commercialization program that you have provided to the committee?

Dr. SEAMANS. Yes, we will supply that.

[The information follows:]

SUMMARY OF RECOMMENDATIONS INCLUDED IN THE SYNTHETIC
FUELS COMMERCIALIZATION PROGRAM

Background

The processes for making gaseous and liquid products from coal and oil shale have been known for many years. Until the Arab Oil Embargo of 1973, synthetic fuels had not been emphasized in industry or government because the products produced were not competitive with conventional domestic and imported supplies of petroleum and liquified natural gas. The embargo presented new factors in the Nation's energy supply, mainly higher prices and, insecure supply.

At this time the national benefits (national security, reduced reliance on imports) from synthetic fuel production are significant, yet the corporate uncertainty associated with the expectation of profits and satisfactory return on investment has retarded the development of a synthetic fuel industry. In the absence of federally provided economic incentive, or other policies creating a stable and favorable investment environment, significant amounts of synthetic fuels are not likely to be produced by 1985.

Commercialization Program

The production level proposed to initiate the Synthetic Fuels Commercialization Program is 350,000 bbl/day. This program will provide essential information from a wide range of technological alternatives. Specifically, information to be obtained consists of:

1. Technical information necessary to:
 - o Verify plant design
 - o Establish operating procedures
 - o Establish plant reliability
2. Environmental information on:
 - o Extraction and reclamation operations
 - o The performance of emissions control technology
 - o Resource utilization such as water
 - o Community impacts
3. Economic information on:
 - o Construction costs including those caused by institutional and manufacturing delays
 - o Operating costs, including retrofit operations, replacement requirements, and efficiency
 - o Market value of the produced product

This option includes one each of the more significant first-generation technologies and provides data on economic, technology, environmental factors, socio-economic issues and institutional parameters. Additional facilities would provide further information (testing the commercialization of competing technologies; identifying unique regional differences, probing institutional issues in various parts of the Nation). However, the information gained from the option would provide significant commercialization experience that could be extrapolated with some confidence to a larger commercialization effort.

Recommended Incentives

Attainment of the production level will require incentives that are appropriate to stimulate industry participation in each fuel. The constraints to production in each fuel category involve both financial and non-financial problems. In the development of incentives for each fuel, consideration was given to both

types of problems. Initially, at least, the financial needs of capital availability, market price uncertainty, uncertainty of profit and return on investment are the most significant constraints on production and have been emphasized in this program. The recommended incentives for each fuel are:

Oil shale, a combination of a Federally-guaranteed non-recourse loan for up to 50 percent of the construction cost, plus a competitively bid price support.

Regulated utility/industrial fuels (i.e., low Btu gas), a competitively bid construction grant of up to 50 percent.

Unregulated utility/industrial fuels, a non-recourse loan guarantee of up to 50 percent plus price support competitively bid.

High Btu gas from coal, a competitively awarded non-recourse loan guarantee for up to 75 percent of the project cost, pending changes in the Natural Gas Act to bring synthetic gas under FPC jurisdiction or complete deregulation of natural gas.

Liquids and gases from biomass, a competitively bid non-recourse loan guarantee for up to 75 percent of project cost.

It is important to recognize that the potential producers of the various synfuel categories are differentiated in terms of industry structure, financial capabilities, profitability, regulatory status, size, and market applications and constraints. These factors, in turn, influence the nature of the barriers to synfuel investment for each type of producer as well as the need for and effectiveness of specific incentives. The Task Force incentives have the following effects in overcoming the key investment barriers for each synfuel:

- o Synthetic Petroleum (shale oil and syncrude). The incentive reduces capital exposure, facilitates capital acquisition, and protects return on investment against falling market prices. These are the three major barriers to investment in these synfuels. Importantly, the incentive also reduces the price of the synfuel and encourages competition and broad industry participation.
- o High Btu Gas. The incentive reduces industry capital exposure and facilitates capital acquisition, the two major financial barriers for this synfuel. In addition, through the regulatory changes, the producer can recover the full costs of production from the fuel user. Importantly, this incentive minimizes government liability and management involvement.
- o Unregulated Utility/Industrial Fuels. The incentive reduces industry capital exposure and facilitates the capital acquisition needs of the potential producer. The price of the synfuel is also reduced.
- o Biomass. The incentive reduces industry capital exposure and facilitates capital acquisition, important investment considerations to the potential producers of this synfuel which tend to be smaller, less capitalized firms than with some of the other synfuels.

The Task Force incentives do address the specific barrier to investment for each major type of synfuel and synfuel producer. The recommended incentives significantly reduce the amount of industry capital exposure and shift much of the cost for project failure and termination to the government.

The level of world oil prices will affect the level of subsidy for oil shale, syncrude, and unregulated utility/industrial fuels. Hence, the cost to the government will change as world oil prices change and as these prices rise the cost to the government declines.

The government's liability in the program is controlled by the price support feature; where applicable, support payments stop when the oil or gas prices equal or exceed the price of the synthetic fuel. Also, if the plants are successful, i.e. no loan defaults, the government has no liability.

A summary of the maximum undiscounted budget outlays by the government is summarized below.

Fuel Category	Maximum Undiscounted Liability, Billion 1975 Dollars
High Bru gas	\$2.6
Shale Oil	1.3
Biomass	0.8
Utility/Industrial Fuels	0.6
Syncrude	0.5
Total	\$5.8

COMMERCIAL FEASIBILITY OF THE SYN FUEL PROGRAM

Senator Robert C. BYRD. It is stated in this summary that the syn-fuel program would aim at commercially demonstrating existing technology. Specifically which technologies do you foresee pursuing to the commercial stage under this incentive program?

Dr. SEAMANS. I think it would be well for Dr. White to answer this question.

Senator ROBERT C. BYRD. Dr. White.

Dr. WHITE. In the high-British thermal unit gas area the most recognized existing technology is the Lurgi process which was developed in Germany and produces low and medium British thermal unit gas. Lurgi does not include a methanation step to make it pipeline gas quality. However, this has been demonstrated in Westfield, Scotland by a consortium of U.S. companies last year and is accepted for commercialization though it has not been literally commercialized yet. And that is the basis that has been behind the proposals made by a number of companies for pipeline gas facilities in the West, the Four Corners, the Dakotas and so forth.

For shale oil, again the only commercial operation outside of somewhat different shales in Estonia is the one in Brazil which uses a version of the Paraho type retort. Both that and the TOSCO type have been carried through a large pilot plant scale and are considered ready to go but again have not been actually commercialized. They are the ones that are being planned for use on by the companies which have bid on the leases in Utah and Colorado. Currently, these companies are getting ready to file their development plans.

Of course, the medium- and low-British thermal unit gas plants would use Lurgi. On biomass conversion, I don't think there is anything currently commercial and this would be an area where we would have to lean heavily on coal conversion technology and adapt it to biomass treatment.

SYNFUEL GOALS

Senator ROBERT C. BYRD. Do you feel that this goal of a million barrels a day for 1985 is realistic given the existing technologies that the commercialization program would support?

Dr. SEAMANS. I feel that it is, Senator Byrd. But I think it is very wise to proceed with a program in two phases.

I feel that we have a lot to learn, not just about the technologies but about the whole method of operation. We do plan to do this.

For instance, get some competition into this. We have obviously got to gain experience with all of the regulations and so on, some of which I have discussed with you here today. Obviously there are sociological aspects to this and economic aspects and I believe we can work them out better on a two-phase program rather than starting out now toward the million barrels per day.

Senator ROBERT C. BYRD. How does this synfuels commercialization program affect ongoing ERDA efforts in synthetic fuels that are moving into the demonstration stage?

Dr. SEAMANS. It shouldn't in any way affect them.

It ought to, if anything, put more incentive into moving ahead with the demonstration. I hope that in the second phase, that is following the first 350,000 barrels a day that some of the results from our ERDA demonstration work would find their way into the commercialization program leading toward the million barrels a day. It seems to me we have a more direct avenue than we have had in the past for utilization of our activity.

THE RELATIONSHIP OF IMPORTED OIL PRICES AND SYNFUEL
COMMERCIALIZATION

Senator ROBERT C. BYRD. Your statement on page 12 indicated that the cost of synfuels commercialization could end up costing the taxpayer nothing if imported oil prices continue to rise. Would you explain that statement?

"The cost of the program to the taxpayer would depend on the price of imported oil. If OPEC oil prices continue to rise, the program may cost nothing."

Dr. SEAMANS. Yes. This depends on the kind of support that is provided. As far as the Senate bill, with its provisions for loan guarantees, that statement would not hold. But if price guarantees were also included and price guarantees are included in the recommendations in the "Blue Book", then if the OPEC nations reduce the price of oil below the guaranteed level, then this would affect the taxpayer. That is what I think is referred to as the cost of the program to the taxpayer.

Dr. WHITE. It gets rather tricky here. It depends on how you analyze cost benefits in a program like this.

This particular analysis was made on the assumption that we could import oil at whatever price we had to pay for it to make up whatever deficiency we needed in this country equivalent to this particular

program. If it turned out we could have imported oil cheaply and went ahead with the program we would have spent money unnecessarily.

If it turned out the price of oil was very high and we had the program where we could make oil instead of having to import it, the program would save us money. The actual money you spend on the plants would be the same in either case. The benefit to the country would be different.

Senator ROBERT C. BYRD. To what level would imported oil prices have to rise to make commercial synthetic fuels economically feasible using the existing technology?

Dr. SEAMANS. We are going to provide those figures for the record, but it would certainly have to rise above the present level.

Dr. WHITE. The number 15 sticks in my mind. At \$15 a barrel it clearly would be advantageous to have this program. An 11 would be—

Senator ROBERT C. BYRD. Do you want to elaborate on this for the record?

Dr. SEAMANS. Yes, I would be happy to.

[The information follows:]

PRICE AT WHICH SYNTHETIC FUELS BECOME COMPETITIVE

The Synthetic Fuels Task Force estimates that synthetic fuels would need to be sold at the following prices to cover expenses and yield a return on investment of 13 percent:

	<i>Selling price, 1975 dollars</i>
Shale oil (bbl)-----	\$12.70
High-Btu gas (MBtu)-----	2.60
Utility/Industrial fuel:	
Regulated industry:	
Coal \$17/ton (MBtu)-----	2.70
Coal \$11/ton (MBtu)-----	2.30
Unregulated industry:	
Coal \$17/ton (MBtu)-----	4.10
Coal \$11/ton (MBtu)-----	3.70
Biomass (MBtu)-----	4.10
Syncrude:	
Coal \$17/ton (bbl)-----	25.70
Coal \$11/ton (bbl)-----	23.20

EARMARKING LOAN GUARANTEES

Senator ROBERT C. BYRD. What is your comment on the Senate Interior Committee's earmarking \$2.5 billion of the \$6 billion for high-Btu gasification?

Dr. SEAMANS. We believe the \$2.5 billion earmarked for high-Btu gasification would permit us to meet the requirements of this emerging industry at the present time. However, we do not believe that it is good policy to earmark funds in this manner and that until one actually goes out for applications for loan guarantees for a specific project, one will not know the response of the industry. Earmarking in advance could constrain the program unnecessarily.

COMMERCIAL COAL RESEARCH

Senator ROBERT C. BYRD. Exxon recently cut back its research effort in coal liquefaction, did it not, because of the fact that the estimates indicated that the cost on it would be prohibitive.

Are you familiar with that report?

Dr. WHITE. Yes. I think they concluded that even for that very large company they could not afford to go ahead with a full-size demonstration plant of their process totally with their own funds. They are currently discussing with us the possibility of an arrangement where money would come from the Electric Research Institute and ERDA. The German Government has also expressed an interest in sharing in such a program.

Whether this will finally come to anything firm is yet to be determined but discussions are underway and they will be continuing in the next few weeks.

Senator ROBERT C. BYRD. This would deal with coal liquefaction.

Dr. WHITE. Coal liquefaction.

PROPOSED ENERGY FINANCING AUTHORITY

Senator ROBERT C. BYRD. When can we expect to see more specific details of both the synfuels commercialization program and the President's proposed energy financing authority?

Dr. SEAMANS. As far as the commercialization program, that program is described here in the blue booklet. I am certain that any time this committee wishes, that Mr. McCormack of OMB who headed the study, will be happy to come up and provide a briefing in whatever detail you want.

As far as the larger proposal, \$100 billion for various guarantees in the total energy field, my understanding is that this will be presented to the Congress in the next few weeks. I know that the authorization committee in the House feels that they should see that plan prior to the time that they make a final determination on the ERDA bill and in particular on that part of our bill that relates to commercialization.

Senator ROBERT C. BYRD. Was ERDA involved in developing this proposal by the President to create an energy financing agency?

Dr. SEAMANS. We were not directly involved. This was a result of work that was carried out by the Vice President and the Domestic Council and some members from the FEA. We were involved in the technical material that went into the recommendations for synthetic fuels commercialization program.

Senator ROBERT C. BYRD. Do you feel that the creation of still another Federal agency directly involved in energy R. & D. might create overlapping and competition and duplication for ERDA?

Dr. SEAMANS. I think it is extremely important that if such an agency is formed, that it have an extremely close tie between its technical work and the R. & D. demonstration work going on within ERDA. I think that such an agency will also have to have not only

financial and administrative people, but some technical capability to carry out some of its own evaluations.

I would hope that it would rely very heavily on ERDA to assist in whatever evaluation is required. It is not just a question obviously of financing.

What is supported ultimately has to be in the context of a total energy plan and it has to take into account the status of the technology in the various areas.

Senator ROBERT C. BYRD. It seems to me that ERDA ought to be given an opportunity to do this work before we proceed to establish a competitive agency, which would mean additional administrative costs that could otherwise be put directly into research.

Dr. SEAMANS. I feel that if we can go ahead with the synthetic fuel commercialization program, as contained in the Senate authorization bill, that this will permit us to initiate work and we will learn in the process. Later, if a new agency is formed, it can be determined then how best ERDA would work with the new agency. It may possibly involve the transfer of some of those in ERDA who have been working on the commercialization program.

AGENCY DUPLICATION

Senator ROBERT C. BYRD. I must say that up to this moment I take a pretty dim view of the \$100 billion Energy Independence Authority. I feel that we just created ERDA and we ought not to start on another big project before ERDA even gets off the ground.

I would be concerned that there would be a lot of duplication of effort, overlapping, another layer of bureaucracy with a great deal of money siphoned off for administrative activities. That money is needed in the ongoing research program, to say nothing of the impact on the money market.

I will give you an opportunity to comment further if you want to at this point on this suggestion. I know you must view with some concern the impact that it would have on ERDA.

Dr. SEAMANS. Yes. I have already said all that I really have to say in response to one of your other questions.

I will say that I did have an opportunity to present these thoughts to the President prior to the determination. I think what actually happens really depends on the details of the plan and how the coordination is contemplated between ERDA and this new agency if it should go into effect. I think it would be extremely important that there not be a duplicative agency set up which would have a large scientific and technical staff. I think that would be a mistake.

I think we should make use of the capability that we are now building in ERDA and that should be relied on either by ERDA in making a determination on a commercial program or by another agency, if one is set up.

Of course, our whole objective is to come up with technology that can be transferred to industry, but there always has to be an evaluation when financing a commercial project, as to whether the project really is ready to be financed or not, so there has to be an understanding of this in the Government as well as in the private sector.

Senator ROBERT C. BYRD. If the so-called Energy Independence Authority were to be established—and if I understand you, you say this might result in the necessity for transferring a good number of these technical people that you would have onboard over into the other agency—it seems to me that we wouldn't need ERDA any longer, would we?

Dr. SEAMANS. Let me clarify that. I am glad you made that point. If we go ahead with a commercial program—I am now talking about the \$6 billion loan guarantee—it would be our intention to set up another program office with an Assistant Administrator reporting to me, and he would work in parallel with Dr. White and his people.

I would feel that if there were an Energy Independence Authority, if it were established, then this new office could be transferred. I certainly would not contemplate transferring those who are directly responsible for our research, development, and demonstration program. There would then be no sense in having an ERDA to that extent.

INTERIOR DECORATION OF ERDA HEADQUARTERS

Senator ROBERT C. BYRD. In yesterday's Washington Post—Potomac Magazine, this item appeared: "Welcome the new Energy Research and Development Administration Headquarters Building to the big leagues of posh Government offices. Handsome bamboo matting on the walls in the General Counsel's Office; kitchen and bath facilities for the administrator, plush carpets and bold graphics for executive suites have other bureaucrats envious. Interior decoration cost \$500,000."

Do you care to comment on that item, Doctor?

Dr. SEAMANS. I would say that the facilities for my own office are consistent with the needs of the Administrator to have sandwiches and so on around a table when I have visitors.

Today, I had the Minister of Science and Technology there with his staff from Germany, and I can assure you that what we served was nowhere as sumptuous as the way we were served when I was in Bonn recently.

At the same time, it is hardly within the capability of the two-burner stove and small refrigerator that I happen to have outside my office.

We have considered using conventional plain colors, but instead we used brighter colors and some graphics on the halls and other walkways. I think our color scheme makes it a more interesting building than a standard Government building. The initial expense is very minimal, and I think it is warranted. As far as the actual cost, I don't have the exact figures. I have asked for them.

You must remember that we are moving into a building of eight floors, and we are going to have 1,300 employees. It does take some funds to buy furniture and equipment, put up all the partitions, and get the building in condition to be used. When we started, there were no partitions. We had nothing but empty floors with nothing in them at all.

Senator BELLMON. Well, Dr. Seamans, could you give us an estimate of what the decorations in your own personal office may have cost?

Dr. SEAMANS. I can supply that. I do not have those figures.

Senator BELLMON. Is it anywhere close to \$500,000?

Dr. SEAMANS. My own office is certainly nowhere close to \$500,000. They are talking about the cost of, I believe, space for on the order of 125 people in 14 different offices.

I will be happy to supply the total cost information for the record. I do not have it yet.

Senator ROBERT C. BYRD. You do that.

Dr. SEAMANS. I might also say that absolutely everything we have done in that building has gone through GSA and has been subject to their approval.

Senator ROBERT C. BYRD. I doubt that that last statement is necessarily very persuasive with respect to some of the members of this committee. The last sentence of your statement.

[The information follows:]

ERDA HEADQUARTERS

ERDA has worked with the General Services Administration to make ERDA Headquarters, an eight-story building at 20 Massachusetts Avenue, operable for about 1,300 employees. The total cost is estimated to be about \$4.5 million, which includes the installation of interior walls and partitions on each of the eight floors, necessary security systems, mail and library facilities, conference rooms, a public health facility, and necessary communications equipment and facilities. It includes all the office furniture and fixtures (desks, chairs, filing cabinets, tables, etc.), floor coverings, and employee facilities. It also provides facilities for the general public (library and public documents room, lobby, reception areas, etc.). The total cost and layout of this facility has been carefully planned and coordinated with GSA to insure that we have adhered to applicable Government regulations.

ENERGY RESEARCH CENTERS

Senator ROBERT C. BYRD. Several Senators have expressed their apprehensions to this committee that ERDA plans to phase out or to diminish the importance of the five energy research centers which you inherited from the Bureau of Mines. I am somewhat acquainted with the work, particularly of the Morgantown Energy Research Center.

What are ERDA's plans for these existing centers?

Dr. SEAMANS. There is absolutely no thought to disposing of or eliminating any of those five. There was a sixth very small energy research center in San Francisco. We didn't eliminate it, but it seemed wise to combine it with the operating field office that we had out in San Francisco, and so we combined for administrative reasons those two functions out in San Francisco. The other centers all have expertise in particular fields, and as I said this morning, they all have real hands-on experience in fossil energy, one way or another.

Our planning at this stage has been first to review carefully what we have. We set up a special advisory group for this purpose. I have also asked this advisory group for their recommendations as to the best way to relate the centers to the various program functions.

I think it is obvious that the energy centers are primarily related to what we are doing in the fossil fuel area. So much of the program responsibility stems from Dr. White and his people.

However, we are looking at the possibility of some other work being done in the centers; for example, in the automotive area, under con-

servation. It seemed inappropriate at the very start to have all field operations reported in directly to the Administrator.

We set up an Assistant Administrator for Laboratory Field Operations. He worked with me in NASA and again in the Air Force. He is the one that we felt we should have outside as well as inside, people looking into the ultimate difficulties of all of our laboratories and all of our centers. But I can assure you that at no time has there been any thought of eliminating the centers from our program.

EXPANSION OF CENTERS

Senator ROBERT C. BYRD. How does your proposed usage of these centers fit into the overall plan by ERDA for expanded emphasis in coal and synthetic fuel research?

Dr. SEAMANS. I think it is apparent as we expand that we must have centers of excellence in each one of our fields of endeavor. I think of a center as being made up not only of in-house capability, Government capability, but also of a university competence. One of the things we are looking at are the relationships we have between our centers and universities in that locale. In the case of Morgantown, of course, we have the university there. In the case of Laramie, we have the University of Wyoming and so on.

The extent to which we can expand both within the Government and then have the Government in turn reaching out and bringing in more competence, the better. It is part of our policy to carry out that type of expansion in ERDA, to broaden our base. We must have a broad base that includes Government competence and university competence as well as, obviously, industrial competence.

Senator ROBERT C. BYRD. Some of the work previously performed by the energy research centers is now being directed, I am told, toward your national laboratories. What procedure has ERDA established in determining whether new work will be performed at the centers or your laboratories?

Dr. SEAMANS. The program offices, like Dr. White, are the ones that are responsible for seeing that fossil fuel effort is properly managed, and he and his people carry out discussions with the energy research centers, with national labs, with our various field offices.

At the same time of course they consider going out directly with grants to universities or contracts to industry. We have discussed with the directors of all of our laboratories, national labs as well as our centers, how we should expand. I feel that it is very important, as I just tried to emphasize, to broaden our base and not just expand, say, within our national laboratories.

However, we do have some very real capability in the national labs for special instrumentation, for example, and I think we want to avail ourselves of their competence at the same time that we bring others into the program.

Now, we look at it not only on a program basis, we are looking at ERDA on an institutional basis; that is, center by center, laboratory by laboratory. It is Dr. Yarymovych who I referred to earlier, who

has that responsibility and it is with him that I discuss the growth of each center or each laboratory and determine whether we are making a wise choice each time that a new program comes along.

MORGANTOWN RESEARCH CENTER

Senator ROBERT C. BYRD. You have appointed a director for the Morgantown laboratory. I think the position was vacant too long. It appeared that Morgantown had been forgotten during the transition period when ERDA was being organized. I am glad that a director has been appointed.

What programs are actively underway at the Morgantown location presently and what programs are scheduled there during the next few years?

Dr. SEAMANS. I would like to have Dr. White answer that Senator ROBERT C. BYRD. Dr. White.

Dr. WHITE. The program at Morgantown covers both work in petroleum and natural gas and in coal.

Petroleum research aims at enhanced recovery using carbon dioxide injection into the oil reservoir. We are also investigating improved fracturing techniques to enhance gas recovery. The estimated expenditures in 1976 on oil and gas would be \$1 million. In situ-coal, gasification, a matter of direct combustion of coal underground to make a low-British thermal unit gas is also about a million dollars.

But the major part of the program involves more conventional coal gasification and coal liquefaction which is almost \$10 million. The low-British thermal unit gas program is the largest, but there is an increased effort in direct combustion and probably it will be substantially further increased. However, the plans for direct combustion are not yet fully developed. They have a fairly significant facility down there now on direct combustion and it appears they are in a position to make significant contributions to our overall program in developing third generation technology. A certain amount of supporting research, about a million and a half is conducted also.

I would see all of these programs as ones that are very viable and likely to continue. Oil and gas extraction, particularly as it relates to obtaining gas from the eastern-type shale, is apt to get a good deal of further support in the coming years. I see Morgantown playing a significant role as well in direct combustion.

MORGANTOWN EXPANSION

Senator ROBERT C. BYRD. Would you see an expansion of these or other programs at Morgantown looking down the road?

Dr. WHITE. I would think so, yes. I couldn't give you a quantitative figure.

Senator ROBERT C. BYRD. What is in your pending budget request for Morgantown?

Dr. WHITE. For the programs that we have underway there now or plan for next year, we estimate \$11.8 million.

Dr. SEAMANS. That is more than twice the expenditures in fiscal year 1975.

Senator ROBERT C. BYRD. What is your current level of employment in Morgantown?

Dr. SEAMANS. 171.

Senator ROBERT C. BYRD. Are these positions filled?

Dr. SEAMANS. That is the authorized ceiling—171. I will have to ask what the actual level is. I think it is very close to that figure. We don't have the current figure but it is very close to the authorized level, I believe.

Senator ROBERT C. BYRD. What are your predictions for employment at that location over the next half dozen years?

Dr. SEAMANS. I cannot give you, at this time, a projection. It obviously depends on how the programs expand as we go into fiscal year 1977 and that is still being determined at this time.

Senator ROBERT C. BYRD. Dr. White, would you care to comment on this?

Dr. WHITE. I think it is a function both of the total program and the division of the program between what is contracted out and monitored at Morgantown and what is actually done in-house.

Some of the coal work is done in-house, in facilities in the laboratories. Some of the field contracts are simply monitoring. It is a little hard to judge at this point how that will grow but it is pretty clear that any expansion in the way I mentioned is going to require more people. I would guess a significant number, in the tens and twenties at least.

HYDRANE PROJECT

Senator ROBERT C. BYRD. Last year this subcommittee included \$3 million which was budgeted for the design and preliminary development of the hydrane project which was to be administered by the Morgantown Energy Research Center. What is the status of this project?

Dr. WHITE. The program right now is to try to get a better handle than we have currently on just how much advantage this process may have over other gasification processes. As you are aware, it has only been carried out so far on quite a small scale.

It is a question of whether there is a sufficient justification to scale this process up to a process demonstration unit and if this new type of gasifier can be built this way, whether it can be built for a range of coals, and so on. We are trying to have that evaluation made currently.

It seems clear that if the results are affirmative that it does have advantages, and if our engineering studies show that it can be scaled up reasonably, it would be done under the aegis of the Morgantown lab or built nearby.

Senator ROBERT C. BYRD. How much has been expended to date from the funds appropriated?

Dr. WHITE. I don't think I can give you that figure. Let me get it for you—it was a million dollars in fiscal 1975.

Senator ROBERT C. BYRD. \$1 million.

Dr. WHITE. Yes.

Senator ROBERT C. BYRD. What is your schedule for completion of the design and construction of the hydrane process development unit?

Dr. WHITE. The present program calls for the completion of the engineering that I mentioned by the third quarter of fiscal 1976 and proceeding then immediately with design, which, if all goes well,

should be completed by mid-1977. We would then proceed with construction. Construction would run on into—well through fiscal 1978.

Senator ROBERT C. BYRD. I believe that we have some very talented and excellent personnel located at these energy research centers and I believe that the subcommittee would want to see them fully utilized and advantage taken of the expertise that has been developed at the centers. Some of them probably need to be reinvigorated with a new and challenging mission and some of them may be suffering under the present personnel ceiling.

I would request that you undertake a comprehensive review of these centers and inform the committee of your future plans for them. Won't you do that, please?

Dr. WHITE. We will be happy to.

Senator ROBERT C. BYRD. How much time would be sufficient? Would 90 days be sufficient for you to prepare this information for the committee?

Dr. SEAMANS. Yes; that would tie in with the review we are carrying on overall, and it could be supplied within 90 days.

Senator ROBERT C. BYRD. Very well.

Senator Bellmon, do you have any questions at this point?

FUEL CELL PROGRAM

Senator BELLMON. Yes, Mr. Chairman, I appreciate the chance to ask about three questions.

Dr. Seamans, I have information that S. 598, which is the Senate version of your authorization bill, provides \$10 million for fuel cell work, and your chart shows only \$600,000 for that. Are these two figures relating to the same matter, and if so, why the discrepancy? What is the figure you are going to use for fuel cell?

Dr. ZAHRADNIK. \$3.2 million is our total effort in fuel cells this year.

Dr. SEAMANS. Including our work for EPA of \$2 million plus the \$1.2 million in our budget it is going to be roughly \$3.2 million. Of the \$1.2 million in our budget, \$600,000 is under advanced energy systems research and the remaining \$600,000 is under conservation R. & D.

Senator BELLMON. So neither figure is right. The figure is \$3.2 million.

Dr. SEAMANS. That is correct, including the work for EPA.

Senator BELLMON. Is this as much as you need for fuel cell work?

Dr. SEAMANS. I think you would have to say that we are still exploring the value of the fuel cell. As you know, I had quite a bit to do with development of fuel cells in connection with the space program.

Fuel cells by themselves do not create energy. As a matter of fact, the Pratt & Whitney-United Aircraft effort, now called United Technologies Inc., has been primarily on fuel cells that use natural gas, so it is more a method of conversion rather than a source of energy.

It does have the advantages of decentralizing, if you will. It does have an advantage from an environmental standpoint over other methods for conversion. However, we are still exploring conceptually the importance of the fuel cell and making a determination of the extent to which we should support the development.

Senator BELLMON. On page 73 of S. 598, there is a little chart which shows that in fiscal 1976, there is a total of \$10 million for fuel cell work.

Dr. SEAMANS. I believe that figure is in the Senate authorization. They felt that we were not putting enough effort into fuel cell work and this is the Senate figure. They increased the amount.

Senator BELLMON. But you want the figure of \$3.2 million?

Dr. SEAMANS. That is correct, realizing that \$2.0 million of that amount is transfers from EPA.

NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSION LETTER

Senator BELLMON. I have before me a letter from an official of the National Association of Regulatory Utility Commissioners which urges funds be appropriated for use in studies and projects. The letter suggests that we conserve energy through better load management. Have you seen this letter? It is on the letterhead of the Georgia Public Service Commission and signed by—

Dr. SEAMANS. No.

Senator BELLMON. I believe a copy was sent to each member of Coalcon and also to you at ERDA. They want \$500 million. It says a \$500 million appropriation is requested for fiscal year 1976:

Will you permit me to share some information with you and to respectfully request your help?

The Nation requires our positive action now in terms of appropriating adequate monies for the conservation and wise use of our electric energies.

The attached resolution (which I am sponsoring as a member of the Executive Committee of the National Association of Regulatory Utility Commissioners) addresses the critical and worsening conditions the consuming ratepayers and the electric utilities are up against throughout the USA.

We need these funds appropriated now to start building, at the grassroots, the real first line of defense required to preserve our industries, increase jobs, and to productively survive our growing energy-economic crisis.

While appreciating and respecting your private deliberations, presently ongoing in the appropriations process, please accept these facts I vouchsafe to you. I hope they can and will be timely and helpful to you and the Nation.

The total electric energy conservation tasks and requirements immediately before us:

(1) Will cost approximately \$16 billion (\$8 billion private funds and \$8 billion public funds).

(2) can get started now, require four (4) years to complete, while creating and/or saving a total of 1,600,000 jobs, and generating new Federal Tax revenues of \$20 billion.

(3) will have a Benefit-to-Cost ratio \$7 million to 1, will save a net of some \$120 billion in the nation's utility capital and operating costs over the crucial next five (5) years—one-third to the direct benefit of the electric utilities and two-thirds to the direct benefit of the Nation's electric consumers.

(4) can have immediate large and positive political feasibilities, producing visible, immediately constructive results at the grass-roots level, where they are needed now, throughout the Nation.

(5) *Will not* require the time and money-wasting buildup of a large Washington bureaucracy to launch and manage.

(6) can be effectively and immediately put into action now.

The \$500 million appropriations requested for FY-1976 is the minimum initial amount required to adequately trigger the necessary private, State and local funds and immediate actions needed to produce the momentums to get on top of these challenges quickly enough.

COMMUNICATIONS

Senator BELLMON. You have no knowledge of this program at all?

Dr. SEAMANS. No, I'm not acquainted with it.

Senator BELLMON. Mr. Chairman, if there is no objection, I would like to incorporate this in the record and perhaps ask for a comment after the gentlemen have had a chance to look at it.

Senator ROBERT C. BYRD. That will be done.

Dr. SEAMANS. Obviously we have peak demands for electricity that are difficult to supply. It is a very complex problem but that is about all I can comment on at this point. If I can see the letter I will be glad to comment further.

Senator BELLMON. The letter will be in the record.

[The letter follows:]

Georgia Public Service Commission

244 WASHINGTON STREET, S. W.
ATLANTA, GEORGIA 30334

September 19, 1975

The Honorable Henry Bellmon
U.S. Senate Appropriations Committee
U.S. Senate
Washington, D. C. 20510

Dear Senator Bellmon:

Will you permit me to share some information with you and to respectfully request your help?

The Nation requires our positive action now in terms of appropriating adequate monies for the conservation and wise use of our electric energies.

The attached resolution (which I am sponsoring as a member of the Executive Committee of the National Association of Regulatory Utility Commissioners) addresses the critical and worsening conditions the consuming ratepayers and the electric utilities are up against throughout the USA.

We need these funds appropriated now to start building, at the grass-roots, the real first line of defense required to preserve our industries, increase jobs, and to productively survive our growing energy-economic crisis.

While appreciating and respecting your private deliberations, presently ongoing in the appropriations process, please accept these facts I vouchsafe to you. I hope they can and will be timely and helpful to you and the Nation.

The total electric energy conservation tasks and requirements immediately before us:

(1) will cost approximately \$16.0 billion (\$8.0 billion private funds and \$8.0 billion public funds).

(2) can get started now, require four (4) years to complete, while creating and/or saving a total of 1,600,000 jobs, and generating new Federal Tax revenues of \$20.0 billion.

(3) will have a Benefit-to-Cost ratio 7 to 1, will save a net of some \$120.0 billion in the Nation's utility capital and operating costs over the crucial next five (5) years - one-third to the direct benefit of the electric utilities and two-thirds to the direct benefit of the Nation's electric consumers.

(4) can have immediate large and positive political feasibilities - producing visible, immediately constructive results at the grass-roots level, where they are needed now, throughout the Nation.

(5) will not require the time and money-wasting buildup of a large Washington bureaucracy to launch and manage.

(6) can be effectively and immediately put into action now.

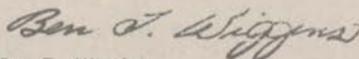
The \$500.0 million appropriations requested for FY 1976 is the minimum initial amount required to adequately trigger the necessary private, state and local funds and immediate actions needed to produce the momentums to get on top of these challenges quickly enough.

Thank you very much for your help and good leadership in these trying times.

We of the National Association of Regulatory Utility Commissioners sincerely appreciate your help. We stand ready, able and willing to help you in all fifty states to make this effort a resounding success for you and all Americans.

With all good wishes and sincere personal regards to you, I am

Very cordially yours,



Ben T. Wiggins

RESOLUTION IN SUPPORT FOR ADEQUATE FY1976 FEDERAL FUNDS TO BE APPROPRIATED AND EXPENDED FOR LOAD MANAGEMENT AND ENERGY CONSERVATION DEMONSTRATION PROJECTS BY THE STATES AND OPERATING UTILITIES

WHEREAS, Electric load management (timely use) and electric energy conservation (wise use) are important and immediate options in significantly helping to achieve the nation's goal of energy independence, while positively coping with ratepayer's rising electrical energy costs, and utilities' weak cash-flows; and

WHEREAS, The nation's electric utilities perform basic and strategic roles in meeting critical portions of the Nation's immediate and future energy needs, economic development and productivities growth; and

WHEREAS, The significant and continuing postponements, curtailments, cutbacks, and cancellations of the nation's basic electrical generating capacities virtually guarantees growing critical shortages of the Nation's economically-available electrical energies through the 1976 to 1985 period; and

WHEREAS, Each State Public Service Commission by virtue of their long, organized, operational, and professional capabilities is best able to consider the many diverse organizational, economic, technological and social conditions and needs at the grass roots, utility operating, state and local governmental, levels, including economic development districts and regions; now, therefore, be it

RESOLVED, That the National Association of Regulatory Utility Commissioners (NARUC) recommends and urges the Congress and the Administration to immediately enact, and commence the grant investments of, adequate appropriations for many electric load management and energy conservation demonstration programs and projects in FY1976, fully utilizing many fine organizations throughout the nation, with the direct objective of applying, examining and verifying the operating, technological, and economic options resulting therefrom at the State and operating levels; and be it further

RESOLVED That NARUC urges that these programs be initially funded during FY1976 at a level approximating \$500.0 million dollars, one-half to be allocated to each state on the basis of its 1970 population figures and one-half to be allocated to each state on the basis of its 1974 installed generating (KW) capacity, and that the funds be allocated and distributed to the respective states by the Energy Research and Development Administration (ERDA), thereby carefully avoiding the need for enlarging the Federal bureaucracy, or the further fragmenting of the nation's electrical resources conservation efforts, while saving very valuable implementation time and money, and be it further

RESOLVED, That ERDA, shall be directed to distribute the grants quickly and effectively to provide funds to each State Public Service Commission now for several various applied research, development and implementation electric energy conservation programs and projects to be conducted jointly with each electric utility in order to provide demonstrated electric conservation and load management capabilities which are immediately and adequately responsive to all the various and different state and local conditions needs and interests; and be it further

RESOLVED, That this grants allocation program to the State Public Service Commissions be started by ERDA immediately, with quarterly progress reports to provide maximum immediate information and alternatives to the consuming public, to the utilities, to the States, to ERDA, and to the nation; and be it further

RESOLVED, That the NARUC Secretary shall forward a copy of this resolution to the President, the Vice President, each member of Congress, the Administrator of ERDA, and the Director of the Office of Management and Budget (OMB).

PUBLIC PARTICIPATION IN ENERGY PLANNING

Senator BELLMON. You mentioned earlier a study of field laboratory relationships. Once you are finished with this, is there going to be any possibility for State, local, and university groups to meet with your staff people to analyze alternatives for implementation of the committee's recommendations and to make other recommendations and suggestions?

[ERDA comments on the letter as requested were not received by the committee by Nov. 7, 1975, when the record was closed.]

Dr. SEAMANS. Yes; there will. We are already meeting with State and local groups. For example, I had the vice presidents of research and development from many universities in the Rocky Mountain States; I had them in my office a few days ago. We have set up a special division of university affairs within ERDA to meet on a continuing basis with the university representatives. We thoroughly recognize, I believe, the importance of university participation in the program and want to do it in the most effective way possible.

Senator BELLMON. You mentioned universities. What about other knowledgeable individuals, perhaps not in universities, who might have some inputs?

Dr. SEAMANS. I am sorry. I thought your question was addressed just to universities. Obviously, there are others who could also be helpful in State and local governments, for example.

I will have to say that we haven't as yet organized a plan for working with them on this particular matter as we do with the universities. We do have contacts with State and local governments in ERDA, and we did meet recently, along with the FEA, with a group of Governors and their counsel on matters that affect the Rocky Mountains States.

So we are also anxious to get the views of residents in areas where there is going to be an impact, before going ahead with a program. We want to work with people, not have something that is sort of dropped in their backyard that they don't know anything about, and for that reason not cooperate with us.

TECHNOLOGY INFORMATION

Senator BELLMON. Sometimes in the past there seems to have been reluctance within the private sector of the energy industry to meet and compare notes for fear they might be criticized for violation of the antitrust acts.

Are you able to work with the private sector now in sharing information and perhaps getting from them research results?

Dr. SEAMANS. Yes; we are. Obviously, it varies from one area to another. In the automotive area, to take one example, we have a variety of contracts with industry; and from time to time, on a periodic basis, we invite all of the contractor people involved to come in and explain how they are coming along with their programs and to exchange information. We found that as this particular program has gone on, there is greater and greater participation by the industries.

Industry does have to be careful of areas such as antitrust, and a company may have some proprietary interest in a given development

which we try to observe. But what we sponsor we believe should be shared by all, and we do try to see that that takes place.

Senator BELLMON. So it is for you to see that the results obtained from any federally funded programs will be in the public domain.

Dr. SEAMANS. Yes.

Senator BELLMON. Mr. Chairman, I don't have any other questions.

REACTIVATION OF THE CRESAP FACILITY

Senator ROBERT C. BYRD. Dr. White, what is the current status of your reactivation efforts at Cresap, W. Va.

Dr. WHITE. This facility, as you know, was shut down a number of years ago. We decided to reactivate it.

The original estimates of what would be required to reactivate it, and actually the extent to which we wanted to use it turned out to be substantially less in scope and complexity than we anticipated. The years of inactivity and the perhaps less than ideal preparation for that period, resulted in quite a bit more replacement than we anticipated. As it turned out, the original funding was quite inadequate.

Also, when we reconsidered what we wanted to do there, it appeared that if we were going to make it a really useful operation, we were going to have to have a processing scheme that would be clearly viable in its own right. Not just to prove a particular process but so the plant could be used to use it as a component test facility.

The original plan called for \$7 million for fiscal 1975 which is sort of the initial target for reactivation. It is low by a factor of several-fold. We are still in the process of deciding just how far we want to go in revamping the plant and how long of an operating period we should contemplate in proceeding with that facility. It is pretty clear though that we ought to go ahead with it and we are planning to do so.

It is just a case of just how far we have gone this year and how much further we have to go. We are committed to spend \$17 million this year. That is the figure I presently have. That with what has been spent in 1975 should pretty well wrap up the reconstruction operation and we should get into operation by the end of fiscal 1976. Then our operating costs would be \$5 to \$7 million in the next couple of years. How far we go beyond that depends on how useful the facility is.

Senator ROBERT C. BYRD. You say \$5 to \$7 million in the next couple of years?

Dr. WHITE. This is our forward plan for fiscal 1978.

Senator ROBERT C. BYRD. That much each year?

Dr. WHITE. Yes.

Senator ROBERT C. BYRD. And you have \$17 million in this year's budget?

Dr. WHITE. And three and a half in the transition quarter. That should complete the reconstruction or revamp.

Senator ROBERT C. BYRD. So with the transition quarter you have \$20.5 million.

Dr. WHITE. Yes.

Senator ROBERT C. BYRD. How much was spent of the \$7 million from last year?

Dr. WHITE. According to my figures, \$9 million was obligated in 1975.

Senator ROBERT C. BYRD. And you only had how much?

Dr. WHITE. The original estimate was \$7 million but it did not include carryover from 1974.

Senator ROBERT C. BYRD. How much did you have in 1974?

Dr. WHITE. I don't have that figure. It was several million dollars. I am sure we can find it. I don't happen to have it at hand.

Senator ROBERT C. BYRD. You might want to take a new look at your figures. I think you will want to correct some of them for the record. Will you do that?

Dr. WHITE. Yes, we will give you the exact figures for the record. [The information follows:]

ESTIMATED OBLIGATIONS FOR RENOVATING THE CRESAP, WEST VIRGINIA,
LIQUEFACTION TEST FACILITY

	<i>Thousands</i>
Fiscal year 1974 (obligated)-----	\$3,000
Fiscal year 1975 (obligated)-----	9,000
Fiscal year (estimated) 1976-----	17,514
Transition quarter (estimated)-----	3,417
Total (estimated)-----	32,931

NOTE.—The above figures do not include costs for operating the plant, estimated to be \$5 to \$7 million annually.

CRESAP TIMETABLE

Senator ROBERT C. BYRD. When do you anticipate completion of the renovation and construction work?

Dr. WHITE. Our milestone chart would call for it to be completed at the end of fiscal 1976.

Senator ROBERT C. BYRD. And then it will become operational?

Dr. WHITE. Operation will start at about that time.

Senator ROBERT C. BYRD. At the end of calendar year 1976.

Dr. WHITE. Fiscal 1976.

Senator ROBERT C. BYRD. What is your ultimate objective at present and how will this be implemented into the overall fossil program?

Dr. WHITE. The primary purpose was to have a place where many of the common pieces of equipment for coal gasification and liquefaction could be checked out, tested in a research mold without tearing into an existing pilot plant or PDU and interrupting that program.

If somebody comes up with a new coal feeder, new valve, or level control, the types of equipment that are very important in handling complicated solids, liquids, and gas streams in coal conversion plants, we can test them there under realistic operations. We can then decide whether these items will be useful in one or the other ongoing process. An item that proves successful can be incorporated into the next generation plant or an operating plant can be even shut down to install an item. This way, we do not disturb ongoing programs which are designed to test different coals or different operational parameters and not equipment. It is primarily an equipment testing facility.

Senator ROBERT C. BYRD. Is the \$5 million in carryover funding which you had to initiate work at Cresap totally obligated?

Dr. WHITE. I believe they have been. It is a case now to how much more we obligate. We have had discussions with the contractors on this matter.

Senator ROBERT C. BYRD. So the answer is "Yes."

Dr. WHITE. Yes, we have.

CRESAP OPERATING LEVEL

Senator ROBERT C. BYRD. When the plant comes on stream, how many persons will be employed there and what is the anticipated monthly payroll?

Dr. WHITE. The operating expense will be \$5 million to \$7 million a year, so we are talking \$500,000 a month. Around a hundred people.

Senator ROBERT C. BYRD. Will the plants be operated by the prime contractor currently performing the reactivation work or operated as an in-house ERDA installation?

Dr. WHITE. We anticipate a prime contractor. We have not made that commitment yet.

Senator ROBERT C. BYRD. That decision hasn't been made yet?

Dr. WHITE. No.

Senator ROBERT C. BYRD. What are your indications thus far?

Dr. WHITE. That we would have the contractor operate it.

I think we will be a little influenced by how well he proceed on the construction part.

COALCON DEMONSTRATION PLANT ACCELERATION

Senator ROBERT C. BYRD. Is there any practical way—if I may divert once more to Coalcon—is there any practical way to accelerate the Coalcon design and construction work to get it into operation before fiscal year 1980?

Dr. WHITE. I think I would have to say that we are limited on how much acceleration can be done. We can apply pressure on the contractor. Early purchase of long lead items is certainly something that can speed up the overall project.

We customarily do purchase long lead items once we know we are going ahead and know what items to order. But this is a new operation. This is our first demonstration plant. While we recognize we might want to proceed quickly, we also feel we want to proceed with caution and be sure we do it right.

We do not want to build a several hundred million dollar facility and have it fail. That would be disaster for our whole demonstration program.

Senator ROBERT C. BYRD. Dr. Seamans, if you wish you may leave now. I am going to ask Mr. Heller some questions. We will submit several questions which may be answered for the record.

Dr. SEAMANS. I appreciate the chance to be here today and I hope we have given you complete answers and we will go over the record and make sure that all the facts are correct and so on. And I was happy to come back this afternoon in order to discuss the various programs.

Senator ROBERT C. BYRD. I am sorry we couldn't finish with you this morning. We do appreciate your fine testimony and we will be calling on you for responses for the record. If need be, we might have another day of oral testimony but as of now I suggest that we just proceed with Dr. White and Mr. Heller.

Thank you very much, Dr. Seamans.

HYDROCARBONIZATION PROCESS

Dr. White, I believe I was about to ask you this question: How much in total has the Federal Government invested to date in the hydrocarbonization process that will be used at the Coalcon plant?

Dr. WHITE. This process was basically developed by the Union Carbide Co. The Government, that I know of, had no money in the original research at all.

We, of course, have been founding the conceptual design stage of the final demonstration plant 100 percent. So everything that has been spent to date on the project is Federal Government money. However, I think it is perhaps not quite representative of the situation to say that this money was spent in developing the process. It is really a development of alternate designs for the plant.

Senator ROBERT C. BYRD. So the Federal Government has spent no money on the hydrocarbonization process per se?

Dr. ZAHRADNIK. We have no money directly involved. However, the U.S. Government had a plant at Louisiana, Mo., during the period when the hydrocarbonization was developed by Union Carbide. In this test facility a number of coals were turned into liquids and we feel during that time there was an active exchange of personnel.

So while no funds were directly spent by the Federal Government, the general knowledge was such that Union Carbide benefited. That is an elaborate answer but I think a realistic one.

CONSERVATION RESEARCH AND DEVELOPMENT

Senator ROBERT C. BYRD. We will turn now to the conservation R. & D. activity, for which the amended budget estimate totals \$35.2 million in new budget authority for programs in this bill. That is a sharp increase of \$30.7 million over 1975, most of it recommended in the July budget amendment. Although the amendment reorganized to avoid confusion over program splits between this subcommittee and the Public Works Subcommittee.

Mr. Heller, your statement is short. You may read it or highlight it for the committee as you see fit. The full prepared statement will, of course, be included in the record.

[The statement follows:]

Mr. Chairman and members of the Committee - it is my pleasure to appear before you to testify about ERDA's FY 1976 request for the funding of the Conservation program in Transportation, Buildings, Industry and Advanced Conversion.

On September 23, 1975, I assumed the Office of Assistant Administrator for Conservation in ERDA. During this interim I have examined the Conservation program and find, within the constraints of the evaluation time, that I can support ERDA's FY 1976 request for funding.

For FY 1976 we are requesting an amended operating budget of \$67.9 million and capital equipment obligations of \$3.4 million for ERDA's total Conservation Program. Of this request, \$34.6 million in operating and \$600,000 in capital equipment Budget Authority relate to the programs which are under the jurisdiction of this Subcommittee.

ERDA's conservation program is intended to complement activities underway or planned in the private sector. The creation of ERDA marks the first time that a Federal Government agency has been given responsibility for the research and development of technologies that will lead to the maximum practicable return from a given unit of energy wherever it is used, no matter what its source. In a manner of speaking, our job is to identify where society wastes energy or uses it inefficiently and to assist in providing options to reduce or eliminate these practices.

Let me now briefly describe our program, which is a mixture of studies, experiments, and technical developments. Nearly all of the Nation's energy is consumed in four sectors: electric energy systems, transportation, buildings and industry.

For the purpose of this presentation, emphasis will be placed upon the program activities associated with Transportation, Buildings and Industry, and Advanced Energy Conversion.

Transportation

Transportation uses over one-quarter of the energy consumed in the U.S.; virtually all of it comes from petroleum. There is no question that by the turn of the century this sector must be shifted to other energy sources. In the meantime, existing fuels must be used with the greatest possible efficiency.

Our largest transportation effort concerns passenger vehicle propulsion improvement. Part of the effort is in improved engine efficiency, and in engines that are more tolerant of the kind of fuel they burn. A parallel goal of our propulsion program is that improvements in engine efficiency must not be at the expense of environmental standards, current or proposed.

In the longer term, vehicles that use non-petroleum energy stored in some form will be highly desirable. This will permit the use of the more available fuels, such as coal and nuclear energy. An important component of our program involves developing the technology for truly advanced systems that use batteries or other means of energy storage.

Buildings

Nearly 30 percent of the United States energy consumption occurs in residential and commercial buildings. Large savings are possible, some from the use of present technology; even more from new technology. Examples of areas where large savings are possible are improved design of buildings, better insulation, more efficient heat-

ing, cooling and lighting hardware, and better management of energy flow through windows.

The technology in most cases is not overly difficult. The implementation, on the other hand, is a major task, for it involves not only changing the ways in which we build new structures, but also the modification of existing ones as well.

Industry

Nearly 40 percent of our energy is used in industry, including agriculture. The Nation's industrial plant was, to a large extent, developed in an era of cheap and plentiful energy. Many of its processes were developed during periods of low energy prices. Hence these processes must be reevaluated in the context of the present circumstances.

We plan to work with industry to identify the areas where Government research and development can be of assistance. Non-technological aspects are expected to be a large component of the program. Our role should be that of a helpful partner.

Advanced Conversion

Fuel is usually converted to electricity by burning at a high temperature and converting a fraction of the released energy into work which turns an electrical generator. The fraction of the energy that becomes electricity is limited by thermodynamic considerations; it typically averages about one-third. The fraction can be increased by more efficient "conversion" equipment, and development of such equipment is the goal of our program. Let me give examples of two potential improvements.

1. Fuel Cells

The fuel cell is a device that converts fuel to electricity without the use of a thermal cycle; its inherent efficiency is greater than conventional conversion equipment. Fuel cells are quiet, safe, and modular in construction so that very large increments in capacity need not be added at the same time. Our program will work on technical and economic aspects of these devices.

2. Low Temperature Cycles

There are many conversion machines in use (diesel engines, single-stage gas turbines, etc.) that exhaust hot gases and thus waste energy. We are developing so-called "bottoming cycle" equipment to retrieve the wasted energy. As the cost of energy rises, this low temperature heat recovery equipment will become very attractive economically.

This has been a very brief summary, covering only the highlights of our program. I will now end my testimony, and await your questions.

URBAN WASTE CONVERSION

Senator ROBERT C. BYRD. Mr. Heller, lets turn to waste conversion. ERDA submitted no request at all for conversion of urban waste to energy. Why not?

Mr. HELLER. I believe the request was made before I came on the scene. I know that the Environmental Protection Agency has been actively engaged in research and development, using refuse urban waste as the raw material for the conversion to energy—the low pressure, high pressure steam and perhaps electricity.

Senator ROBERT C. BYRD. When did you come on the scene?

Mr. HELLER. September 23, 1975, sir.

Senator ROBERT C. BYRD. Were any requests made at OMB for conversion of urban waste?

Mr. HELLER. Have I made such a request, sir?

Senator ROBERT C. BYRD. Was any such request made?

Mr. HELLER. Since September 23?

Senator ROBERT C. BYRD. Before or since.

Mr. HELLER. It is my understanding that prior to my coming there was a request for money to be put into that sector but OMB decided that ERDA's role should be a small one. I have the figures here before me.

Senator ROBERT C. BYRD. If it should be a small one, how much money would a small effort represent?

Mr. HELLER. \$300,000 in costs I believe, \$2.6 million and the OMB made it \$300,000. They reduced it by \$2.3 million.

Senator ROBERT C. BYRD. The request was for how much?

Mr. HELLER. \$2.6 million and it was reduced by \$2.1 million and the OMB made it \$300,000.

Senator ROBERT C. BYRD. Do you think that additional \$2.1 million could be feasibly and effectively used for conversion of urban waste to energy?

Mr. HELLER. Senator, I need to set out for you, if I might, my own concept in this matter.

Senator ROBERT C. BYRD. Well, you can answer that question yes or no.

Mr. HELLER. Can we use the money? The answer is yes.

Senator ROBERT C. BYRD. All right. Go ahead and set forth your concept.

NEED FOR URBAN WASTE CONVERSION

Mr. HELLER. Thank you, Senator.

The present state of the art can be summarized as follows: In Western Europe over the past decade it has been clearly demonstrated that refuse can be used as a raw material for the production of electrical power. It is not only being used as a raw material for power production but it has been demonstrated, in actual practice, that refuse can be used for the power production in a base load plant. This is true in France, Germany and in Holland.

In addition, there is a rather interesting innovation in the city of Munich where a water cooled wall type of incinerator uses the refuse from the city of Munich to generate power. That particular plant sits right next to a coal fired operation. Over the past 5 years, it is my un-

derstanding that they have by their own development, their own engineering innovation, been able to take the gas from the refuse incinerator, the gas from the coal fired incinerator, manifold the gases from both these operations and produce electrical power in one energy conversion system.

It is my further understanding that such a combined system produces power at the lowest cost in Western Europe.

There lies, it seems to me, a principal interest on the part of ERDA to look very carefully and transfer that type of technology into our system today. It offers a number of advantages.

First of all, refuse, has little or no sulfur associated with it, so from an environmental standpoint the gas is essentially free of sulfur dioxide.

With the Munich system you have the flexibility to burn coal containing 1 or 2 percent sulfur, and burn it in such a way that if the manager of the plant wishes to burn 80-percent coal and 20-percent refuse one day he can do that. If he wants to burn 60-40, or 40-60 or 20-80, it is entirely up to him how to manage that plant, all with one objective in mind, to optimize the performance to produce the lowest energy in the system.

So it would seem to me today that with the energy costs particularly, the energy cost for petroleum products being what they are today, that here is an opportunity we ought to assess and see what extent the combined systems can be transferred into the American economy.

WASTE CONVERSION FUNDING

Senator ROBERT C. BYRD. How much was in the budget last year, if any, for this purpose?

Mr. HELLER. For 1975, sir?

Senator ROBERT C. BYRD. Yes.

Mr. HELLER. I will have to refer to Mr. McKeown to provide that answer for you.

Mr. McKEOWN. There was zero dollars.

Senator ROBERT C. BYRD. Do you know whether anything was requested for fiscal year 1975 for this purpose?

Mr. McKEOWN. No, sir, I don't believe so. That was prior to ERDA's existence.

Senator ROBERT C. BYRD. So, \$2.6 million was requested and OMB cut it back to \$300,000.

Mr. HELLER. That is right, sir.

Senator ROBERT C. BYRD. You are saying to me that \$2.6 million could be effectively and wisely utilized for this purpose?

Mr. HELLER. Yes; I am, sir.

Senator ROBERT C. BYRD. Do you believe then that waste conversion holds considerable potential for the near- and mid-term?

Mr. HELLER. I certainly do.

Senator ROBERT C. BYRD. Do you think that the \$2.6 million would represent a useful program for urban waste conversion in the 1976 budget?

Mr. HELLER. Yes; I do.

Senator ROBERT C. BYRD. There was \$30 million in costs, I believe, included in the Senate authorization, wasn't there?

Mr. HELLER. I understand that is right, sir.

Senator ROBERT C. BYRD. Could you effectively use the \$30 million?

Mr. HELLER. I would have to say yes.

Senator ROBERT C. BYRD. Why would you have to say yes?

Mr. HELLER. I have not examined in detail just how the \$30 million would be spent at this time.

Senator ROBERT C. BYRD. You would not be in a position to have to say yes, would you, really?

Mr. HELLER. Yes, sir, I understand. But the problem in my opinion is of such importance that the opportunity to examine this particular subject is vital.

Senator ROBERT C. BYRD. All right, I agree with you there. But when you say that \$30 million could be effectively used, you are not in a position to say that.

Mr. HELLER. Not precisely, no.

Senator ROBERT C. BYRD. But as to the \$2.6 million you have no doubt?

Mr. HELLER. I have no doubt we could use that effectively.

Senator ROBERT C. BYRD. Why don't you supply for the record a little more elaborate statement as to how much money could feasibly and effectively be used, if you could use over \$2.6 million? At least the subcommittee would be interested to know what the justification would be for it and how it would be spent. Can you supply some details on that?

Mr. HELLER. Yes, sir, I would be delighted to.

[The information follows:]

The waste conversion program was initially estimated to need costing authority of \$2.6 million in fiscal year 1976. Since this is a program of new starts and we are well into the fiscal year, our current assessment is that we can reasonably cost only about \$1.8 million in fiscal year 1976 but can obligate about \$3.5 million.

WISE AND EFFECTIVE USE OF FUNDS

Senator ROBERT C. BYRD. I believe you are very enthusiastic about that program and the committee would like to know what amount of money could be spent effectively and wisely utilized.

ENERGY CONSERVATION IN THE FUTURE

It would appear from ERDA's own figures that energy conservation offers the biggest returns in the immediate future. What portions of the conservation R. & D. program do you think are most promising within the next 3 to 5 years?

Mr. HELLER. In the building, transportation, and industry areas. These are the three sectors that seem to me would offer the best opportunity for success within the next 5 years.

Senator ROBERT C. BYRD. Do you feel that the projections for energy contributions for those conservation programs are accurate?

Mr. HELLER. Senator, I didn't really get the question entirely, sir.

Senator ROBERT C. BYRD. Looking at the objectives listed in your energy plan implementation summary, estimated energy contributions in quads for three conservation programs—building, transportation, and industrial, total 7.5 to 18 in 1985 and 13.5 to 27 in the year 2000.

That is more than your estimates for energy contributions in just

about any other single ERDA program. Do you feel those projections are accurate?

Mr. HELLER. I would say that they are probably reasonably good estimates.

Senator ROBERT C. BYRD. Reasonably good estimates?

Mr. HELLER. Yes.

Senator ROBERT C. BYRD. If the contributions of conservation are even close to those estimates, wouldn't you say that the budget request for the program is minuscule, about 2 percent of the ERDA budget?

Mr. HELLER. The budget request in itself really reflects the maturity of the program. We are beginning to outfit, so to speak. This is just the beginning and I would like to see us move ahead on a 45-degree line. My intent is to come forward with proposals that would reflect that thrust.

Senator ROBERT C. BYRD. On the 45 degree line?

Mr. HELLER. Yes, sir.

Senator ROBERT C. BYRD. Dr. White, I believe both you and Mr. Heller have been most responsive. Do you have any other comments, either of you, Dr. White or Mr. Heller, in addition to the prepared statements that have been put into the record?

Dr. WHITE. No, thank you, none for me.

CLARKSBURG ENERGY CONSERVATION PLAN

Mr. HELLER. I would like just to make an observation, Senator.

Senator ROBERT C. BYRD. All right.

Mr. HELLER. Since it involves your State, I would like to make that observation.

Senator ROBERT C. BYRD. I would like to listen to it.

Mr. HELLER. A project—submitted by Clarksburg, W. Va.—a project called Exist, has been brought to my attention. I would like to go on record commending that community for having conceived the proposal; namely, to develop a comprehensive community plan for energy conservation. I plan to follow and pursue this matter very closely because I do believe that at the total level the interest on the part of the communities to begin to plan effectively for energy conservation is a great step forward. I would like to accelerate that step and I think we can gain a great deal by participating with those at the local government level to achieve our objectives.

Senator ROBERT C. BYRD. What do you plan to do in pursuing this?

Mr. HELLER. I plan to meet with those who have submitted the proposal and see to what extent we can participate with the city of Clarksburg.

Senator ROBERT C. BYRD. When do you think you will meet with them?

Mr. HELLER. My plan would be in about 2 weeks.

Senator ROBERT C. BYRD. You keep in touch with my office on this, will you?

Mr. HELLER. Yes, I will.

EXPANDED ENERGY CONSERVATION BUDGET

Senator ROBERT C. BYRD. Dr. Heller, do you believe that the Nation's energy conservation efforts could be significantly accelerated if the budget for conservation programs in ERDA were double with

perhaps a restriction that would prevent funds earmarked for conservation programs from being reprogrammed without the specific consent, expressed consent of the Congress?

Mr. HELLER. May I say that there are two parts to the question, Senator, as I understand it.

Let me state it so that I clearly grasp what you have asked me to respond to. You asked whether or not a doubling of the program can be managed effectively assuming that that doubling will not involve a reprogramming of ongoing activities? Am I correct?

Senator ROBERT C. BYRD. I think that is substantially correct. Let me break the question down for you.

Do you believe that the Nation's energy conservation effort could be significantly accelerated if the budget for conservation programs in ERDA were doubled?

Mr. HELLER. That is for fiscal year 1976?

Senator ROBERT C. BYRD. Yes.

Mr. HELLER. If we are able to structure our operations to deal with it, my answer would be "Yes."

Senator ROBERT C. BYRD. What about the restriction that would prevent funds earmarked from being spent without the express consent of the Congress?

Mr. HELLER. I must admit I'm not entirely clear what you mean by "reprogrammed without the express consent of the Congress." If you could perhaps give me an illustration, then I would be able to respond intelligently to you.

Senator ROBERT C. BYRD. You haven't been around very long, have you?

Mr. HELLER. No. That is a statement of fact, sir, so I need to have an explanation so I can answer you clearly.

Senator ROBERT C. BYRD. I will tell you what; I will submit this question to you in writing and you can answer it for the record and the people down there will tell you what it is all about.

Mr. HELLER. Thank you.

[The information follows:]

STATEMENT REGARDING ADDITIONAL FUNDS FOR ERDA'S CONSERVATION PROGRAM AND REPROGRAMMING REQUIREMENTS

Dr. Heller's testimony during the hearing addressed that portion of Senator Byrd's question concerning the possibility for accelerating ERDA's Conservation Program given the availability of additional resources in FY 1976.

The second portion of the question is concerned with a proposed restriction which would preclude the reprogramming of funds from conservation activities to other ERDA programs without the express consent of Congress. ERDA has proposed to the Congress reprogramming procedures which reflect the concern of Congress regarding the agency's reprogramming of funds while, at the same time, retain sufficient managerial flexibility to assure that programs are conducted in the most effective manner and that research and development advances can be effectively exploited. ERDA's proposed reprogramming procedures do provide for the prior approval of Congress before significant reprogramming actions are taken by the agency.

FUEL CELL RESEARCH

Senator ROBERT C. BYRD. Mr. Heller, I am wondering about the references in your prepared statement to advanced conversion. Isn't work on fuel cells, for instance, more properly conducted under the advanced research activity?

Mr. HELLER. Fuel cell technology is a broad technology incorporating aspects ready for demonstration, aspects requiring technology development, and areas in which fruitful research can be done. The potential of this technology for near-term fuel savings and the location with ERDA of directorates with this aim justify its placement within conservation.

Senator ROBERT C. BYRD. Please detail for the record how the Senate authorization figure would be applied to the fuel cell program.

Mr. HELLER. We are now planning how a fuel cell program would be laid out if funds were appropriated as identified in the authorization bill. We would expect to have this plan by the first of the year. It is conceivable that additional funding could be directed toward fuel cell efforts such as a fuel cell powerplant demonstration.

Senator ROBERT C. BYRD. To what extent is private industry involved in fuel cells? We are told there is a significant commitment to this technology.

Mr. HELLER. There are significant company-sponsored programs at United Technologies, Inc., and Exxon and small efforts elsewhere. There has apparently been over \$150 million of private funds expended on this effort. ERDA's opportunity is to bring this work to fruition as industry can no longer maintain the financial burden in this development effort.

DUPLICATION IN CONSERVATION

Senator ROBERT C. BYRD. You mention in your statement that in the industry conservation program "nontechnological aspects are expected to be a large component." Isn't your primary mission the technology R. & D. of conservation?

Mr. HELLER. Certainly our primary mission is in technology R. & D.; however, there are nontechnical aspects such as test marketing that we must do. There is no reason to develop an energy saving product if it is not going to be used.

Senator ROBERT C. BYRD. As discussed earlier, there seem to be many areas of overlap between ERDA and FEA in conservation. How can we be sure that we don't have competing agencies doing the same work?

Mr. HELLER. FEA and ERDA coordinate their programs through interagency task groups whose mission is to approach energy conservation cooperatively. ERDA and FEA must be in a position of understanding the entire spectrum of conservation-related problems. However, ERDA's mission is to assume national technical leadership in all matters of energy conservation.

Senator ROBERT C. BYRD. Do you personally agree with the ambitious objectives in the national plan that show conservation saving up to 18 quads of energy by 1985?

Mr. HELLER. I agree; it's ambitious but it is a goal that we are shooting for. We may not make it; however, if we come close we will be successful.

TRANSPORTATION

Senator ROBERT C. BYRD. What do you consider to be the most promising technologies to pursue under advanced automotive systems?

Mr. HELLER. In our judgment propulsion systems which use either Brayton, Stirling, or diesel cycles and battery powered electrics appear to be most promising to pursue through research and development for the automobile application. These systems are highest ranked because of their high potential energy savings, flexibility in the type of fuel they can use and because they are virtually pollution free. Flexibility in fuels utilization is an important characteristic because it permits the use of non-petroleum energy sources available in abundant supply domestically.

Senator ROBERT C. BYRD. I note the gas turbine program is heavily favored in requested funding. What can be expected from that work?

Mr. HELLER. In fiscal year 1977 we plan to demonstrate in an automobile a gas turbine which matches comparable conventional internal combustion engine in performance and fuel economy; however, the turbine engine will meet the original fiscal year 1976 emission standards without additional emission control devices. This represents a significant milestone in the ongoing development of this system; a capability not yet achieved for conventional systems. Also, in fiscal year 1976 we will advance component development for the next generation of gas turbines which will operate at higher temperatures. We expect the higher temperatures to provide a 50-percent improvement in fuel economy over conventional internal combustion engines with improved performance over current conventional engines.

Senator ROBERT C. BYRD. The Senate authorization would increase your advanced automotive systems program from \$12.5 million to \$22.4 million in budget authority. Could that increase be obligated effectively?

Mr. HELLER. The increase from \$12.5 million to \$22.4 million could be effectively obligated. We have an ongoing transportation program which has been established for 6 years and has developed a firm planning base. The need for advancement of technology in this area has become clearly recognized and other agencies and the private sector are eager to participate. Additional funding could be used for early implementation projects in highway transport. Specific examples could include a project to replace fuel injectors on large diesel trucks which would result in 5 million barrels of oil cumulative reduction.

ADVANCED AUTOMOTIVE PROGRAM FOR FY 1976

Senator ROBERT C. BYRD. Please submit for the record how the program level authorized in the Senate bill would be allocated among the advanced automotive programs. With whom would you contract for this work?

Mr. HELLER. I will be happy to supply that information.
[The information follows:]

ADVANCED AUTOMOTIVE PROGRAM
FOR FY 1976

<u>Program Element</u>	<u>FY 1976 Operating costs</u> (Thousands)
<u>Highway Vehicle Systems</u>	<u>14,540</u>
Vehicular Systems.....	2,590
Advanced Heat Engines.....	8,350
Electric & Hybrid Systems.....	2,000
Alternative fuels.....	1,600
<u>Non-Highway Systems.....</u>	<u>1,200</u>
Pipeline Systems.....	500
Rail Systems.....	300
Water Transport Systems.....	300
Air Transport Systems.....	100
<u>Technology Studies & Implementation.....</u>	<u>2,310</u>
Technology Assessment.....	700
Technology Implementation.....	200
New Concepts.....	300
Data Analysis.....	500
Test & Evaluation.....	410
Engineering Services.....	200
 TOTAL TRANSPORTATION.....	 18,050

This work would involve a large variety of contractors; including universities, small high technology firms, trade organizations, and the largest truck and automobile manufacturers. In addition, other Federal Agencies and ERDA laboratories would be involved. Of course, as technology advances nearer to implementation those industries responsible for commercialization would become increasingly involved.

END USE CONSERVATION

Senator ROBERT C. BYRD. You are going from a zero program to a total of \$18.3 million in budget authority for the end-use conservation program. What kind of a structure will ERDA have in place to administer this program?

Mr. HELLER. We have been fortunate to bring into ERDA excellent personnel both from industry and Government agencies. Together the mix has complemented one another. Our organizational structure for end-use conservation is: a division of buildings and industry, and a division of interprogram applications, both of which report directly to the Assistant Administrator for Conservation. Each division is structuring within to provide the best possible personnel to accomplish their assigned missions.

Senator ROBERT C. BYRD. What have you been able to do so far this year in end-use conservation under authority of the continuing resolution?

Mr. HELLER. In the end-use conservation area we have small laboratory assessment programs being initiated. Most of our in-house effort has been to identify technologies, converse with other Government agencies, industry and universities on targets of opportunity for future research, development and demonstration pending the availability of Government funds.

Senator ROBERT C. BYRD. The Senate authorization would take up to an obligational program of \$82.3 million in end-use conservation. Could you handle that?

Mr. HELLER. We do not believe that end-use activities can be effectively increased to a total of \$82.3 million in budget authority as proposed in the Senate version of our authorization bill. Based upon a preliminary capability assessment, we feel that no more than approximately \$50 million could be used for this activity. This estimate includes \$35 million in budget authority for the urban waste conversion program. The balance of this activity would consist of approximately \$3.5 million for industry conservation, \$6.5 million for building conservation, and \$4 million for interprogram applications.

Senator ROBERT C. BYRD. Please submit for the record how the Senate authorization amount would be allocated among the various programs under end-use conservation.

Mr. HELLER. In the Senate Report 94-332 authorizing appropriations for fiscal year 1976, \$61 million in costs was recommended for end-use conservation. The \$61 million authorization would be broken down with \$13.0 million for buildings conservation, \$5.0 million for industry conservation, \$13.0 million for interprogram applications, and \$30.0 million for urban waste conversion.

Senator ROBERT C. BYRD. How much of your end-use program would be conducted in-house and how much by contract?

Mr. HELLER. It is estimated that approximately 75 percent of the conservation research, development, and demonstrations will be contracted out to industry. The remaining 25 percent would be distributed to other Government agencies and to ERDA laboratories.

ENERGY INFORMATION CENTER

Senator ROBERT C. BYRD. Tell us about the energy information center. How much in total is budgeted for it and what would it contribute?

Mr. HELLER. The information center that will be established for conservation will take advantage of an existing center which has been involved in transferring technical information for NASA. Special expertise in the area of energy conservation will be available at the University of New Mexico based facility. It will provide a 1-on-1 personal relation to clients and its established paying clientele. This center will be able to access many major data bases which have conservation information. It will also be able to direct the specific area of search because of the expertise of the university based staff.

The amount budgeted for one center would be \$100,000 per year. If this center is successful we would hope to add additional information centers to cover the entire country adequately. It is hoped that each center would eventually be financially self sufficient and pass energy conservation information to the public at no cost to ERDA.

The contribution of this Center will be a wide dissemination of existing and newly developed ERDA conservation technologies in the public and private sectors.

Senator ROBERT C. BYRD. Is there any duplication with the energy information system being developed by FEA?

Mr. HELLER. No. Our center will be an active system which has established clients and an active sales staff. It is operational now and has a proven track record in that it has been operated by NASA.

The FEA's National Information Center—NIC—is responsive to statistical types of information such as export-import data, State and local government energy conservation and curtailment, where certain types of information is available in the Federal Government, FEA technical documents, and energy policy information. There will be a continuing dialog between the ERDA-funded Center and FEA's Center to make sure there is no duplication of effort.

WASTE CONVERSION

Senator ROBERT C. BYRD. What is your assessment of waste conversion programs? What promise do they hold?

Mr. HELLER. Our assessment is that waste conversion to energy is very promising and that there is a potential for providing the equivalent of about 1 million barrels of oil per day by 1985 and about 2½ to 5 times that amount in the longer term. This is, of course, a renewable resource.

Senator ROBERT C. BYRD. Please supply for the record a breakdown of your waste conversion program, both the budgeted program and the program increase authorized in the Senate bill.

Mr. HELLER. The budgeted program would confine our efforts to feasibility studies and technology assessment studies. The Senate authorization includes \$30 million for waste demonstration activities. The program would be devoted to technology development which would include feasibility studies, waste characterization efforts, and a minimal effort on identification of a solution of potential environ-

mental problems. We would also conduct assessment studies and efforts on combustion, pyrolysis biological/biochemical, and innovative techniques. Two major projects to demonstrate two conversion processes at near full scale would be initiated. The program will rely heavily, particularly in the major projects, on joint participation and cost sharing by industry and local governments.

Senator ROBERT C. BYRD. Again, do you believe urban waste conversion merits the \$30 million investment recommended in the Senate authorization?

Mr. HELLER. Yes, we do believe that waste conversion merits the \$30 million investment in the Senate authorization. There are a number of process technologies that are far enough advanced to warrant demonstration at full scale; but not yet having been demonstrated, they retain a certain element of technological risk. Just as important is the demonstration that institutional barriers can be overcome. Federal assistance in bringing some of these plants on line can develop the confidence needed by local governments, investors, and industry to speed implementation of the waste conversion systems and encourage others to proceed with construction of additional plants.

WOOD WASTE PILOT PLANT

Senator ROBERT C. BYRD. The Senate authorization report would place \$2.8 million for a wood waste pilot plant under coal liquefaction. Wouldn't a program such as that more logically be included in the conservation activity?

Mr. HELLER. We are currently reviewing the waste conversion programs to define jurisdictional lines within ERDA and to consolidate these programs where it appears reasonable to do so.

Senator ROBERT C. BYRD. Waste conversion programs are also budgeted as part of your biomass effort under solar energy, which is funded in the public works appropriations bill. What useful purpose is served by splitting this research between program elements?

Mr. HELLER. We are reviewing our programs to define jurisdictional lines and to consolidate these programs and we are considering the biomass effort as part of this review. Our goal is to have each program situated within ERDA where it can best be developed.

Senator ROBERT C. BYRD. Please supply for the record a statement of your full funding request for the conversion of wastes to energy under all activities.

Mr. HELLER. The conversion of wastes to energy effort is directed under the waste systems and utilization subprogram in the conservation research and development program at a fiscal year 1976 funding request of \$600,000 in obligations and \$300,000 in costs for operating expenses. The fossil energy development program includes small effort concerning waste wood which is coordinated with the conservation waste activities.

Senator ROBERT C. BYRD. What other Federal agencies are involved in this kind of research and development? How are these efforts coordinated?

Mr. HELLER. There are several agencies involved in one or more aspects of research and development related to waste conversion: EPA, FEA, HUD, DOD, Department of Agriculture, DOI. Currently we

are coordinating our efforts informally with exception of our participation on the Interagency Committee for Resource Recovery. We intend to seek establishment of an Interagency Committee on Wastes Utilization to provide a formal means of coordinating the efforts in this area. Of course, informal coordination on the staff level will continue.

FOSSIL FUEL—COAL

Senator ROBERT C. BYRD. Let's go now to the specifics of the fossil fuel program. The total request for fossil fuel is \$405.9 million, including \$20.4 million for plant and capital equipment. That's an increase of \$85.4 million over fiscal 1975—up about 27 percent. The budget amendment increase from the original estimate is about 7 percent. In terms of costs, the operating expenses increases \$128.7 million, or 66 percent.

PREPARED STATEMENT

Dr. White, please proceed with your statement. I suggest you highlight it for the committee, and we will include the full prepared text in the record.

[The statement follows:]

I am pleased to provide testimony today requesting the FY 1976 appropriations for fossil energy research and development in the Energy Research and Development Administration (ERDA). The estimates before you include the Budget Amendment amounts recently transmitted by the Administration.

The Fossil Energy Program in ERDA is a rapidly growing, ongoing program that principally originated in the Department of Interior's Office of Coal Research, and the U. S. Bureau of Mines. It involves work on coal, oil shale, petroleum and natural gas.

The underlying assumption on which the Fossil Energy research and development program is based is the following: No matter which projection of future energy supply and demand one examines, one concludes we must increase our utilization of coal; we must fully understand the potential of our vast oil shale resources and assure that a technical option to utilize them in an environmentally sound manner is available; and we must develop technology to more efficiently extract oil from known depleted reservoirs and that we develop technologies to extract oil from presently uneconomic or unobtainable resources.

The Fossil Energy research and development program moved on to an accelerated planning and implementation basis with a supplemental appropriation in FY 1974. Continued growth was evident in FY 1975 as is also evident by our request for FY 1976. The basic program structure and strategy is based on the fact that the knowledge base of various fossil fuel resources with respect to extraction and conversion differs; fossil fuel resources in the future must meet the demands of a variety of markets -- power, transportation, chemicals, home heating, industrial processing; there is a vast existing fossil energy industry involving electric utilities, pipeline gas industry, chemical industry, transport industry and manufacturing; and that this is currently a private sector operation.

Our program strategy is also based on the fact that we have not been rapidly developing techniques for the conversion of coal to other fuel forms, and that we are not moving fast enough to efficiently extract the fossil fuels represented by much of our oil shale resource, coal in the thick, deep seams of the West and natural gas in tight rock formations which we do not understand how to exploit economically..

The legislation under which we are now operating clearly instructs us to demonstrate the technical and economic feasibility of new technologies for providing energy from fossil fuels. This means a heavy involvement with various elements of private industry. Our program has been designed and is being implemented with this in mind. We have a balance of architect/engineering firms, designers, chemical companies, power companies, coal and oil companies, etc., involved in our research and development program. The cost sharing for pilot and demonstration plants assures technology transfer to the implementing sector and the involvement in our decisions to scale-up of the people who will be responsible for implementing and operating these technologies.

A major initiative in our programs was the award last winter of the contract for the phased design, construction, and operation of a clean boiler fuel demonstration plant. This is the first demonstration plant Fossil Energy has undertaken. In FY 1976 we will be continuing this effort as well as starting the conceptual design of two more demonstration plants -- one in the high-BTU gas area and one for low-BTU gas. The remaining ap-

ropriations are mainly to continue forward with the activities launched during FY 1974 and FY 1975 and to expand them where appropriate.

In conjunction with this essential scaling up of second generation technologies, the President's proposed Synthetic Fuels Commercialization Program is directed at initiating a limited number of plants, which will largely utilize present-day technology to produce commercial quantities of synthetic fuels. These plants would be used to gain valuable economic, environmental, regulatory and institutional data, most of which is applicable to widespread commercialization of both first and second generation technologies.

Origins of the ERDA Fossil Energy Programs

Figure 1 indicates the pre-ERDA, Department of Interior Energy organization from which elements were transferred to ERDA. A portion of the Bureau of Mines, including its Energy Research Centers, was transferred. This included 812 personnel (Energy Research Centers, 773 and Washington, 39), and \$87.4 million in FY 1975 appropriations. The Office of Coal Research was transferred in its entirety. This transfer included a 272 FY 1975 year-end employment ceiling and \$246.3 million in FY 1975 appropriations. The Atomic Energy Commission (AEC) transfer included \$9.2 million and 15 personnel. Coal, gas and oil extraction and in situ processing of oil shale programs were transferred from the Office of Coal Research, Bureau of Mines, and the AEC.

Current Organization

The Fossil Energy Program is currently organized in the manner shown in Figures 2 and 2a. This organizational configuration was recently announced and appointments to key positions will be made in the near future. We will keep this Subcommittee fully informed on this matter.

The organization consists of an Assistant Administrator for Fossil Energy, a Deputy Assistant Administrator, and five program divisions; Coal Conversion and Utilization, Fossil Energy Research, Fossil Demonstration Plants, Oil, Gas and Shale Technology and MHD. Staff offices include Program Planning and Analysis and an Administrative Office. Recognizing the need for special assistance, advice and counsel on program planning and management matters, a Senior Staff has been designated for this purpose.

Program Strategy

The ERDA Fossil Energy Program structure is influenced by many factors, and a program strategy has evolved to account for these factors. The programs seek to develop a mix of technologies because the complex American economy requires enormous amounts of fuel in various forms: natural or synthetic for space heating, electric power, and industrial processing; liquid fuels for transportation, electric power, heating and chemical feedstocks, combustible solids for power generation and industrial applications (Figure 3).

Experience in the petroleum industry with wide variations in petroleum feedstocks, regional demands for product mix, sea-

sonal cycles, and local prices for competing fuels has resulted in a wide variety of refinery designs. Today large numbers of competing refinery process operations are available to the refinery designer, and even after fifty years of sophisticated technical development, no standard pattern for petroleum refining has emerged.

Coal and other fossil fuel feedstocks are even more variable than petroleum feedstocks, and some of their product markets are extremely susceptible to competition by easily transportable liquid and gaseous fuels. Thus, the fossil fuel program strategy is to advance a broad spectrum of processes, specifically suited to wide ranges of feedstocks and markets. The ultimate commercialization of a synthetic fuel process depends upon process efficiency and cost. Small percentage increases in process efficiency results in huge savings because of the large throughput of material in these plants. Consequently, it is necessary to keep the program tracking toward optimum process configurations. The Fossil Energy programs conduct continuing evaluations to provide comparisons of the process alternatives being developed. These studies provide program guidance, as well as information for the development of demonstration plant projects.

The strategy is also influenced by the estimate that coal utilization will have to increase significantly by the year 1985, and that on the order of 20 synthetic fuel plants will be on line producing a million barrels per day (Btu-equivalent) of synthetic fuels from coal and oil shale by 1985, based on both existing technology in the current research, development and demonstration program. Our program is now accelerated with the overlapping of development steps.

The funding levels and activities are different for coal, oil, gas, and oil shale. These differences reflect the state of development of conversion and extraction technologies for the different fossil fuels which have largely been a function of the differing levels of investment by the private sector in research and development.

There is also recognition of the extent of our resource base for each fossil fuel type. Thus, coal as our most abundant resource, but with the least developed technology base, receives the largest funding share.

Program Accomplishments

Major accomplishments are the development of new and improved process technology for conversion of coal to synthetic gas and liquids, for combustion of coal in a more efficient and environmentally acceptable manner, for transformation of oil shale to shale oil and refining to clean fuels, and demonstration of improved petroleum and gas recovery techniques.

In addition to the six Energy Research Centers, the Fossil Energy Program includes the following major facilities, either underway or in the design phase:

Laboratory/Process Development Units	11
Pilot Plants	9
Demonstration Plant	1

These major projects include pilot plants in coal gasification and liquefaction, large process development units in fluidized bed combustion, comprehensive component test facilities and a liquefaction demonstration plant.

Geographically, these energy activities are located throughout the country, as shown in Figure 4. The start of major operations is shown in Figure 5.

To date these fossil energy conversion facilities have processed several tens of thousands of tons of feedstock and produced a spectrum of clean gaseous, liquid and solid products. These products have been utilized in large scale tests in utility boilers, Navy destroyers, gas turbine generators and chart gasifiers. Comprehensive process designs have been made in the development of an information base to support a coal conversion industry. We are asking today for appropriations to continue the development of this information base to develop improved process equipment and identify technology towards commercialization.

Coal Conversion and Utilization

Coal is our most abundant domestic fossil fuel resource and reserve. Because of numerous delays in bringing nuclear electric plants on line, limited domestic supplies of oil and gas, insecurity of supplies of imported oil and gas, and the size of projected import requirements to close the various projected demand-supply deficits, the country has no alternative but to accelerate its investment in making coal available as a major energy source.

Increasing quantities of coal or coal-derived products will be needed for electric utility and industrial boilers, refinery feedstock, pipeline gas distribution systems, and chemical feedstock.

Accelerated use of coal requires resolution of many potential problems. The knowledge base for most aspects of the process of coal conversion and utilization is not adequate for the fossil fuel industry in all its parts to meet the challenge before it, even though some technologies are ready for immediate implementation.

The overall program goal is to provide the knowledge for the economic and environmentally sound utilization of our vast coal resources to help meet national energy needs. This goal includes developing and demonstrating technical methods and processes for:

The production of clean gaseous and liquid fuels from coal suitable for power generation, transportation, residential, industrial and chemical uses.

Direct combustion of coal in an environmentally acceptable manner.

To achieve this goal we estimate for 1976 operating costs of \$284.4 million and plant and capital equipment obligations for clean boiler fuel demonstration plant of \$20.0 million. The operating costs and obligations as described in the budget submission break down in the following way:

COAL PROGRAM

PROGRAM ESTIMATE
(In thousands)

<u>Sub-Program</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
<u>Operating Costs:</u>			
Liquefaction	\$19,764	\$ 54,632	\$ 96,897
High-Btu Gasification	29,415	57,841	42,838
Low-Btu Gasification	8,442	22,308	51,671
Direct Combustion	3,509	20,681	35,945
Advanced Research and Supporting Technology	1,463	14,780	32,061
Demonstration Plants	- -	- -	18,100
Advanced Power Systems (MHD, Fuel Cells and Support)	20	3,957	6,861
	<u>(3,065)*</u>	<u>(8,784)*</u>	<u>(18,973)*</u>
Total, Operating Costs	<u>62,613</u>	<u>174,199</u>	<u>284,373</u>
	<u>(65,678)*</u>	<u>(182,983)*</u>	<u>(303,346)*</u>
<u>Plant and Capital Equipment</u>			
Obligations - Total	<u>- -</u>	<u>13,150</u>	<u>20,000</u>

* Includes MHD, Fuel Cell and related projects presented in the budget under the Solar, Geothermal and Advanced Energy Systems activity.

I would like to take just a moment to describe the objectives of each of these program elements, to list the major ongoing projects and to describe how the requested appropriation will be used. I must point out that we will be testifying for not only the Fossil Energy Development activity but will also cover the MHD projects included under Solar, Geothermal and Advanced Energy Systems Development budget activity.

Liquefaction

The prime objective of coal liquefaction research is to provide technology which is economically competitive and environmentally satisfactory to convert coal to a clean liquid fuel for electric power generation, transportation and heating for industry and homes.

Major ongoing projects in this area are given in Figure 6.

The solvent refined coal process can produce such a fuel in the near future. If pilot plant work presently underway continues to be successful, it should be possible to move rapidly with an early commercialization of this process by private industry.

At the same time, technology will be developed for converting this heavy semi-solid product into a crude oil from which

transportation fuels, chemicals, and home heating oils may be obtained.

High-Btu Gasification

The major objective of the high-Btu gas program is to provide improved technology for the manufacture of pipeline quality gas from coal; improvements which, firstly conserve coal as they permit greater efficiency, and secondly decrease the cost of manufacture of gas by about 20 percent compared to present technology.

The major ongoing projects in this area are given in Figure 7.

This program, the furthest along technically of all our programs will be pursued with vigor, and four pilot plants will be operating in the 1975-76 period. The best process or combination thereof may be used to design a demonstration plant; construction of such a demonstration plant is targeted to begin about 1977.

Low-Btu Gasification

The objective of the low-Btu gas program 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 industrial heating, and chemical feedstock.

The major ongoing projects in low-Btu gasification are given in Figure 8.

Improvements to low-Btu gasification processes are needed. New fluidized-bed technology and improvements in older fixed-bed technology offer economic opportunities. Hot-gas clean up offers improved efficiency. The next level of improvement of low-Btu gasification would be to pressurize the gasifier so that the fuel can be burned in a gas turbine coupled with a conventional steam boiler. Such a combined cycle power plant has the potential of increasing overall thermal efficiency of conversion to electricity by 25 percent. Much of the gasifier development work in our high-Btu gas program will be useful in moving the low-Btu gasifier program forward.

Direct Combustion

The prime purposes of the direct coal combustion program are: (1) to develop first atmospheric and then pressurized systems capable of burning high sulfur coals of all degree of rank and quality in fluidized bed combustors in an environmentally acceptable manner; (2) and to improve the reliability and efficiency of present boilers.

The most efficient way to utilize coal is by its direct combustion as any process to upgrade coal requires expenditure of energy. Thus, the highest overall efficiency of coal utilization is direct burning. Processes to permit combustion in fluidized bed boilers have a high potential payoff and will be pursued.

Major direct combustion projects are listed in Figure 9.

Advanced Research and Supporting Technology

Advanced Research and Supporting Technology serves as the central research arm for all program areas of fossil energy and has three main objectives:

- (a) to provide support technology to assure reliable and efficient process operations,
- (b) To initiate development of new and improved extraction, conversion and utilization process, and
- (c) to assure an adequate supply of trained technical personnel.

The successful conversion of coal and oil shale to clean fuels, and thermal and electrical energy, depends upon efficient and reliable plant operations. Equipment must operate under hostile erosive and corrosive conditions at high temperature. A strong material and components research program has been initiated to insure reliable operation of the plants.

An active university research program is underway and expanding rapidly. About 40 universities are now involved. An essential element of this program is the training of technical personnel. Furthermore, the universities have a unique potential for innovative and fundamental research which can be important to achieve major improvements.

Advanced research, especially for synthetic fuels from coal, is underway in government, institutional, and industrial laboratories. Examples of projects include use of novel catalysts and refining of synthetic fuels from coal and oil shale to clean products, as well as process research to provide for a supply of chemical feedstocks.

An important component of Advanced Research and Supporting Technology is science and analysis. Intensive studies on coal and oil shale structure and reaction mechanism and how sulfur and nitrogen are bound into the structure can lead to new, more efficient conversion processes. Insight into properties of coal and oil shale, combustion chemistry and thermodynamics of hydrocarbons are likewise the subject of research. The refining of synthetic fuels and testing of fuels, alternative to conventional gasoline is underway and is expected to lead to optimization of processes and products or, indeed, new fuels for transportation.

Major ongoing projects are shown in Figure 10.

Demonstration Plants

A major element in the Division of Coal Conversion and Utilization is the Demonstration Plant program.

Rapid commercialization of processes for removing sulfur from coal can be expected to have early impact on the national energy problem by providing acceptable alternatives to oil and gas. In addition, these processes can be used as a first step toward the production of a synthetic oil. The hydrogenation of coal produces byproduct gas as well, which can be reformed to yield a substitute natural gas (SNG). Future commercial plants which are anticipated from planned demonstration facili-

ties can be expected to produce clean liquids and gases as co-products with further potential relief for the national energy situation.

In July 1974, an RFP was issued for clean boiler fuel demonstration plant. On January 17, 1975, the Office of Coal Research awarded a contract to Coalcon for the phased design, construction and operation of a 2,600 ton/day demonstration plant using a hydrocarbonization process for producing 3,900 barrels/day of liquid product, and 22 million cubic feet daily of pipeline quality gas. The first two phases of the project, conceptual design and detailed design, will provide a continuing opportunity to further evaluate the optimum plant configuration to be constructed. This plant will fulfill a near term objective of the coal program to provide a fuel substitute from coal for a portion of higher grade oil and gas used in the generation of electricity and in industrial heating processes.

This plant is the first demonstration plant Fossil Energy has undertaken. It is the last step before commercialization and is the result of work through the pilot plant stage. While the design and engineering is being funded by the government, the industrial partner will share the construction and operating costs on a 50-50 basis. The plant schedule is being accelerated, and we hope to have the plant begin operations in FY 1980.

In order to meet national needs and continue acceleration of coal conversion technology, we have requested funding to initiate conceptual design activities during FY 1976 for a low-Btu gasification demonstration plant, and for a high-Btu gasification demonstration plant. These plants will build on experience of a coal conversion technology. Products produced in demonstration plants will be tested by potential users to insure compatibility with all elements of the product supply system.

The Synthetic Fuels Commercialization Program will enable early identification and resolution of many of the operational and related problems associated with the initiation and growth of a new industry. The President's program envisions an initial effort aimed at developing approximately 350,000 barrels per day of oil-equivalent capacity which could then be increased to 1,000,000 barrels per day by 1985. The initial level of 350,000 would provide essential information and data to clarify the many uncertainties surrounding the scale-up of the several processes likely to be used by the synfuels industry.

The environmental and social problems associated with a 350,000 barrel per day program will be of vital concern but should be fully manageable. Federal, state and local regulations concerning the environment, land use, health and safety, and the use of public lands and minerals must and will be strictly observed. To this end, an environmental protection strategy is included as an integral part of the recommended program. A draft programmatic environmental impact statement has been completed as an integral part of the proposed program. Extensive environmental research and data gathering will be conducted in conjunction with the implementation of the program. Health and environmental data and environmental control technology must be developed concurrently with the commercialization program.

The President's Synthetic Fuels Commercialization Program envisions a wide range of incentives as being necessary for

commercialization of current technology to produce synthetic fuels. One of these incentives involves loan guarantees, the authority for which has been included in the Senate version of our Authorization Bill. As Dr. Seamans has indicated, the Administration supports this provision. If this authority is included in the final Authorization Bill, then commensurate appropriations need to be made available if this program is to proceed as envisioned.

Advanced Power Systems

The objective of the advanced power program is to increase the efficiency of coal burning electrical power generators. The program focuses largely on developing advanced gas turbines capable of operating on coal derived fuels, and on developing magnetohydrodynamic systems which utilize coal directly.

Major advanced power projects are listed in Figure 11.

Technology for turbines, incorporating materials and cooling design to avoid corrosion, integrated with heat recovery from gasifier, and operating on coal derived fuels is anticipated by 1980.

Magnetohydrodynamics

As indicated earlier in this statement we are here to testify for the Magnetohydrodynamics (MHD) projects included in the budget under Solar, Geothermal and Advanced Energy Systems Development. The objective of this subprogram is the successful operation of a commercial facility by the late 1980's 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 the process.

Major MHD projects are listed in Figure 12.

Petroleum and Natural Gas

Petroleum and natural gas will continue to be the nation's main fossil energy resources for many years. This program is directed toward increasing the production of oil and gas by advanced production and recovery techniques and in improving the efficiency of petroleum use and re-use.

To these ends we estimate in FY 1976 \$28.4 million in operating costs and \$100,000 for plant and capital equipment obligations as follows:

PETROLEUM AND NATURAL GAS PROGRAM	PROGRAM ESTIMATE (In Thousands)		
	<u>1974</u>	<u>1975</u>	<u>1976</u>
<u>Sub-Program</u>			
<u>Operating Costs:</u>			
Oil and Gas Extraction	\$6,695	\$16,242	\$26,765
Oil and Gas Utilization	<u>1,182</u>	<u>1,025</u>	<u>1,582</u>
Total, Operating Costs	<u>\$7,877</u>	<u>\$17,267</u>	<u>\$28,347</u>
<u>Plant and Capital Equipment</u>			
Obligations - Total	<u>134</u>	<u>35</u>	<u>100</u>

Gas and Oil Extraction Subprogram

The oil extraction efforts emphasize the demonstration of existing and improved secondary and tertiary recovery techniques rather than new refinery technology. Because industry has a broad technological base in refinery technology, it would be difficult for the Government to make substantial contributions in this area.

Industry budgets for research on oil production are much smaller than those for refining. Also, small independent operators traditionally have contributed much to oil and gas production. Government participation with industry will ensure rapid development of enhanced oil recovery technology and rapid transfer of this technology to those who can use it.

A Federal role in enhanced oil and gas is required because of the commercial uncertainties and financial risks associated with economically unproven technologies and the urgent need to accelerate progress beyond normal commercial capability. It is probable that the oil industry would eventually implement competitive advanced recovery techniques. However, enhanced recovery of oil and gas could buy approximately ten years that are critically important to the country by extending the supply of domestically available resources while alternate sources are being developed.

The natural gas stimulation efforts are designed to stimulate the commercial production of natural gas from formations containing vast quantities of natural gas but having natural permeabilities (rate of flow of fluids through porous rock formations) so low that commercial production to date has not been feasible. Experimental methods include massive hydraulic fracturing, combinations of hydraulic and chemical-explosive fracturing and fracturing wells deviated from normal to intersect natural fractures.

The major ongoing projects in this area are given in Figure 13.

Fluid injection and fracturing method for gas and oil extraction will be used in field demonstration projects. Solvent recovery methods for heavy oil as well as in situ combustion methods for tar sand will be developed and demonstrated.

Gas and Oil Utilization Subprogram

Increased efficiency in using our petroleum and natural gas is an obvious method of extending available energy supplies. This program element contributes to increasing end-use efficiency by characterization and process improvement of petroleum and residuum oil or tar from naturally occurring heavy-oil reservoirs and crude liquids from oil shale or coal.

Our requested appropriation would continue these efforts and we would seek, wherever possible, Government-industry cooperation.

Oil Shale Program

The Government has prime responsibility to ensure efficient and environmentally sound utilization of the nation's enormous oil shale resource.

The focus of the ERDA Fossil Energy portion of the oil shale program is threefold: reducing the water requirements of the oil shale industry through in situ processing; increasing the recoverable reserve base through improved production technology; and ensuring that environmental safeguards are built into the in situ oil shale process as an integral part of the process development.

The Oil Shale Program focuses on in situ retorting rather than surface retorting, which is considered a known technology. In addition, laboratory and bench scale studies on composition and conversion for clean fuels from oil shale have been initiated to provide a technology base for improvements and new process development.

Advancing in situ production of shale oil to commercial feasibility is targeted for the early 1980's. This will require expansion of ongoing in situ retorting activities. These larger tests will be performed on a contract basis, starting with design and preparatory work in FY 1976.

The requested appropriation includes investigations leading to the production of liquid fuels with field tests of one to ten acres each planned to serve as an equivalent process development unit effort. Both combustion and circulating hot gas would be used as heating methods.

Expanded gasification work would also be performed with design of an above-ground facility to begin in FY 1976, and actual construction to begin in FY 1977. Operation of this facility should provide data to permit an in situ field demonstration to begin in 1980.

Major projects are shown in Figure 14.

In order to pursue these important efforts we request FY 1976 operating costs of \$10.9 million and \$325,000 for plant and capital equipment, broken down in the following way:

OIL SHALE PROGRAM	PROGRAM ESTIMATE (In Thousands)		
	1974	1975	1976
<u>Sub-Program</u>			
<u>Operating Costs:</u>			
In Situ Processing	\$2,026	\$2,903	\$ 9,834
Composition and Char.	754	551	1,113
Total, Operating Costs	\$2,780	\$3,454	\$10,947
<u>Plant and Capital Equipment</u>			
<u>Obligations - Total</u>	<u>25</u>	<u>75</u>	<u>325</u>

Special Foreign Currency Program

Under this program the Administration will provide support to selected coal energy research projects now underway in foreign nations that will complement current domestic research efforts. Payments for these projects will be made in currencies of

those nations in which the research takes place, and which the U.S. Treasury determines to be in excess of our nation's normal requirements. The 1976 budget request provides \$6.65 million to initiate projects in Poland dealing with the hydrogenation of coal (\$5.35 million) and the production of clean gas from coal for use in MHD power systems (\$1.30 million). The specific goal of this program will be to utilize, through international cooperation, the technological expertise developed by Polish specialists to corroborate or complement research activities being conducted by the Energy Research and Development Administration.

Poland is an obvious choice to provide coal research and development information. 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.

Conclusion

I would like to note in conclusion that the Fossil Energy Program currently has over 125 contracts outstanding with total value of nearly \$600 million. Industry is contributing over 25% of these funds. We hope to maintain the present standard for cooperative joint funding which anticipates one-third private, two-third Federal, for pilot plants and 50-50 for demonstration plants. An exciting new dimension has been added to ERDA with the President's proposed Synthetic Fuels Commercialization Program. This will provide further flexibility for the commercialization of promising technologies. Our participants now include and will continue to include many aspects of American industry: oil and gas companies, chemical companies, coal companies, architect engineer and manufacturing companies, utilities, universities, research centers, and trade associations.

In addition to the contractors performing the major project work I have described, we have contractors performing engineering evaluations, systems studies, planning studies, and environmental analyses. We have several interagency agreements including agreements with the Department of Commerce, Corps of Engineers, and the Department of the Interior, as well as strong intra-agency support. We have international agreements with the United Kingdom, Russia, Poland and Germany. We are constantly advised of work in the private sector and adjust our planning accordingly. We cooperate with both American industry and American utilities (through A.G.A., EPRI) to develop national plans which integrate privately sponsored and Federally sponsored R&D.

To assist this Committee in the review of the Fossil Energy program we have included a summary table, Figure 15, displaying by program and subprogram the appropriations required for operating expenses.

We look forward to continuing our relationship with this Subcommittee, and we are pleased to have this opportunity to present this statement.

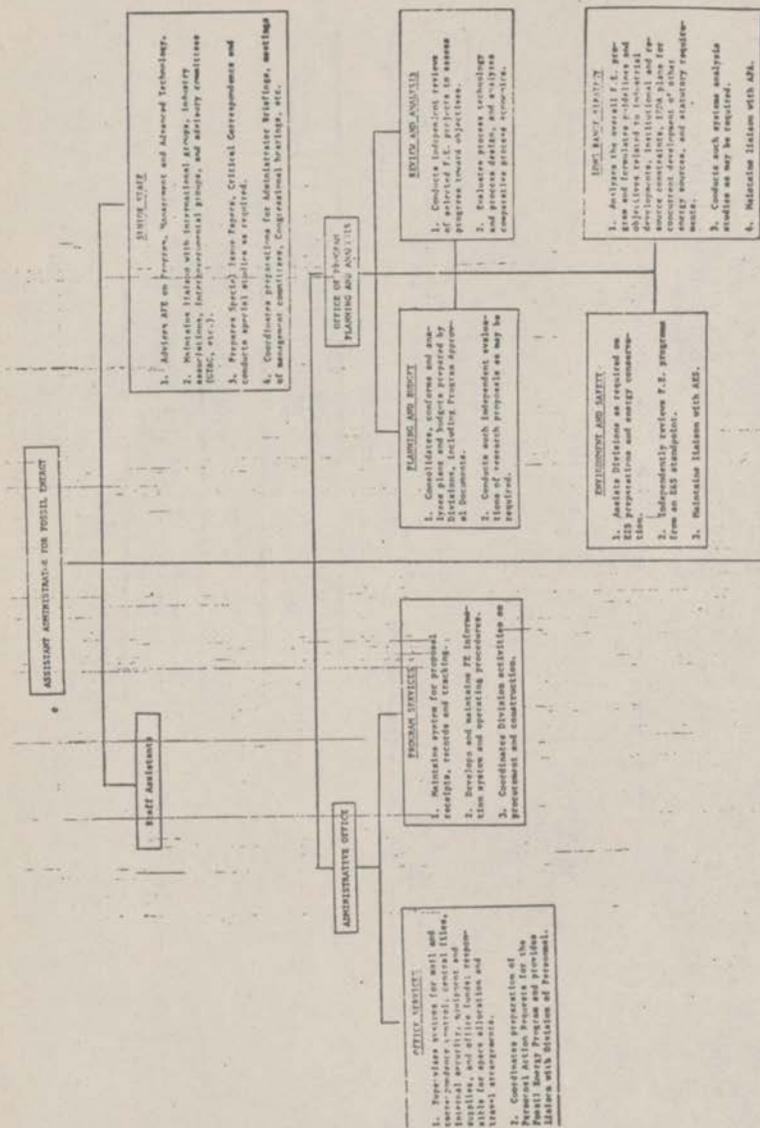
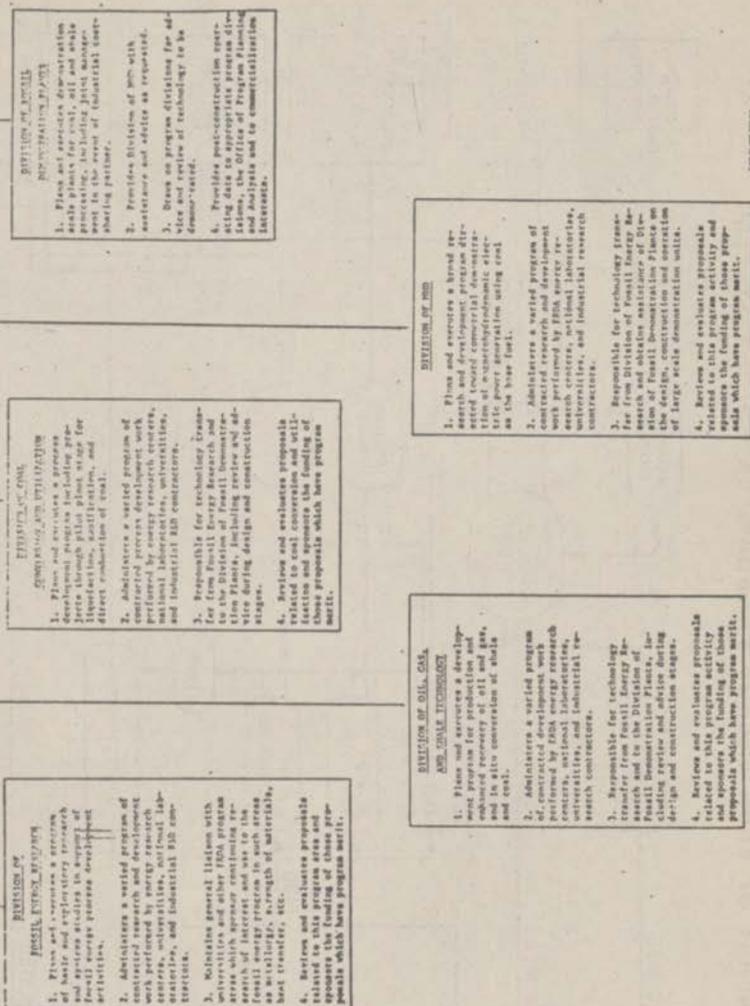


FIGURE 2



(FIGURE 2a)

IMPACT OF ERDA ENERGY PROGRAM ON ENERGY SYSTEM

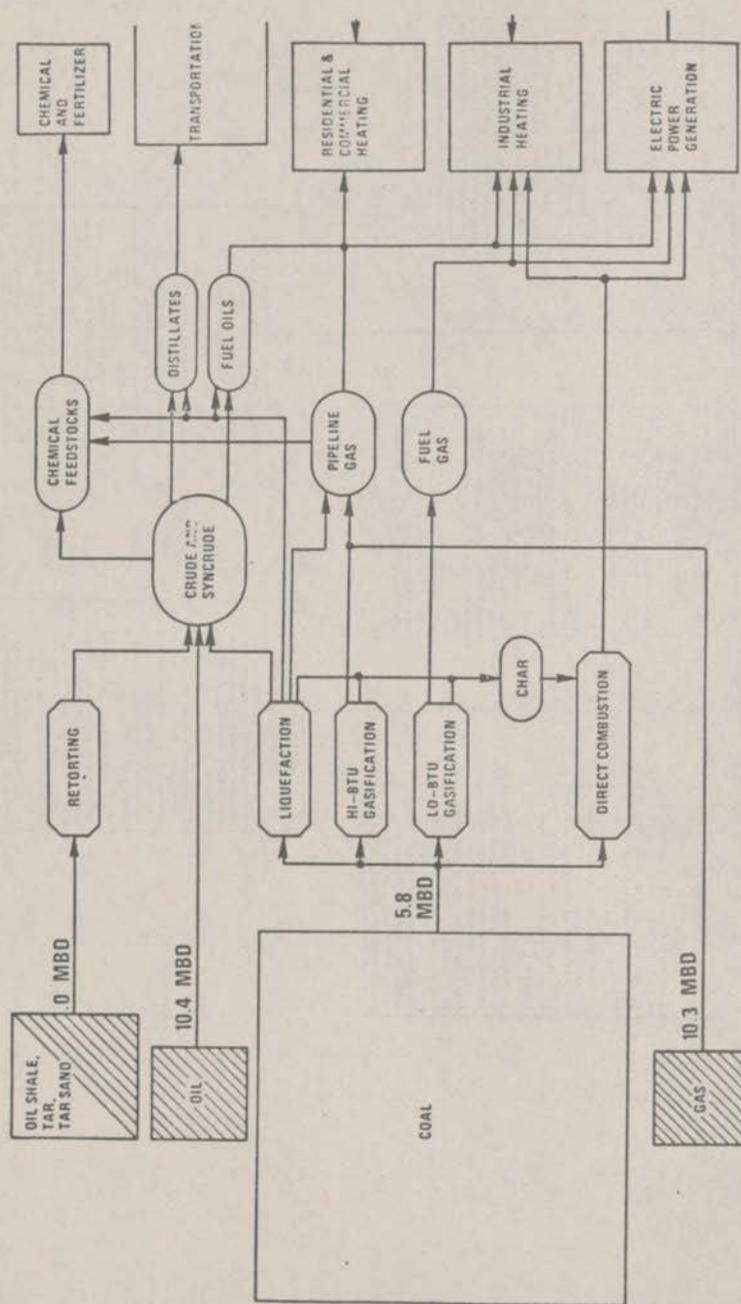


FIGURE 3

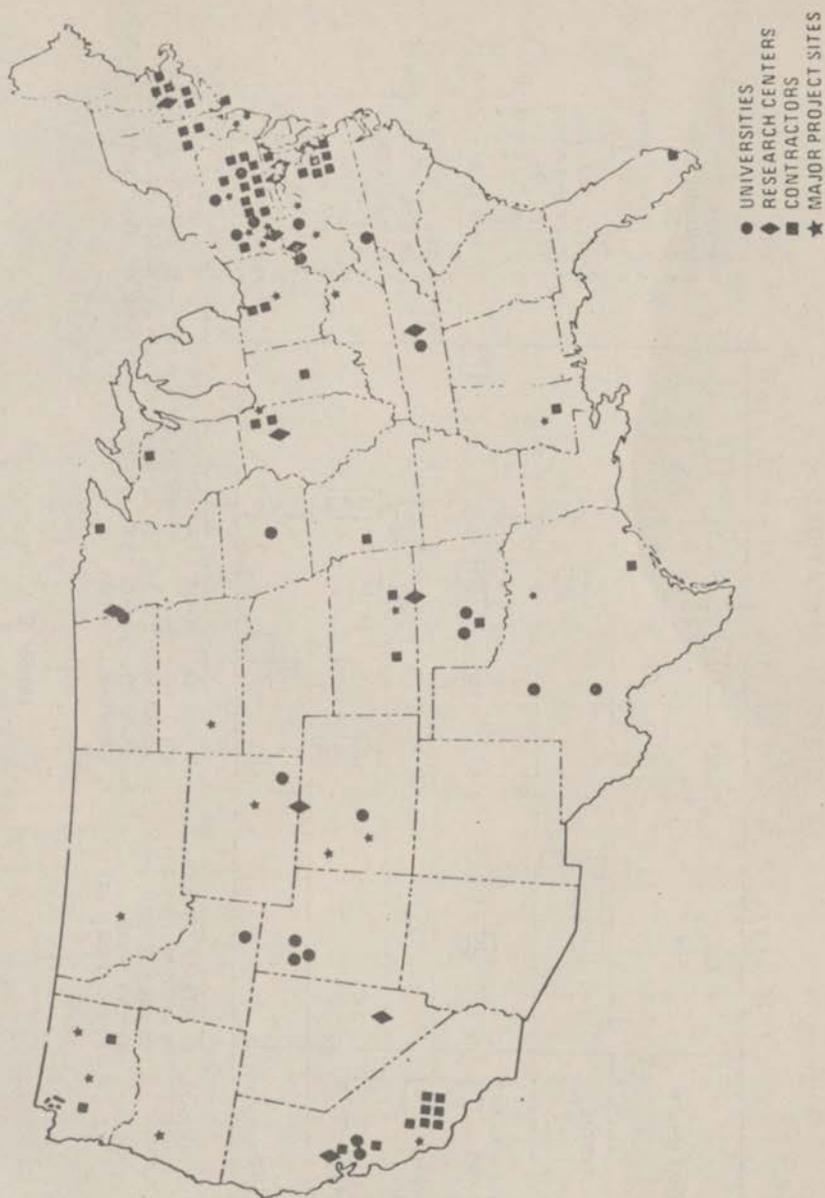


FIGURE 4

ERDA FOSSIL ENERGY MAJOR PROJECTS

START OF OPERATIONS

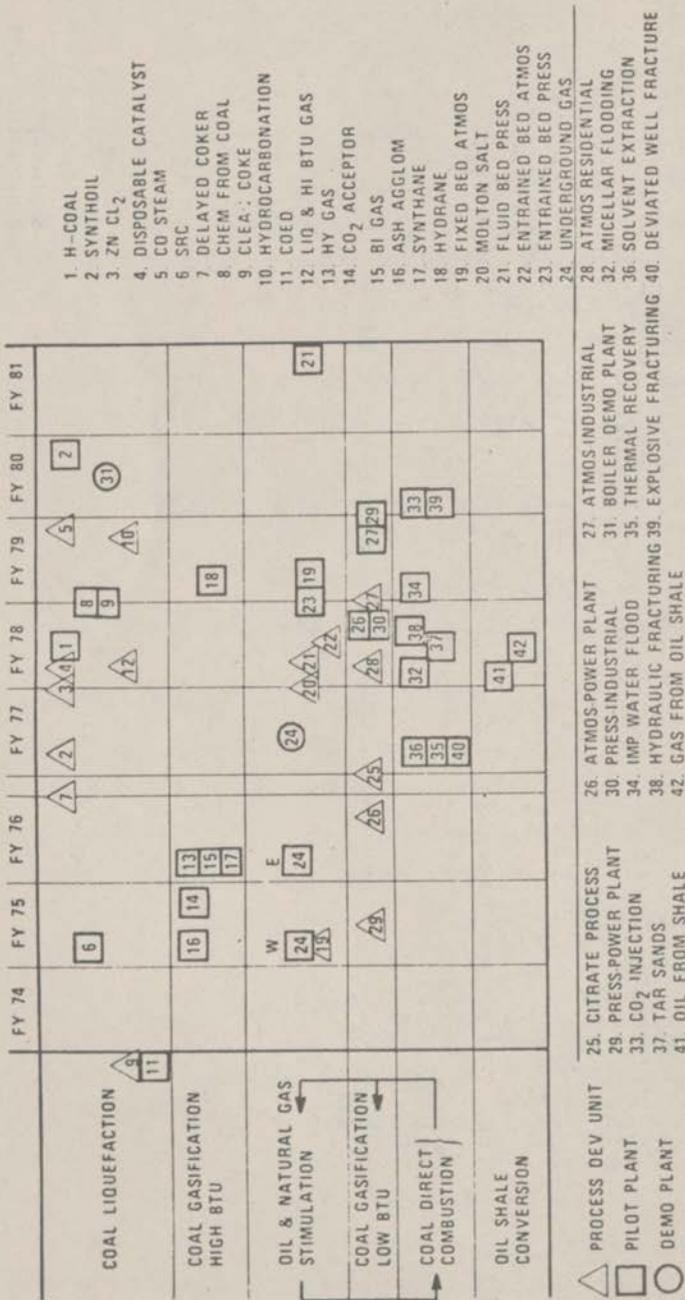


FIGURE 5

COAL LIQUEFACTION

<u>MAJOR PROJECTS</u>	<u>*CONTRACT VALUE \$M (COST SHARE)</u>	<u>CONTRACTOR</u>	<u>LOCATION</u>	<u>KEY EVENTS</u>
● COAL OIL ENERGY DEVELOPMENT (COED)	\$21.0	FMC	PRINCETON, N.J.	PILOT OPERATIONS COMPLETE FY 75
● SOLVENT REFINED COAL (SRC)	\$42.0	PAMCO	TACOMA, WASH.	PILOT OPERATIONS STARTED MID FY 75
● H-COAL	\$8.1 (\$2.7)	HRI	TRENTON, N.J. CATTLETSBURG, KENTUCKY	PDU RUNS FY 75; PILOT PLANT DECISION MID FY 76
● CLEAN COKE	\$6.5 (\$1.9)	U.S. STEEL	MONROEVILLE, PA.	PDU COMPLETE FY 75 PILOT PLANT DECISION FY 76
● SYNTHOIL	\$6.9 (\$1.1)	FOSTER WHEELER	PERC BRUCETON, PA.	RFP FOR CONSTRUCTION JUN 75

*CONTRACT VALUES AS OF 6/30/75

FIGURE 6

HIGH BTU GASIFICATION PROGRAM

<u>MAJOR PROJECTS</u>	<u>*CONTRACT VALUE \$M (COST SHARE)</u>	<u>CONTRACTOR</u>	<u>LOCATION</u>	<u>KEY EVENTS</u>
• CO ₂ ACCEPTOR PROCESS	2.0 (1.0)	CONOCO COAL DEV. CO.	RAPID CITY, S.D.	METHANATION PLANT CONSTRUCTION COMPLETE FY 75
• HYGAS PROCESS	39.3 (10.1)	INSTITUTE OF GAS TECHNOLOGY	CHICAGO, ILL.	STEAM OXYGEN SYSTEM CONSTRUCTION COMPLETE FY 75
• LIQUID METHANATION	1.9 (.7)	CHEMICAL SYSTEMS INC.	TBD	COMPLETE PILOT PLANT CONSTRUCTION FY 75
• ASH-AGGLOMERATING PROCESS	8.8 (1.6)	BATTELLE COLUMBUS	WEST JEFFERSON, OHIO	COMPLETE PILOT PLANT CONSTRUCTION FY 76
• STEAM-IRON-PROCESS	18.1 (7.9)	INSTITUTE OF GAS TECHNOLOGY	CHICAGO, ILL.	COMPLETE PILOT PLANT CONSTRUCTION FY 76
• BI GAS	69.6 (11.5)	BITUMINOUS COAL RESEARCH/CONOCO COAL DEV. CO.	HOMER CITY, PA.	COMPLETE PILOT PLANT CONSTRUCTION FY 76
• SYNTHANE	9.6	RUST ENGINEERING/ LUMUS CORP.	PERC BRUCETOWN, PA.	COMPLETE CONSTRUCTION FY 75

*CONTRACT VALUES AS OF 6/30/75

FIGURE 7

LOW BTU GASIFICATION

<u>MAJOR PROJECTS</u>	<u>*CONTRACT VALUE \$M (COST SHARE)</u>	<u>CONTRACTOR</u>	<u>LOCATION</u>	<u>KEY EVENTS</u>
• ADVANCED GASIFICATION SYS. FOR ELECTRIC POWER GENERATION	13.9 (4.2)	WESTINGHOUSE ELECTRIC	WALTZ MILL, PA.	PDU OPERATIONAL FY 75
• ENTRAINED BED (PRESSURIZED)	9.0 (3.0)	FOSTER WHEELER NORTHERN STATES POWER	SIOUX FALLS, S.D.	PILOT PLANT DESIGN FY 75
• FLUIDIZED BED	2.5	BITUMINOUS COAL RESEARCH	MONROEVILLE, PA.	PDU OPERATIONAL FY 76
• MOLTEN SALT	6.9 (2.3)	ATOMIC INTERNATIONAL/ ROCKWELL	NORWALK HARBOR, CONN.	PDU COMPLETE FY 76
• ENTRAINED-BED (ATOMSPHERIC)	21.9 (6.9)	COMBUSTION ENGINEERING	WINDSOR, CONN.	PILOT PLANT DESIGN & SYSTEMS FABRICATION F: 77

*CONTRACT VALUES AS OF 6/30/75

FIGURE 8

DIRECT COMBUSTION

<u>MAJOR PROJECTS</u>	<u>*CONTRACT VALUE SM (COST SHARING)</u>	<u>CQTRACTOR</u>	<u>LOCATION</u>	<u>KEY EVENTS</u>
● FLUIDIZED BED (ATMOSPHERIC)	14.3	POPE, EVANS, ROBBINS	RIVESVILLE, W. VA.	STARTUP CY 76
● FLUIDIZED BED (ATMOSPHERIC)	3.5	COMBUSTION POWER CO.	MENLO PARK CALIF.	FY 76 DRY HOT GAS CLEANUP DEVELOPMENT
● FLUIDIZED BED (PRESSURIZED)	6.7 (2.0)	RFP OUT	TBD	SELECT CONTRACTOR; RESPONSE DUE 31 JAN

*CONTRACT VALUES AS OF 6/30/75

FIGURE 9

SUPPORTING SCIENCE AND TECHNOLOGY

2695

<u>MAJOR PROJECTS</u>	<u>*CONTRACT VALUE SM (COST SHARING)</u>	<u>CONTRACTOR</u>	<u>LOCATION</u>	<u>KEY EVENTS</u>
FIRESIDE CORROSION	\$7.0	TBD	TBD	RESPONSE TO RFP BY 31 JAN
GASIFICATION MATERIALS	\$3.3	NBS ARGONNE MPC/IITRI	WASHINGTON CHICAGO, ILL. CHICAGO, ILL.	---
UNIVERSITY CONTRACTS	\$9.0/YR (1.0)	40	VARIOUS	---
INDUSTRY CONTRACTS	\$9.0	15	VARIOUS	---

*CONTRACT VALUES AS OF 6/30/75

FIGURE 10

ADVANCED POWER SYSTEMS

<u>MAJOR PROJECTS</u>	<u>*CONTRACT VALUE SM (COST SHARING)</u>	<u>CONTRACTOR</u>	<u>LOCATION</u>	<u>KEY EVENTS</u>
ECAS	3.0 (2.0)	GE WESTINGHOUSE NASA/LEWIS	VARIOUS	COMPLETE DEC 75
OPEN CYCLE GAS TURBINE	4.0	TBD	TBD	RFP ISSUED FEB 75

* CONTRACT VALUE AS OF 6/30/75

FIGURE 11

MAGNETOHYDRODYNAMICS

<u>MAJOR PROJECTS</u>	<u>*CONTRACT VALUE \$M (COST SHARING)</u>	<u>CONTRACTOR</u>	<u>LOCATION</u>	<u>KEY EVENTS</u>
GENERATOR STUDIES	7.9 (2.4)	AVCO	EVERETT, MASS.	FY 76 100 HR. GENERATOR RUN
HIGH TEMPERATURE AIR HEATERS	9.6	UNIV. TENN. SPACE INSTITUTE	TULLAHOVA, TENN.	FY 78 DIRECT COAL FIRED OPERATION
HIGH PERFORMANCE GENERATOR DEMONSTRATION EXPERIMENT	3.5	AEDC	AAFS, TENN.	FY 76 15-20% ENTHALPY EXTRACTION

*CONTRACT VALUE AS OF 6/30/75

FIGURE 12

PETROLEUM AND NATURAL GAS MAJOR PROJECTS

<u>PROJECT</u>	<u>*S(M) FUNDING (COST SHARE)</u>	<u>PERFORMER</u>	<u>LOCATION</u>	<u>KEY ITEMS & EVENTS</u>
MICELLAR-POLYMER FLOOD FIELD TEST	7.0 (4.0)	CITIES SERVICE, INC.	ELDORADO, KAN.	INJECTION TESTS - OCT 74 INJECTION-SALINITY ADJ. APR 75
MICELLAR-POLYMER	9.8	PHILLIPS PETROL CO.	BURBANK, OKLA.	INJECTION TESTS - MAY 76
MICELLAR-POLYMER	4.4 (2.2)	PENN GRADE CRUDE ASSN.	BRANFORD, PA	INJECTION TESTS - MAY 76
CO ₂ INJECTION	3.2	COMPANY A	WEST VIRGINIA	BEING NEGOTIATED
THERMAL RECOVERY	6.8 (4.8)	HUSKY OIL CO.	PARIS VALLEY, CA.	IGNITION - APR 76
THERMAL RECOVERY	3.1 (2.1)	HANOVER PETRO. CO.	ZAVALA CTY, TEX.	ECON./TECH. EVAL. - DEC 76 IGNITION - APR 75
CHEM. EXPLOS. FRACT.	0.4	PETROLEUM TECH., INC.	ROMNEY, W. VA.	INJ. EQUIP. - FEB 75 1st EXPLOS. TEST - JULY 75
CHEM. EXPLOS. FRACT.	0.3	PHYSICS INTERNATIONAL	WEST VIRGINIA	1st STIMUL. - SEPT 75
CHEM. EXPLOS. FRACT.	0.2	TALLEY FRAC., INC.	MINERAL WELLS, TEX.	1st EXPLOS. TEST - NOV 74 2nd EXPLOS. TEST - JAN 75
HYDRAULIC FRACT.	2.3 (1.0)	CER GEONUCLEAR, INC.	RIO BLANCO, COLO.	1st DRILLING - NOV 74 FRACTURING - NOV 74
IMPROVED WATER FLOOD	7.4 (2.2)	SHELL OIL CO.	COALINGA, CAL.	INJECTION - JUNE 76
IMPROVED WATER FLOOD	3.9 (2.7)	KEWANEE OIL CO.	SCHIDLER, OKLA.	INJECTION - JUNE 76
MASSIVE HYDRAULIC FRACTURE	4.3 (2.3)	COLUMBIA GAS SYSTEM	WEST VIRGINIA	1st DRILLING - DEC 75 FRACTURING - MAR 76

*CONTRACT VALUES AS OF 6/30/75

OIL SHALE MAJOR PROJECTS

<u>PROJECT</u>	<u>*\$ (M) FUNDING (COST SHARE)</u>	<u>PERFORMER</u>	<u>LOCATION</u>	<u>KEY ITEMS & EVENTS</u>
SMALL AREA TESTS OF IN-SITU EXTRACTION	IN-HOUSE	LARAMIE RES. CENTER	ROCK SPRINGS, WY.	TEST EVAL. THRU '78
GAS PRODUCTION EASTERN SHALE	\$42	COMPANY A	UNKNOWN	PILOT TESTS BEGIN FY '76 DEMO TEST BEGINS FY '80 . ENDS FY '83 1 START FY '78
WESTERN SHALE	EST. \$11.5 EST. \$4.5	COMPANY B COMPANY C	UNKNOWN UNKNOWN	START FY '80, CONTINGENT ON DATA FROM LARGE TEST FACILITY

* CONTRACT VALUES AS OF 6/30/75

FIGURE 14

U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
Fossil Energy Development - Operating
Budget Authority and Costs
(Dollars in Thousands)

	Actual FY 1974		Estimate FY 1975		Amended Estimate FY 1976	
	Budget Authority	Costs	Budget Authority	Costs	Budget Authority	Costs
A. Coal						
1. Liquefaction	\$ 46,291	\$ 19,764	\$ 94,745	\$ 54,632	\$ 97,562	\$ 96,597
2. High-Btu Gasification	33,333	29,415	59,805	57,841	63,344	42,838
3. Low-Btu Gasification	22,121	8,442	56,480	22,308	45,389	51,871
4. Advanced Power Systems	1,540	20	4,097	3,957	10,001	6,861
5. Direct Combustion	15,507	3,509	35,887	20,681	45,096	35,945
6. Advanced Research and Supporting Technology	9,946	1,463	23,325	14,780	35,393	32,061
7. Demonstration Plants	0	0	0	0	37,000	18,100
Total Coal Program	\$ 128,738	\$ 62,613	\$ 274,339	\$ 174,199	\$ 333,805	\$ 284,373
B. Petroleum and Natural Gas						
1. Gas and Oil Extraction	\$ 7,263	\$ 6,695	\$ 26,369	\$ 16,242	\$ 34,929	\$ 26,765
2. Gas and Oil Utilization	1,445	1,182	1,789	1,025	1,797	1,582
Total Petroleum and Natural Gas Program	\$ 8,708	\$ 7,877	\$ 28,158	\$ 17,267	\$ 36,726	\$ 28,347
C. Oil Shale						
1. In Situ Processing	\$ 2,308	\$ 2,026	\$ 3,762	\$ 2,903	\$ 13,720	\$ 9,834
2. Characterization and Total Oil Shale Program ..	922	754	962	551	1,265	1,113
	\$ 3,230	\$ 2,780	\$ 4,724	\$ 3,454	\$ 14,985	\$ 10,947
Total Operating Expenses, FE	\$ 140,676	\$ 73,270	\$ 307,221	\$ 194,920	\$ 385,516	\$ 323,667
D. MHD, Fuel Cells and Support. Res. *	8,445	3,065	14,895	8,784	29,144	18,973
Total	\$ 149,121	\$ 76,335	\$ 322,116	\$ 203,704	\$ 414,660	\$ 342,640

* Included under Solar, Geothermal and Advanced Energy Systems activity.

(FIGURE 15)

COAL PROGRAM ESTIMATES

Senator ROBERT C. BYRD. For the coal program, the request is for \$353.8 million in new budget authority, including the \$20 million for plant and capital equipment. That's an increase of \$66.3 million, or 23 percent. In terms of costs, however, the increase is \$110.1 million, or 63 percent. The wide variance between budget authority and cost, I assume, reflects a program of spending large amounts of carryover funding, is that correct?

Dr. WHITE. A considerable portion of the variance between budget authority and cost relates to the fact that we are in the fabrication and construction phase of some projects. This means large obligations are incurred in placing orders for equipment, and so forth. Costs may not actually be incurred for 18 months to 2 years, dependent upon lead-times for various types of equipment. The reverse is true in some programs where costs for the next fiscal year are higher than new obligations. This is because we are entering the operational phase and we are going to pay out costs for previously incurred obligations, but not incur substantial new ones.

Senator ROBERT C. BYRD. What portion of your costs for 1976 is made up of carryover funds and what portion is in new appropriations?

Dr. WHITE. We will provide that information for the record. The amended fiscal year 1976 estimate for the coal program provides for a total of \$284,373,000 on a cost basis.

[The information follows:]

FISCAL YEAR 1976 COAL PROGRAM ESTIMATE

[In thousands]

	Fiscal year 1976 (estimate)	
	Obligations	Costs
Costing of prior year's uncosted obligations.....	0	\$75,373
Unobligated carryover.....	\$100,811	49,000
New obligational authority.....	333,805	160,000
Total.....	434,616	284,373

Senator ROBERT C. BYRD. For the coal program what is your estimated unobligated balance at the end of fiscal 1976?

Dr. WHITE. In fiscal year 1975 many factors contributed to our ending unobligated balance. We experienced some natural interruptions to business because of the transition to a new organization. Because of the rapid expansion of the program there was a necessity to build staff significantly. And finally because the nature of the program entails a large amount of complicated procurement, including cost-sharing negotiations and proposal evaluation, the process of developing and implementing the contractual process in an accelerating program had to evolve. However, we are now well along in all these areas and our program is now operating smoothly. Thus we are not anticipating any significant unobligated balance at the end of fiscal year 1976.

BUDGET AMENDMENT

Senator ROBERT C. BYRD. The only coal programs given increases in the budget amendment are advanced power systems and direct combustion. Does that imply you are at full capacity in the others?

Dr. WHITE. We felt that advanced power systems and direct combustion were the higher priority areas and required additional funding in order to begin accelerating them to the proper level of effort.

ADVANCED POWER SYSTEM INCREASE

Senator ROBERT C. BYRD. The additional \$1.6 million in the budget amendment for advanced power systems is not tied down in the justification. Exactly how will that additional funding be applied?

Dr. WHITE. The additional \$1.6 million will be applied to the open cycle gas turbine, to develop higher temperature gas turbines using advanced cooling technology to improve efficiency and reliability and to use low-Btu gas from coal.

DIRECT COMBUSTION

Senator ROBERT C. BYRD. Under direct combustion, the budget amendment requests \$900,000 additional for atmospheric fluidized-bed systems and \$1.9 million additional for pressurized fluidized-bed systems. How much in total is allotted to these two programs?

Dr. WHITE. The total for the atmospheric fluidized-bed boiler is \$11.5 million in budget authority and \$10.7 million in costs. For the pressurized fluidized-bed boiler, the total is \$20.5 million in budget authority and \$14 million in costs.

Senator ROBERT C. BYRD. \$500,000 in the budget amendment is to study the use of combined coal and oil in existing oil-fired boilers. When do you expect commercial utilization of that process?

Dr. WHITE. Commercial utilization of coal-oil slurries in existing oil-fired boilers can be expected in the near term, between 1977 and 1980.

PILOT PLANTS

Senator ROBERT C. BYRD. It is difficult in your justifications to pin down the exact estimate for proposed pilot plant expenditures. Please supply for the record a listing of all pilot plants by location and indicate appropriations to date, proposed funding for fiscal year 1976, anticipated future costs, and industry contributions. Also indicate when the plants are to be completed.

Dr. WHITE. I will be delighted to supply that listing.
[The information follows:]

COAL PROGRAM
SUMMARY OF PILOT PLANT PROJECTS
(BA - Dollars in thousands)

Subprogram Pilot Plants	Funding Thru FY 1975	FY 1976 Amended Estimate	Transition Quarter Estimate	Costs to Complete Estimate	Estimated Date Constr. Completed	Location
<u>Liquefaction</u>						
G. H-Coal	13,000	27,096	11,530	61,000	1978	Cattlesburg, Kentucky
S.	6,500	13,548	5,765	30,500		
G. Synthoil	12,849	7,573	3,250	114,000	1980	To be determined
S.	150	190	50	19,860		
G. SRC (50tpd)	12,700	9,570	2,395	85,665	1978	Fort Lewis, Washington
S.	0	0	0	0		
G. Costeam	787	1,000	250	34,400	1978	To be determined
S.	0	0	0	0		
G. Clean Coke	7,500	3,400	200	62,000	1980	To be determined
S.	1,925	1,700	100	31,000		
<u>High Btu Gasification</u>						
G. HYGAS	30,771	2,670	670	4,400	1975	Chicago, Illinois
S.	8,235	1,330	340	2,200		
G. BI-Gas	31,307	18,000	1,200	40,000	1976	Homer City Pennsylvania
S.	13,690	9,000	600	20,000		
G. CO ₂ Acceptor	19,376	1,330	710	3,733	1972	Rapid City South Dakota
S.	6,620	670	355	1,860		
G. Steam Iron	14,190	11,200	2,100	11,600	1976	Chicago, Illinois
S.	7,095	5,600	1,000	5,800		

<u>Subprogram</u>	<u>Funding</u> <u>Thru</u> <u>FY 1975</u>	<u>FY 1976</u> <u>Amended</u> <u>Estimate</u>	<u>Transition</u> <u>Quarter</u> <u>Estimate</u>	<u>Costs to</u> <u>Complete</u> <u>Estimate</u>	<u>Estimated</u> <u>Date Const.</u> <u>Completed</u>	<u>Location</u>
<u>Pilot Plants</u>						
Liquid Phase Methanation	G. S. 3,240 1,650	166 80	41 20	333 67	1977	To be determined
Synthane	G. S. 8,600 0	7,000 0	1,400 0	41,000 0	1975	Bruceston Pennsylvania
Self-Agglom. Gasifier	G. S. 3,700 0	3,340 0	807 0	5,627 0	1976	Columbus, Ohio
<u>Low Btu</u>						
Gasification Fluid-Bed 2-stage, Pres.	G. S. 12,494 4,167	7,300 3,650	1,250 450	56,300 24,700	1978	Waltz Mill, Pennsylvania
Entrain-Bed Press.	G. S. 11,000 0	6,550 2,895	2,000 700	66,500 25,800	1979	Sioux Falls, South Dakota
Direct Combustion Fluidized bed G. Combined Cyc.	G. S. 10,500 0	19,000 0	3,500 0	107,500 42,000	1980	To be determined
<u>Subprogram</u>						
<u>Test Facility</u>						
Magnetohydrodynamics Engineering Test Fac. No.1	G. S. 5,000 0	0 0	0 0	173,150 0	1981	Montana

ADVANCED ENERGY SYSTEMS PROGRAM

Legend: G.: Federal Funding
S.: Cost-sharing

PILOT PLANT FINANCING

Senator ROBERT C. BYRD. We are told the pilot plant cost sharing runs on a two-thirds/one-third basis, Federal and private. Why is it that some projects have closer to 50 percent industry contributions and some have none at all?

Dr. WHITE. It really depends upon when the project was started. The cost-sharing requirements became firm in about 1971-72. The projects started before that time were generally fully funded. After this transition was completed, at the beginning of 1973, all pilots and demonstrations have followed the stated cost-sharing policy.

Senator ROBERT C. BYRD. On the basis of your current program, what is the estimated total Federal and private investment for all pilot plants expected to be? How much of that remains to be funded in future years?

Dr. WHITE. We will provide that information for you Senator.
[The information follows:]

Estimated investment for pilot plants

	<i>Thousands</i>
Total Federal investment.....	\$1, 220, 720
Total Private investment.....	301, 862
	<hr/>
Total investment.....	1, 522, 582
	<hr/> <hr/>
Portion to be funded in future years:	
Federal investment.....	867, 208
Private investment.....	203, 787
	<hr/>
Total investment.....	1, 070, 995

PILOT PLANT COST OVERRUN

Senator ROBERT C. BYRD. Your justifications state on page C-13 that additional funds are being required to offset cost overruns on gasification pilot plants. How much funding is being requested for this purpose?

Dr. WHITE. We are requesting a total of \$63,364,000 in budget authority for our high BTU gasification subprogram. This is an increase of \$3,559,000 over our fiscal year 1975 level. The additional funds will permit us to initiate studies and engineering evaluations essential to our overall program in gasification as well as provide contingency funds to take care of possible cost escalation in our pilot plant program.

Senator ROBERT C. BYRD. Why isn't it industry's responsibility to cover these cost overruns?

Dr. WHITE. Industry is continuing to fund our cooperative program on gasification on the basis of one-third industry, two-thirds Government.

Senator ROBERT C. BYRD. Please give us the details of these overruns—how much, where, and why?

Dr. WHITE. As stated in our budget justification, we are requesting an increase of \$3,559,000 in the high BTU gasification subprogram to initiate studies that are considered essential to our overall program in

gasification as well as provide for possible increased costs in our pilot plants. Since, as we stated before, we had built some contingency into our budget in fiscal year 1975, based on our past experience, we have not exceeded our subprogram budget and feel the requested increase in fiscal year 1976 will permit us to take care of possible cost escalation in our pilot plant program.

Senator ROBERT C. BYRD. Aside from the cost overruns, is industry still picking up one-third the cost of pilot plant development and operation?

Dr. WHITE. In the combined Government/industry high BTU gasification program, all costs associated with the program—which include overruns—are being shared in a ratio of two-thirds Government, one-third industry.

LIQUEFACTION

Senator ROBERT C. BYRD. Under the justification for liquefaction it is stated this process "appears to be one of the most favored" in terms of economics, commercial confidence, and quick implementation. Where, then, would you rank liquefaction against the other coal utilization technologies?

Dr. WHITE. We judge each of the synthetic fuel forms and coal utilization programs to be more or less of equal priority because of the way fossil fuels are utilized in the marketplace for commercial purposes, transportation, electric power generation, chemical processing, domestic use and so forth. When one looks at these various markets, one finds that they are more or less equal in size; therefore, the needs of high BTU gas, liquids from coal, means of direct combustion, and midrange quality gases for feedbacks are about equal.

Senator ROBERT C. BYRD. The \$42.2 million cost increase for liquefaction is aimed primarily at direct hydrogenation and solvent extraction pilot plants, according to the justification. How is that increase specifically allocated?

Dr. WHITE. The cost increase in the liquefaction subprogram reflects the extended actual payout of obligations recorded in prior years as well as new obligations in fiscal year 1976. We will provide for the record the detailed allocation of this increase.

Senator ROBERT C. BYRD. Please supply for the record a detailed breakdown of cost and budget authority allocations within the liquefaction subprogram.

[The information follows:]

Cost increases in liquefaction

Category:	<i>Estimated Costs (thousands)</i>
Direct hydrogenation.....	+\$21,920
Solvent extraction.....	+12,133
Pyrolysis.....	-100
Indirect liquefaction.....	+1,300
Organic waste to oil ¹	-570
Support studies and engineering evaluations.....	+9,882
Design of prototype plants ²	-2,300
Total.....	42,265

¹ No funds requested in fiscal year 1976 to continue this category.

² This category included in demonstration plants subprogram after fiscal year 1975.

STATUS OF COMPETING TECHNOLOGIES

Senator ROBERT C. BYRD. There is a wide variety of technologies in the liquefaction subprogram. Do all of them have industry support?

Dr. WHITE. Of the four pilot plant projects currently funded, three (H-Coal, Cresap, and Synthoil) have industrial funding support ranging from one time contributions to one-third cofunding. The fourth and oldest project (Solvent Refined Coal) has been funded entirely by the Government. However, a joint EPRI/industrial SRC project has been funded for several years to build and operate a much smaller scale process development unit at Wilsonville, Ala. This project indicates the interest of the utility industry in this technology.

Senator ROBERT C. BYRD. Which appears most promising at this stage?

Dr. WHITE. It is very difficult to make a judgment as to which liquefaction process appears most promising at this stage. Only two pilot plants have produced sufficient data to make reasonable estimates of their economics. They are comparable. Until other processes produce sufficient data to make these judgments, it will not be possible to come to a conclusion. In addition, we have the complication that various liquefaction processes produce various types of liquids, ranging from a combustion fuel for powerplants to gasoline. And, dependent upon the need for a particular product, the value of a particular process will fluctuate.

Senator ROBERT C. BYRD. The statement is made in your justification for liquefaction that only after demonstration plant operation of each process can a valid choice be made. Can't you often learn enough at the pilot plant stage to make sound choices?

Dr. WHITE. As our technology development program proceeds, and we understand the scaling laws of various unit operations involved in the coal conversion processes, we believe we will be able to make reliable estimates of the performance of various processes with fewer steps in the development process. Therefore, as the program progresses, the requirement for new pilot plants will diminish, and the total number of demonstrations required will be less than the number of pilot plants.

ALLOCATION OF LIQUEFACTION FUNDING

Senator ROBERT C. BYRD. Your justifications are silent as to the allocation of your liquefaction request for the various processes, although requested increases are identified from time to time. Please supply for the record your estimated allocations for various processes for 1975 and 1976, indicating the increases or decreases for each in terms of both costs and budget authority?

Dr. WHITE. I would be pleased to.

[The information follows:]

FUNDING ALLOCATIONS FOR COAL LIQUEFACTION

Category or Project	(In thousands of dollars)		
	FY 1975	FY 1976	Incr/Decrease
Direct Hydrogenation:			
Ebullated-bed	\$ 12,400	\$ 27,096	+ \$ 14,696
Synthoil plant	10,600	7,573	- 3,027
Zinc Chloride catalyst PDU	2,250	2,000	- 250
Other programs	3,138	1,811	- 1,327
Sub-total, Direct Hyd	BA 28,388	38,480	+ 10,092
	BO 17,100	39,020	+ 21,920
Solvent Extraction:			
SRC pilot plants	12,700	12,570	- 130
Co-steam Process	787	1,000	+ 213
Chemicals from coal	1,500	500	- 1,000
Other programs	1,500	6,320	+ 4,820
Sub-total, Solvent Extr.	BA 16,487	20,390	+ 3,903
	BO 7,852	19,985	+ 12,133
Pyrolysis:			
Clean-coke Pilot Plant	4,000	3,400	- 600
Project "COED"	3,000	500	- 2,500
Hydrocarbonization	3,600	800	- 2,800
Other programs	0	1,300	+ 1,300
Sub-total, Pyrolysis	BA 10,600	6,000	- 4,600
	BO 6,200	6,100	- 100
Indirect Liquefaction:			
	BA 4,800	4,000	- 800
	BO 2,700	4,000	+ 1,300
Design of Prototype Plant			
	BA 4,000	0	- 4,000
	BO 2,300	0	- 2,300
Support Studies & Eng. Eval.			
	BA 30,470	28,692	- 1,778
	BO 18,480	27,792	+ 9,312
Total Liquefaction			
	BA \$94,745	\$97,562	+ \$ 2,817
	BO \$54,632	\$96,897	+ \$ 42,265

* BA - Budget Authority

** BO - Budget Outlays

Senator ROBERT C. BYRD. In many instances, particularly in support studies, there is an unusually wide variance between budget authority and outlays. Why do you have such a big lag in liquefaction outlays?

Dr. WHITE. The wide variance between budget authority and outlays in our liquefaction subprogram in fiscal year 1975 is due mainly to the fact that we were beginning the construction phase of several projects, including the synthoil process development unit, and ebullated-bed pilot plant, and others. When starting projects like these, large obligations are incurred for equipment. Costs, dependent upon the leadtimes for various pieces of equipment, may not actually be incurred until months later. Our budget request for liquefaction reflects this catching up of outlays to obligations in fiscal year 1976.

HIGH-BTU GASIFICATION

Senator ROBERT C. BYRD. The operating request for high BTU gasification for 1976 is \$63.3 million in new budget authority. That's an increase of \$3.5 million over 1975, but in terms of costs it represents a

program decrease of \$15 million. Do you anticipate any large unobligated balance in this program at the close of 1976?

Dr. WHITE. We do not anticipate any large unobligated balance in this subprogram at the close of fiscal year 1976.

Senator ROBERT C. BYRD. The justification states that high BTU gasification is "the furthest along technically." Why then aren't you moving into the demonstration phase more rapidly?

Dr. WHITE. By "furthest along technically," we mean the most pilot plant experience with Government participation in this program. We are moving into the demonstration phase this fiscal year, and a request for proposals has been released.

Senator ROBERT C. BYRD. With five pilot plants in operation or nearing operation, when will ERDA be able to start making judgments on the best process or best combination of processes?

Dr. WHITE. We believe the request for proposals for demonstration plants, now on the street, will yield considerable information as to what is the best technology for scaleup.

HIGH-BTU FUNDING ALLOCATION

Senator ROBERT C. BYRD. As you did for liquefaction, please supply for the record how you will allocate, on budget authority and cost bases, your requested funds for high BTU gasification among the various processes and programs, showing increases and decreases.

Dr. WHITE. I would be pleased to supply that information.

[The information follows:]

ALLOCATION OF HIGH-BTU FUNDING

Category or Project	(thousands of dollars)		Increase or Decrease
	FY 1975	FY 1976	
Development of New			
Second Generation Technology			
a. HYGAS Pilot Plant	\$ 3,150	\$ 2,670	\$ - 480
b. Bi-Cas Pilot Plant	13,200	18,000	4,800
c. CO ₂ Acceptor Pilot Plant	2,000	1,330	- 670
d. Synthane Pilot Plant	8,600	7,000	- 1,600
e. Hydrane PDU	1,039	2,981	1,942
f. Self-Agglomerating Casifier Pilot Plant	3,700	3,340	- 360
Subtotal, Dev. 2nd BA *	31,689	35,321	3,632
Gen. Tech. BO **	30,141	23,785	- 6,356
Support Studies & Engineering Evaluation			
g. Steam-Iron Pilot Plant	6,400	11,200	4,800
h. Liquid Phase Methanation	2,000	166	- 1,834
j. All other studies	19,716	16,677	- 3,039
Subtotal, Supp. Studies & Engr.	BA 28,116 BO 27,700	28,043 19,053	- 73 - 8,647
Total High-Btu Gasif.	BA 59,805 BO 57,841	63,364 42,838	3,559 -15,003

* BA - Budget Authority

** BO - Budget Outlay

SENATE AUTHORIZATION SHIFT

Senator ROBERT C. BYRD. The Senate authorization, as you know, reduces your high BTU gasification operating request by \$5 million, shifting the funds instead into a demonstration plant for pipeline gas. What is your thinking on that proposal, Dr. White?

Dr. WHITE. Our original request for the high BTU gasification subprogram in terms of operating costs was \$42,838,000. This we believe represents an optimum balanced program comprising pilot plant operations, process development, materials and equipment development, and other supporting projects all leading to the demonstration plant phase. The Senate authorization, reducing the operating request by \$5 million, will necessitate a rather severe cutback in our support and engineering evaluation projects for this subprogram.

The Senate's shift of \$5 million from operating expenses to plant and capital equipment and the addition of another \$5 million to begin the construction phase of a high-British thermal unit gasification demonstration plant must be considered in light of the fact that the demonstration plant's subprogram budget request for operating expenses for fiscal year 1976 includes \$10 million in budget authority to initiate conceptual design of a pipeline gas demonstration plant.

If the additional \$10 million in plant and capital equipment funds authorized by the Senate are made available these funds would be utilized to procure long-leadtime items of equipment. The early placement of orders for long-leadtime items of equipment assures the availability of this equipment to meet the established timetable for the construction of the demonstration plant.

Senator ROBERT C. BYRD. If the reduction in high BTU operations is approved, where would you apply the \$5 million cutback?

Dr. WHITE. This reduction in funds would have to be absorbed through a redefinition of program objectives in the area of support and engineering evaluations. These programs contain projects that can be stretched out with an associated reduction in the level of effort and required funds. It should be noted, however, that any such stretchout may delay the development of key components required in any subsequent commercialization of the advanced coal gasification processes now being developed in the various pilot plants.

HYGAS PLANT

Senator ROBERT C. BYRD. Why has the Hygas plant in Chicago required such a long operating period? How much longer will it need to operate to accomplish its goal?

Dr. WHITE. Although the pilot plant stage in the development of the Hygas process was initiated in the fall of 1971 with completion of the facility, it should be remembered that in the subsequent 4 years of effort a number of first-of-a-kind problems associated with equipment materials and processing techniques have been solved in the development of this high pressure hydrogasification technique.

None of these problems could have been predicted through the operation of a smaller unit and the data being gathered in their solution fully justify the continued operation of the pilot plant. These

data are being evaluated continuously. Just recently the pilot plant has completed a very successful run using lignite that generated sufficient steady state data to establish the technical feasibility of this process.

The experimental program has advanced to the point that the processing of highly agglomerating bituminous coals is under investigation. It is estimated at this time that the remaining part of the experimental program will be completed by the end of fiscal year 1976 or during the first quarter of fiscal year 1977.

RAPID CITY PLANT

Senator ROBERT C. BYRD. I might ask the same question about the Rapid City plant. It was also completed in 1971, wasn't it?

Dr. WHITE. Yes, the pilot plant was actually accepted from the construction subcontractor at the end of 1971. However, it should be noted that it was not until late spring or early summer of 1972 that the shakedown activities were completed and the experimental program initiated. The subsequent operation of the pilot plant during which some 28 runs of varying lengths have been completed has produced solutions to a number of unique problems associated with this particular technique of coal gasification.

As in the case of the Hygas facility, the CO₂ acceptor pilot plant has been operated over periods of sufficient length to uncover problems that can be determined only by such operation. The data acquired to date which demonstrate a progressive evaluation of this process and which illustrate the advancements being made in its development are more than sufficient reason to justify the continued operation of the facility.

At this time it is anticipated that the remaining part of the experimental program will be completed by the end of fiscal year 1976 or during the first quarter of fiscal year 1977.

FUTURE OF HIGH-BTU GASIFICATION

Senator ROBERT C. BYRD. Despite advances in high BTU gasification technology and the large investment to date, isn't it true these processes are still more expensive and less efficient than other conversion technologies?

Dr. WHITE. The aim of our high BTU program is to develop a gasification process than can be applied to American coals and will be less costly and more efficient than existing (Lurgi) technology. We believe that our pilot plant program will lead to such a process.

It is true, however, that it is generally more expensive and less efficient to produce a premium fuel such as substitute natural gas, than it is to produce a boiler fuel.

Senator ROBERT C. BYRD. Is anyone in industry ready and willing to put up 50 percent of a demonstration plant cost on any of these technologies at this point?

Dr. WHITE. Our present request for proposals will reveal if anyone in industry is ready and willing to put up 50 percent of the demonstration plant construction and operation costs. We are not certain

whether the proposals will be on any one of our pilot plant technologies, some combination of them, or something involving a mix of government and privately developed technologies.

Senator ROBERT C. BYRD. The Senate authorization carried \$20 million for the pipeline gas demonstration plant. Would ERDA be able to obligate that kind of money in 1976? Using what process?

Dr. WHITE. We anticipate multiple contract awards out of our operating budget to initiate the conceptual design phase of the high-Btu gas demonstration project to define the process to be used. The additional funds authorized by the Senate under plant and capital equipment would be used to procure long-leadtime equipment.

LOW-BTU GASIFICATION

Senator ROBERT C. BYRD. The operating request for low BTU gasification is \$45.3 million in budget authority, a decrease of \$11 million. The costs, however, amount to \$51.6 million, which is up more than \$29 million over 1975. Dr. White, why is there this disparity between obligations and expenditures?

Dr. WHITE. In this case, as in others, the differences between obligations and costs reflect whether we are in design, construction or operation. A number of projects were heavily obligated in fiscal year 1975. This explains the costs to be incurred in fiscal year 1976 and the decreased obligational authority now requested.

Senator ROBERT C. BYRD. The large unobligated balances we discussed earlier were not programed into the original budget submission. Will they have any effect on your estimated obligations or expenditures for 1976 in any coal research programs?

Dr. WHITE. The unobligated balances are programed into the budget submission in the sense that projects planned for in fiscal year 1975 are now committed to contract action. The fiscal year 1976 budget proposal assumes the starting of all the projects and activities originally proposed in the fiscal year 1975 budget. The difficulty is that some of these have been started later than we had anticipated.

EFFECT OF SENATE AUTHORIZATION

Senator ROBERT C. BYRD. The Senate authorization reduces operating costs for low-British thermal unit gasification by \$2.5 million, but your comparison tables show no change in budget authority under the Senate figure? Why?

Dr. WHITE. The reduction in operating costs of \$2.5 million is a net reduction resulting from several changes made in the Senate authorization. Specifically, both budget authority and costs were reduced by \$10 million in the operating budget, while \$15 million in both budget authority and costs was added to the plant and capital budget for a low-British thermal unit gasification demonstration plant. Again, in the operating budget, \$10 million in budget authority and \$7.5 million in costs were added for underground gasification. The net result in the operating budget was no change in budget authority, and a reduction of \$2.5 million in costs.

Senator ROBERT C. BYRD. Where in the low BTU program would you allocate the reduction in the Senate authorization.

Dr. WHITE. The reduction would be applied to the development of gasification processes and would result in a stretching out of the projects included in this category.

TENNESSEE AND SOUTH DAKOTA PLANTS

Senator ROBERT C. BYRD. What are the timetables and total estimated costs of the two low BTU pilot plants planned for Tennessee and South Dakota?

Dr. WHITE. The pilot plant that had been planned for Tennessee was the fixed-bed gasification process. Tests at Westfield, Scotland, using the Lurgi fixed-bed gasifier have been promising and a major effort in this technology may not be warranted. Further testing of American coals will be conducted at Westfield and this work will make Lurgi technology commercially available for some American coals. This technology is available for noncaking coals and may be developed for caking coals in the next 2 years.

The South Dakota pilot plant is the pressurized entrained-bed gasification process. Final design has been started in January of this year and is expected to be completed in the fall of 1976. At that time procurement, site preparation and construction will be initiated after advertisement, bidding, and bid evaluation. Construction of the plant will be started in 1977 and completed in 1980. Operations are expected to be carried out for 2 or 3 years.

This schedule is different from those previously presented in that the plant is not operational until 1980. This reflects a change that has been made in long-lead item procurements. The industry team has had difficulty in the cost-sharing aspects of the contract and cannot provide one-third funding for the procurement. This prevents simultaneous design and procurement in this phase of the project and sequencing the activities adds 2 years to the schedule.

Alternative approaches are being investigated to reach some method to proceed with the project after the design is complete. These include soliciting new participation, new siting and changes in the scope of the project outside the major technology area of gasification development.

Total costs for this project through the operational stage are presently estimated at \$90-\$100 million.

Senator ROBERT C. BYRD. What industry participation do you have for this pilot-plant project?

Dr. WHITE. The industry team for the South Dakota project is headed by the Foster Wheeler Energy Corp. (FWEC) with the following participating team members: Northern States Power (NSP), Empire State Electric Energy Research Corp. (ESEERCO) and General Electric Co. (GE). I will provide for the record a detailed list of the cost-sharing.

[The information follows:]

Pilot plant participation

Government cost.....	\$5,790,000
Contributions:	
Foster Wheeler Energy Corp. (existing plant value).....	2,073,000
FWEC (profit re plant facility).....	57,000
FWEC (G & A and profit).....	598,000
NSP.....	44,000
ESEERCO.....	125,000
Total design phase cost.....	8,685,000
General Electric (Negotiations in progress).	

Senator ROBERT C. BYRD. Which above-ground low BTU processes appear most promising at this stage?

Dr. WHITE. The most promising above-ground low BTU process at this time appears to be fixed-bed. This could be existing Lurgi technology improved and advanced through the Westfield/Powerton projects. The MERC stirred fixed-bed producer all has near-term potential for greater throughputs and lower tar formations. Further developments will be required before this process is commercially available. Other improvements to the fixed-bed operation would be slagging mode, which can potentially give much higher production rates.

The atmospheric entrained-bed gasifier being developed is also considered a near-term candidate for commercialization.

Other processes under development are promising but will require an additional 2 to 5 years' development before they become commercially available.

LOW-BTU FUNDING ALLOCATION

Senator ROBERT C. BYRD. Again, please provide for the record a breakdown of the low BTU gasification program, by process.

Dr. WHITE. I will be happy to supply that information.

[The information follows:]

FUNDING ALLOCATIONS FOR LOW-BTU SUB-PROGRAM

Category and Project		(In thousands of dollars)		
		FY 1975	FY 1976	Incr/Decrease
Gasification Processes:				
Fluidized-bed Gasifier, Press.		\$ 8,000	\$ 8,000	\$ 0
Entrained-bed Gasifier, Atmos. pressure		3,000	550	- 2,450
Other processes		21,000	15,550	- 5,450
Sub-total, Gasif. Processes	BA	32,000	24,100	- 7,900
	BO	10,500	34,500	+ 24,000
In Situ Gasification	BA	6,487	4,991	- 1,496
	BO	5,640	4,400	- 1,240
ERDA/NASA Agreement: Liquid Hydrogen Production	BA	6,200	9,700	+ 3,500
	BO	0	10,000	+ 10,000
Support Studies & Engr. Evaluation	BA	11,793	6,598	- 5,195
	BO	6,168	2,771	- 3,397
Total, Low-Btu Gasification	BA*	\$56,480	\$45,389	\$-11,091
	BO**	\$22,308	\$51,671	\$+29,363

* BA - Budget Authority

** BA - Budget Outlays

UNDERGROUND GASIFICATION

Senator ROBERT C. BYRD. Why are you reducing the underground gasification program at a time when you are just beginning field work in eastern coalbeds?

Dr. WHITE. It is true that the budget request for underground gasification is less in fiscal year 1976 than in the preceding year. These figures, however, do not tell the complete story. We do not intend to decrease the funding for our in situ program in eastern coal. Work at the field site is continuing. The deviated wells are being drilled, and flow tests will be made to determine the suitability of the coal resource to optional process designs.

The budget reduction reflects an interim period where projects transferred from the Bureau of Mines and the Atomic Energy Commission were being consolidated into an integrated ERDA program. Now that our program has been firmed up, future budget requests will reflect our resource requirements for developing a viable in situ coal gasification process.

Senator ROBERT C. BYRD. Do you have any estimates on when underground gasification might approach the demonstration and commercialization stages?

Dr. WHITE. It is difficult to estimate the point of demonstration of underground gasification. Experiments underway at the present time in the West are very encouraging. We would like to be able to pursue this work. The coal reserves available to the country could be increased substantially by making available for exploitation large amounts of coal presently considered not mineable.

Senator ROBERT C. BYRD. What kind of industry interest do we have so far in underground gasification?

Dr. WHITE. We have proposals from industry involving cost-sharing to pursue underground gasification.

SENATE AUTHORIZATION CHANGE

Senator ROBERT C. BYRD. The Senate authorization report calls for a \$7.5 million increase in underground gasification, which would more than double your proposed effort. Do you think that can be used effectively?

Dr. WHITE. The increase would represent a substantial expansion of in situ coal gasification over what was originally planned for fiscal year 1976. However, the increased funds could be used effectively to test a novel in situ concept in a deep thick coalbed, test a process for relatively thin eastern coalbeds, provide for site selection and process evaluation leading to a pilot-scale project, and support exploration of new concepts as well as laboratory and systems studies.

Senator ROBERT C. BYRD. From what other low-Btu gasification program would you take the \$7.5 million?

Dr. WHITE. The \$7.5 million would have to come out of our efforts to develop above ground coal gasification processes for low-Btu gas and would impact adversely on the several projects currently underway or planned in this category. The effect would be to significantly stretch out these various projects and delay the attainment of stated goals in the low-Btu gasification subprogram.

Senator ROBERT C. BYRD. Do you think low-Btu gasification technology is far enough along to warrant the obligation of \$20 million for demonstration plants, as recommended by the Senate authorization?

Dr. WHITE. Yes. We will be issuing, shortly, a request for proposals for a low-British thermal unit fuel gas demonstration plant with conceptual design to be awarded by the end of fiscal year 1976.

ADVANCED POWER SYSTEMS

Senator ROBERT C. BYRD. The request for advanced electric power systems, as amended, totals some \$10 million in new budget authority, which is nearly \$6 million over 1975. On a cost basis, the request is \$6.8 million, also a large increase. When can we expect a commercial payoff on this program?

Dr. WHITE. The closest Advanced Power System commercialization would be the Open-cycle Gas Turbine, to be used separately or in a combined-cycle system. Technological readiness for this turbine will hopefully take place in 6 years, yet will precede the pilot plant stage. Commercialization would be at least several years beyond that.

Senator ROBERT C. BYRD. There is no industry support for this program at this time, according to your justification. When do you expect there will be contributions from the private sector?

Dr. WHITE. It will be 6-8 years before anything resembling a pilot plant reaches reality. Until this happens no contributions can be expected.

Senator ROBERT C. BYRD. What real achievements have been made to date in advanced power systems research?

Dr. WHITE. The aim of this subprogram is the development of efficient advanced electrical power generating systems using coal or coal-derived fuels. The open-cycle gas turbine has been identified as one of the most promising systems for reaching the subprogram goals. However, there exist major gaps between the present state-of-the-art and the technology level required to use this system with coal. Our efforts to date have been concentrated mainly in the area of systems evaluation, engineering design and cost-benefit analyses of alternative systems to select specific systems for pursuing further. In addition we have underway process studies, investigations on fireside corrosion, and materials and component development activities. Considerable effort will be required in these latter studies before we have the necessary materials and components that will be able to withstand the harsh conditions arising from the combustion of coal or coal-derived fuels.

Senator ROBERT C. BYRD. Can you more than double advanced power systems spending in one year and do it effectively?

Dr. WHITE. Our advanced power systems subprogram represents an accelerated, yet manageable, approach to the development of full-scale efficient advanced electric power generating systems using coal-derived fuels. The increased funds will permit appraisal of high-performance open-cycle gas turbine systems, the development of corrosion-resistant materials and components, development of hot-gas cleanup techniques and fuel chemistry and life-predicting studies. These studies are essential to improve the reliability of the open-cycle gas turbine operating in the severe environment of coal-derived fuel combustion and enable us to proceed to prototype systems sooner.

DIRECT COMBUSTION

Senator ROBERT C. BYRD. The operating request for direct coal combustion as amended totals \$45 million in new budget authority. This is nearly \$10 million over 1975 appropriations. The cost estimate of \$35.9 million is an even greater increase of more than \$15 million. But it would appear that both House and Senate authorizations hold you to your original budget request of \$38 million in budget authority, isn't that right?

Dr. WHITE. The actions to date by both the House and Senate authorization committees provide for \$38,096,000 in budget authority for this subprogram, the amount requested in the President's budget as submitted last January. However, the budget amendment submitted in July increased the request to \$45,096,000. We hope that the House and Senate conferees on the ERDA authorization for fiscal year 1976 will allow the amended request amount of \$45,096,000 for the direct combustion subprogram.

Senator ROBERT C. BYRD. There is considerable interest in the fluidized-bed boiler as a most promising technology for direct combustion. How much is requested for this work in total for 1976? Please supply details for the record.

Dr. WHITE. A large portion of the fiscal year 1976 budget request for the direct combustion subprogram is devoted to the fabrication of fluidized-bed boilers, both of the atmospheric pressure and the pressurized combustion chamber types. Presently, a 30-MW fluidized-bed boiler is being built at the Monongahela Power Co. plant at Rivesville, W. Va. The fiscal year 1976 request provides \$4 million in budget authority for this project. Conceptual design for a 200-MW atmospheric pressure fluidized-bed boiler will be underway in fiscal year 1976 and \$5 million in budget authority has been included in the budget for this effort. Finally, \$19 million in budget authority is requested in fiscal year 1976 to permit the initial development and design phases of a 20-MW-60-MW pressurized fluidized-bed combined cycle plant.

RIVESVILLE PILOT PLANT

Senator ROBERT C. BYRD. What is your timetable and total estimated costs for the 200-megawatt fluidized-bed pilot plant that is an outgrowth of the Rivesville operation in West Virginia?

Dr. WHITE. We expect to have a conceptual design for this plant in fiscal year 1976 and a final design in fiscal year 1977. Construction should begin in fiscal year 1978 and be completed in fiscal year 1981. The plant will probably be operated for 3 years. The total cost of the program is estimated to be \$150 million, half funded by industry.

INDUSTRY PARTICIPATION

Senator ROBERT C. BYRD. Industry participation in direct combustion appears to be minimal in your justification. What are you doing to encourage greater contributions?

Dr. WHITE. We have requested that the contractors share in the cost of the industrial applications and the combined-cycle pilot plant projects, in the amount targeted at 50 percent and 33 percent, respectively.

Senator ROBERT C. BYRD. When do you expect a commercial payoff from ongoing work on direct combustion?

Dr. WHITE. Our goal is to develop and demonstrate on a commercial scale by 1985 direct combustion of high-sulfur coals in an environmentally acceptable manner using fluidized-bed boilers. We believe that the goal, stated in ERDA's national plan, of 1 quad (10^{15} Btu) annually through direct coal utilization by 1985 is realistic.

Senator ROBERT C. BYRD. What, in your opinion, is the merit of a \$13 million demonstration plant program in fluidized-bed combustion, as proposed in the Senate authorization? Is it premature?

Dr. WHITE. ERDA's amended budget request for the direct combustion subprogram provides for the design of a 200-megawatt atmospheric pressure fluidized-bed boiler. We believe that the requested funds are adequate in fiscal year 1976 for achieving the stated objectives.

ADVANCED RESEARCH

Senator ROBERT C. BYRD. The request for advanced coal research and supporting technology is \$35.3 million in new budget authority, up about \$12 million from 1975. The cost increase is more than \$17 million. Why do you need such a sharp increase in this program?

Dr. WHITE. A significant part of the \$12 million BA increase in fiscal year 1976 is the \$5.4 million increase in systems studies. These studies are necessary to determine the optimum coal and shale conversion systems for further development and eventual commercial use. The systems, comprising all steps from mine to consumer use, must be cost effective, environmentally acceptable, and socially acceptable. The other increases are \$3.3 million for advanced materials and components, primarily in coal conversion processes; \$2 million for direct utilization of coal, primarily to study advanced combustion and power concepts; and \$1.4 million for advanced innovative coal conversion processes, in particular an RFP for producing gasoline from coal. The funding increases will be spent largely at 5 of the 6 ERDA energy research centers, the national laboratories, industry, and the universities.

Senator ROBERT C. BYRD. Your justifications state about 40 universities are involved in advanced research. Please identify those universities for the record and indicate how much research funding went to each in 1975 and for what type of research.

Dr. WHITE. I will be glad to provide a list of contracts with universities and estimated fiscal year 1975 obligations.

[The information follows:]

UNIVERSITY PARTICIPATION IN ADVANCED RESEARCH

<u>University</u>	<u>FY 1975 Estimated Obligations</u>	<u>Nature of Research</u>
Arizona, U. of	\$ 74,000	-Control of pollution from coal combustion
Brigham Young U.	203,000	-Kinetics of coal gasification -Catalytic methanation
Carnegie Mellon U.	258,000	-Synthesis of hydrocarbons -Enhanced oil recovery
Colorado Sch. of Mines	412,000	-Removal sulfur from coal -Enthalpy coal derived liq.
Delaware, U. of	632,000	-Desulfurization of coal- derived liquids
Denver, U. of	138,000	-Social, economic impact of coal process. plant
Houston, U. of	29,000	-Properties of crude oil- brine systems
Illinois, U. of	89,000	-Fluidized-bed combustion
Mass. Inst. of Tech.	675,000	-MHD
Montana U.	75,000	-Environmental effects of leaching coal conversion byproducts
Montana College of Min- eral Science & Tech.	407,000	-MHD
Montana State U.	1,298,000	-Hydrogenation of coal -MHD
New York State U.	244,000	-Hydrodesulfurization of coal
North Dakota, U. of	1,556,000	-Project lignite
Northwestern U.	66,000	-Properties of crude oil- brine systems
Oklahoma State U.	289,000	-Improved catalyst
Pennsylvania State U.	3,544,000	-Characteristics of coal -Underground coal gasif. -Enhanced oil recovery
Purdue, U. of	208,000	-Coal gasification
Prairie View, U. of	36,000	-Anthracite conference

University	FY 1975	
	Estimated Obligations	Nature of Research
S. Dakota Sch. of Mines & Technology	97,000	-Coal gasification
S. Calif., U. of	261,000	-Coal chemistry
Stanford U.	53,000	-MHD
Ames Space Center, U. of	2,000,000	-MHD
Utah Tech U.	61,000	-Oil shale research
Okla., U. of	24,000	-Enhanced oil recovery
West. V. of	2,764,000	-Coal liquefaction
Illinois Polytechnic Institute	376,000	-Underground gasification -Coal hydrogenation
Washington State U.	52,000	-Trace elements in coal products -Coal minerals
West. Virginia U.	449,000	-Coal conversion -Coal wastes -Underground coal gasif. -Enhanced oil recovery
Michigan, U. of	80,000	-Combustion of fossil fuels

Senator ROBERT C. BYRD. Your discussion of accomplishments under advanced research says very little about real accomplishments. What are the actual research achievements of this program to date, and what can we expect of it in the future?

Dr. WHITE. The major accomplishment has been that good, sound research programs have been started; the effort has not been underway long enough to produce significant scientific breakthroughs. Some of our results to date and an indication of the future can be supplied for the record.

[The information follows:]

ADVANCED RESEARCH AND SUPPORTING TECHNOLOGY

PROCESSES

High specific gasification rates, ten times those of commercial gasifier, have been achieved in the development of an advanced 2-stage coal gasification process supported by ARST. This bench-scale achievement is significant in reducing the final cost of product gas.

The direct, non-catalytic production of high grade distillate fuel from lignite has been demonstrated at the bench-scale. This novel and promising process produces minimum of 25 percent of the product as a gasoline quality fuel at moderate process conditions.

Development at the bench-scale of a new and improved process for the conversion of coal via synthesis gas (carbon monoxide and hydrogen) to an aromatic-rich high octane gasoline or blending feedstock for gasoline. The overall process involves gasification of coal to synthesis gas, conversion of the synthesis gas to crude methanol, and then catalytic conversion of methanol to an aromatic-rich, 95 research octane gasoline. The process, which has significant potential for supplying transportation fuels from coal, has advanced to the stage of preliminary pilot plant design.

In the future, we will carry on process development studies on a unique and promising process for the direct conversion of synthesis gas to high octane gasoline. A new catalytic gasification process, currently sponsored by ARST, produces a very high yield of methane in the gasifier and has potential for reducing the cost of high Btu gas from coal. A number of novel coal liquefaction processes are being initiated which increase efficiency and require less severe conditions than current processes. Catalyst testing and development studies have recently been initiated aimed at developing processes for upgrading crude coal liquids to distillate fuels. Current petroleum technology is not directly applicable and these programs will determine the changes that have to be made in refining coal derived liquids.

DIRECT UTILIZATION

This program began near the end of FY 1975 and is aimed primarily at innovative approaches to problems in coal combustion and power generation. Advanced concepts such as fluidized bed combustion and MHD are being pursued.

MATERIALS AND COMPONENTS

Testing of metals and refractories under operating conditions in ERDA's coal gasification pilot plants was initiated.

Three alloys were found that are able to tolerate the harsh conditions found within a coal gasifier.

Improved valves and valve materials were developed for the Morgantown Energy Research Center stirred-bed, low Btu gasifier.

UNIVERSITY PROJECTS

A computerized coal sample and data bank was established for supplying samples and data on more than 300 coals to other ERDA contractors.

Planning workshops were held and reports published on the university's role in coal research and on the development of advanced anthracite technology.

A computer program package to aid in the planning of an overall design of mines for an entire coal field was developed.

Among the anticipated future accomplishments of university projects are the following:

- A workshop report on the university's role in solving research problems in the area of petroleum, natural gas and shale will be prepared.
- Fundamental data will be developed on fly ash formation in coal-fired boilers. These results will assist combustion engineers in designing new boiler systems with improved resistance to slagging and fouling due to fly ash formation.
- Thermodynamic measurements of coal derived liquids will be obtained. These data are essential for the design of efficient coal conversion process units.

DEMONSTRATION PLANTS

Senator ROBERT C. BYRD. The operating request for demonstration plants is \$37 million in budget authority, of which \$18.1 million is programmed for costs. In addition, of course, there is \$20 million included for the Coalcon plant under "Plant and capital equipment." First, please give us the details of the three plants that are going through the conceptual phase—timetable, total estimated costs, target for commercialization, and investments to date.

Dr. WHITE. I will be happy to supply that for the record.
[The information follows:]

Clean Boiler Fuel Demonstration Plant

- (a) Timetable. The project will cover a period of 8 years and be conducted in four phases.

	<u>Start date - (Est.)</u>
Phase I - Preliminary Engineering	3rd Qtr. FY 1975
Phase II - Plant Engineering	FY 1976
Phase III - Plant Construction	1st Qtr. FY 1978
Phase IV - Plant Operations	4th Qtr. FY 1979

These four phases overlap to provide for timely completion of the project.

- (b) Total estimated cost. The 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 estimate is based on FY 1975 dollars and does not include escalation or contingency.
- (c) Target. This project provides for design and construction of a chemical process plant to convert high sulfur coal to a clean boiler fuel. The 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.
- (d) Funding to date. Appropriations to the previous Office of Coal Research through FY 1975 provided \$13,000,000 for the construction phases of this project.

Pipeline Gas Demonstration Plant

- (a) Timetable. The project will cover a period of 8 years and be conducted in three phases.

	<u>Start Date - (Est.)</u>
Phase I - Conceptual Design and Plant Design	4th Qtr. FY 1976
Phase II - Plant Construction	2nd Qtr. FY 1978
Phase III - Plant Operations	FY 1981

- (b) Total estimated cost. The very preliminary estimate for the Government's share for the demonstration plant is \$143,000,000, based on CY 1975 dollars. This estimate does not allow for escalation or contingency.
- (c) Target. This project is specifically directed to stimulate industrial production of pipeline gas from high sulfur coal, and demonstrate and transfer to industry commercial scale technology for converting coal to pipeline gas.
- (d) Funding to date. Initial direct funding for this project is included in the FY 1976 budget.

Fuel Gas Demonstration Plant

- (a) Timetable. It is estimated that the project will cover a period of 7 years and be conducted in three phases.

	<u>Start Date - (Est.)</u>
Phase I - Conceptual Design and Plant Design	4th Qtr. FY 1976
Phase II - Plant Construction	2nd Qtr. FY 1977
Phase III - Plant Operations	3rd Qtr. FY 1980

- (b) Total estimated costs. The very preliminary estimate for the Government's share of the demonstration plant is \$104,000,000 based on CY 1975 dollars. This estimate does not allow for escalation or contingency.
- (c) Target. This project is intended to demonstrate the feasibility of producing an economical clean fuel, and to demonstrate the use of this fuel in industrial processes where it may replace other fuel types such as LPG, methane, or petroleum liquids.
- (d) Funding to date. Initial direct funding for this project is included in the FY 1976 budget.

USE OF PREVIOUS APPROPRIATIONS

Senator ROBERT C. BYRD. The justifications, on page C-36, state that \$24 million appropriated in previous years for liquefaction will be used in 1976 for work on demonstration plants. Please explain that and identify the previous appropriations.

Dr. WHITE. The Supplemental Appropriations Act for fiscal year 1974 provided to the former Office of Coal Research \$7 million for the design of prototype plants. This amount was not obligated in fiscal year 1974 and was available for obligation in fiscal year 1975. In addition, the Special Energy R. & D. Appropriation Act for fiscal year 1975 included under the liquefaction subprogram, \$17 million for the design of prototype plant. The combined total of \$24 million available in fiscal year 1975 was utilized to initiate the demonstration plants efforts during the past fiscal year.

Senator ROBERT C. BYRD. Are you telling us you will utilize \$24 million in previous appropriations plus your request for \$37 million in new budget authority in 1976?

Dr. WHITE. Most, \$23.3 million, of the \$24 million was obligated in fiscal year 1975 for the fossil demonstration plants subprogram. The current request for \$37 million authority for operating expenses is similarly expected to be fully obligated. For example, awards of major contracts, for pipeline and fuel gas demonstration plants, are expected.

DEMONSTRATION PLANT COST ESTIMATES

Senator ROBERT C. BYRD. Please explain how you arrived at your cost estimate of \$18.1 million for demonstration plants. What is involved in the cost figure?

Dr. WHITE. We will provide that information for the record.
[The information follows:]

DEMONSTRATION PLANTS SUBPROGRAM BREAKDOWN

	<i>Million</i>
Clean boiler fuel demonstration plant.....	\$4.9
Pipeline gas.....	4.9
Fuel gas.....	4.9
Technical support studies.....	3.4
Total	18.1

Senator ROBERT C. BYRD. Your justifications break down the estimated costs of the demonstration plant. Please provide the estimated obligations as well.

Dr. WHITE. It will be my pleasure to provide that information.
[The information follows:]

ESTIMATED FY 1976 OBLIGATIONS FOR THE CLEAN BOILER FUEL DEMONSTRATION PLANT

	<i>Million</i>
Operating: Conceptual design.....	\$10
Plant and capital:	
Demonstration plant design.....	10
Long lead hardware procurement.....	10
Total	30

Senator ROBERT C. BYRD. What technologies will be employed in the two gasification demonstration plants?

Dr. WHITE. It is not possible to state the technologies, as this depends upon the contractor for these plants. He will be required to finance 50 percent of the construction cost of a plant, so the processes to be utilized in the plant will in a large part depend upon his judgment.

TRANSITION PERIOD

Senator ROBERT C. BYRD. In the transition period estimate for coal, your budget authority figures indicate an increased program for liquefaction but a sharp reduction in costs. Why is this?

Dr. WHITE. The amended fiscal year 1976 budget request for the liquefaction subprogram provides \$28,750,000 for obligations and \$16 million for costs during the transition period. The fossil energy projects administered by the liquefaction subprogram are mainly performed by contract and a lag does exist between the awarding of a contract and the initial recording of costs. Therefore, the costs estimated to be incurred during the transition period will result primarily from uncosted obligations from prior periods, in the amount of \$12 million. The estimated additional costs associated with new obligations recorded during the transition period are estimated to be \$4 million.

There is a distortion in the normal relationship of costs and obligations for a predominant contract program over a short time interval such as the transition period.

Senator ROBERT C. BYRD. The transition request for low BTU gasification shows a significant decline in costs. Why?

Dr. WHITE. The projects conducted in connection with the low-British thermal unit gasification subprogram are primarily by contractors. There is a lag between the time a contract is awarded and obligated, and the recording of initial costs for the contract. Therefore, the costs estimated to be incurred during the transition period will result mainly from uncosted obligations recorded in prior fiscal periods, \$4 million, with only moderate costs occurring from new obligations during the transition period, \$2,500,000.

Again, there is a distortion in the normal relationship of costs and obligations for a predominant contract program over a short time interval such as the transition period.

Senator ROBERT C. BYRD. What is the need for increasing the budget authority rate for direct combustion while estimated costs decline in the transition period?

Dr. WHITE. Our direct combustion program is undergoing considerable expansion. This is reflected in our request for increased budget authority in this item. We need this authority if we are to meet our program objectives which include the increased utilization of coal in the near term to help supply our Nation's energy needs.

The decrease in estimated costs for this transition quarter is a temporary phenomenon. It is related to the fact that costs may not actually be incurred for many months, dependent upon leadtimes for various types of equipment.

Senator ROBERT C. BYRD. There are apparently no funds included in your transition estimates to begin work on any new demonstration plants. Don't you at least contemplate moving into a direct combustion demonstration in fiscal year 1977?

Dr. WHITE. Funds have been requested within the direct combustion subprogram in fiscal year 1976 for a conceptual design of a 200-megawatt atmospheric pressure fluidized-bed boiler. We expect to continue this activity during the transition quarter.

PETROLEUM AND NATURAL GAS

Senator ROBERT C. BYRD. Let's go now to ERDA's program for petroleum and natural gas. The amended request for this activity totals \$36.8 million in new budget authority which reflects an increase of \$8.6 million over 1975. In terms of cost, the increase is about \$11 million. Dr. White, with oil prices being what they are, tell us why the industry needs this assistance.

Dr. WHITE. It must be made clear that the ERDA budget is not expended in such a way as to be an assistance or subsidy to the oil industry. Rather, it goes primarily for activities where there is little or no proprietary incentive such as procuring, storing, analyzing, and publishing field test data. These activities are considered necessary to accelerate the widespread, rapid application of new enhanced oil and gas recovery technology. In all of the ERDA-sponsored field tests, the industry participants have provided more support than the Government, their share providing all of the normal activities necessary for conventional oil and gas production and some of the research activities.

OIL AND GAS EXTRACTION

Senator ROBERT C. BYRD. The July budget amendment added \$4.7 million for seven additional field demonstration projects in oil and gas extraction. Where will these tests be conducted?

Dr. WHITE. Field demonstration projects in oil and gas extraction are acquired by a request for proposal procurement procedure and are primarily jointly funded by ERDA and the proposer. Through this procedure, the prospective proposer is informed of the type project and general areas of interest to ERDA. From the responses to such requests, projects are selected that satisfy ERDA's programed objectives best. Because of this procedure, it is impossible to predict which areas will be of sufficient interest to industry to participate in jointly funded projects. In the future, it may be necessary for ERDA to fully fund some field demonstration projects in order to specify

the location, but our current position is that more research can be accomplished and more meaningful projects can be acquired by industry's financial participation in projects.

Senator ROBERT C. BYRD. What will be your total obligations in fiscal year 1976 as compared to fiscal year 1975 in oil and gas extraction as requested in the amended budget estimate?

Dr. WHITE. The budget authority requested for fiscal year 1976 is \$34,929,000 which is \$8,560,000 more than in fiscal year 1975.

POTENTIAL OF OIL AND GAS EXTRACTION

Senator ROBERT C. BYRD. What is the potential payoff for enhanced oil and gas extraction? Isn't it one of the most attractive for the near term?

Dr. WHITE. In a very preliminary way, we have estimated the benefit/cost ratio to the public in the form of national savings to be in the range of a high of 25 to a low of 5. This does not mean that enhanced oil and gas profitability will be high for the oil and gas industry. For many years, the successful projects will be only marginally profitable. There will be some failures. Oil prices will probably have to rise if we are to produce tertiary or enhanced oil in large volumes. However, for the near term, enhanced oil and gas recovery from known existing sources is one of our best national options.

Senator ROBERT C. BYRD. I note in ERDA's 5-year projections, the petroleum and natural gas effort remains stable at the \$34 million level through 1980. Why is this?

Dr. WHITE. The \$34 million stable level can be considered a base level which should allow ERDA to start and perform the several field tests and field-test expansions thought necessary to assure broad-base application of the principal enhanced oil and gas recovery technologies. The project elements of the program are similar, and the Government's role is about the same in all, including the large-scale expansion projects, so that the Government's share in the costs are fairly level for the next 4 or 5 years.

ROLE OF PRIVATE INDUSTRY

Senator ROBERT C. BYRD. What is the extent of industry's direct participation in the Federal program to promote enhanced recovery? Please give specifics.

Dr. WHITE. Fourteen major contracts have been signed in the area of enhanced recovery of oil and gas. Of this number, 11 involve direct participation by industry. The total estimated costs of the 14 projects is \$53.7 million; industry contribution is \$33.2 million.

Senator ROBERT C. BYRD. With rising oil prices, why can't Federal support for oil and gas recovery be phased out over 5 years?

Dr. WHITE. Although oil prices are fluctuating upward, there still is no way of predicting where the price of oil will stabilize or when this may happen. The domestic petroleum industry is reluctant to commit large expenditures for enhanced oil recovery under such circumstances.

There is a finite number of investment dollars for every industry including petroleum. There has been, and the indications are that there

will continue to be, a preference within the industry to invest more money in higher-risk activities that may have an ultimate higher payoff, such as acquisition of and development of outer Continental Shelf oil leases.

The ERDA enhanced oil recovery program is aimed not only at encouragement of full field development of properties owned by the major companies, but also at the rapid transfer of technology to smaller companies that do not now possess the required R. & D. expertise and technology but do own leases on which enhanced recovery might be effectively utilized. If the ERDA-enhanced oil recovery program were phased out within 5 years, that technology would not be transferred and utilized because the results would not be available in time.

CAPABILITIES FOR INCREASE

Senator ROBERT C. BYRD. The Senate authorization, as you are doubtless aware, would raise oil and gas extraction to over \$58 million, much of it for additional demonstration projects. Could ERDA effectively administer such a program increase, and can industry be expected to respond with cost sharing?

Dr. WHITE. Our proposed budget for oil and gas extraction for fiscal year 1976 is about \$35 million. This figure was arrived at after evaluation of many factors such as supply of chemicals needed in tests, staff availability, and so forth. We believe that the requested authority would permit an orderly expansion of our enhanced recovery program with industry.

DEVONIAN SHALE

Senator ROBERT C. BYRD. What is the total amount in the amended budget request for stimulation of natural gas in Devonian shale formations?

Dr. WHITE. In the amended budget request, obligations for stimulation of natural gas in the Devonian shale formation are estimated to be \$3 to \$3.5 million.

Senator ROBERT C. BYRD. Could you effectively use the additional funding for Devonian shale authorized in the Senate bill?

Dr. WHITE. We probably could obligate the additional funds authorized in the Senate bill for massive hydraulic fracturing in the Devonian shale by entering into two additional MHF R. & D. contracts. A more orderly approach would be to learn the success of the first MHF three-well experiment now contracted for in the Devonian shale and use these data for more effectively planning the scope of work of subsequent Devonian MHF experiments.

COOPERATIVE PROJECTS

Senator ROBERT C. BYRD. Please supply for the record a listing of all current cooperative projects with industry in oil and gas recovery. Identify the participating firms and amounts involved.

Dr. WHITE. We will be glad to provide a list of current cooperative projects with industry in the area of enhanced recovery of oil and gas. [The information follows:]

OIL AND GAS RECOVERY COOPERATIVE PROJECTS

[In millions of dollars]

Project	Company	Total cost	Industry
Micellar polymer.....	Cities Service.....	7.1	4.1
Do.....	Phillips Petroleum.....	9.8	6.4
Do.....	Penn Grade Crude.....	4.4	2.2
Improved water flood.....	Kewanee Oil.....	3.9	2.7
Do.....	Shell Oil.....	7.4	5.2
Massive hydraulic fracturing.....	Columbia Gas.....	4.3	2.2
Do.....	CER Geonuclear.....	2.8	1.5
CO ₂ injection.....	Guyana Oil.....	3.2	2.0
Thermal recovery.....	Husky Oil.....	6.8	4.8
Do.....	Hanover Petroleum.....	3.0	2.1
Deviated well Recovery.....	Kentucky-West Virginia gas.....	.23	.05
Total.....		52.93	33.25

GAS AND OIL UTILIZATION

Senator ROBERT C. BYRD. I note your oil and gas utilization subprogram will continue at about the same obligational level for 1976. Why aren't you accelerating this work?

Dr. WHITE. It is in the area of product development and utilization that the oil and petrochemical industries vest most of their research capabilities. Therefore, we feel that expansion of ERDA's effort in this area is not warranted.

Senator ROBERT C. BYRD. Some of the oil utilization work involving automotive engines sounds much like that being financed under conservation. How is this work coordinated within ERDA?

Dr. WHITE. ERDA is concerned with developing fuels derived from basic fossil energy resources as well as reducing energy waste in operations involving extraction of the fossil energy source, processing the fuel from its raw material source, transporting and storing the fuel prior to its use and in the manner in which the fuel is ultimately used. There is constant communication between our fossil and conservation programs in performing these efforts. Items considered in effecting this coordination include relationship to programmatic mission, technical expertise and available equipment.

PROGRAM GOALS

Senator ROBERT C. BYRD. The justification for oil and gas utilization is vague on goals and expected payoff. What specific benefits can we look for in this program?

Dr. WHITE. The ERDA oil and gas utilization program consists of basic and applied research on natural and synthetic oil and gas to enable the Government to maintain expertise in the field. Our ongoing characterization studies on crude oils and crude oil products provide a unique source of information on the quality of the Nation's petroleum reserves, on imported oils, and on petroleum fuels marketed in the United States.

Work on the use of alternate fuels will provide valuable information on refining and utilization of synthetic crude oils from coal and shale.

Waste oil recycling studies could lead to improved technology that would make rerefining of waste lubricating oils economically attractive and eliminate a significant waste disposal problem.

Senator ROBERT C. BYRD. Supply for the record a listing of contracts financed under oil and gas utilization in fiscal year 1975, including amounts for each.

Dr. WHITE. In fiscal year 1975, we had no contracts under our oil and gas utilization subprogram. The utilization subprogram was conducted entirely in-house at our Energy Research Centers located at Bartlesville, Okla., and Laramie, Wyo.

At Bartlesville our program included studies to provide information on the quality of the Nation's petroleum reserves to improve their utilization; on ways to recycle waste lubricating oils; on improved refining techniques to obtain a finished product; on fuel/engine technology to obtain improved fuel utilization; and on the use of alternate fuels such as methanol and coal-derived oils.

At Laramie studies were conducted on heavy liquid fuels to solve problems involved in processing and utilizing these fuels, and on asphalts to improve their durability and their utilization.

OIL SHALE

Senator ROBERT C. BYRD. Going to your oil shale program, the request is for \$15.3 million in new budget authority, an increase of \$10.5 million. You are tripling this program. On a cost basis you are going from about \$3.5 million to nearly \$11 million. I note in the Holi-field table that you asked for \$5 million more than you got in the budget amendment. How would you have used that extra \$5 million?

Dr. WHITE. In the area of modified in situ retorting development, we anticipated supporting field development projects in cooperation with industry for both modified vertical and horizontal processes. These concepts are similar in that in both cases retorting would be carried out in a vertical manner, passing a combustion front or hot gases from top to bottom of a mass of rubblized shale. They differ in that the vertical dimension of the rubblized shale may be greater than the horizontal dimension. A greater vertical dimension may be obtained by mining a cavity at the bottom of a thick bed of shale, subsequently explosively rubblizing a column of shale overlying the cavity, creating in effect a chimney filled with broken shale. The horizontal concept represents what one would obtain when attempting secondary recovery from a preexisting mine by rubblizing the pillars with perhaps some floor or ceiling rubblization also. This concept can also be applied to primary recovery from medium thickness deposits through mining of parallel tunnels followed by rubblization of walls and ceiling with subsequent vertical retorting of sections of the mass in stepwise fashion.

We believe that industry acceptance of these concepts will require a minimum of two to three field demonstration projects for each concept as only a limited number of variables can be examined in any single test. The actual number of projects required will be a function of the scope of each. Projects that have been suggested or discussed by industry have ranged from \$10-20 million each over a 2 to 3 year period. Our presently anticipated budget of approximately \$15 million contains \$5 million considered available for industry contracts in this technology in addition to more fundamental supportive research to be

performed by National Laboratories and the Laramie Energy Research Center. Based on incremental funding, we could provide 50 percent of the annual cost of from one to two such projects beginning in fiscal year 1976. If the additional \$5 million had been available, we would have sought cost sharing contracts for from 2 to 4 such development projects, depending on the scope of proposed work.

EXPANSION CAPABILITY

Senator ROBERT C. BYRD. The Senate authorization would take this program up to \$25 million in costs, almost entirely for in situ processing. What is your capability there?

Dr. WHITE. We have proposals in hand or anticipated from six organizations for field development projects on in situ oil production and from two organizations for in situ gasification. Additionally, we have proposals from other organizations for major supportive roles. Based on the anticipated costs of such projects, we could not cover all of these projects on an obligational basis although we would expect to obligate the available funds. Furthermore, additional projects may be proposed in response to a program opportunity notice to be issued shortly, in advance of awarding contracts. The Energy Research and Development Administration is presently reassessing its position regarding aboveground processing technology. All of the modified in situ methods require surface processing of the portion of oil shale that is mined. No surface processes have yet been developed beyond semiworks level. One such process is presently being developed at ERDA's Anvil Points facility under private industry funding and shows promise of being one of the better candidates for commercialization. We have received indications that Government funding is needed to complete the semiworks development phase now underway to the point where a decision for scale-up to a commercial module can be made. This could represent an alternative opportunity for additional program funds.

If the decision is made to restrict funding for oil shale to in situ methodology, we could probably obligate all funds at a \$25 million level, but owing to the advanced state of this fiscal year and the lead time for procurement we do not believe that this level of costs could be incurred.

Senator ROBERT C. BYRD. Dr. White, what do you consider to be the potential of oil shale, and more importantly how soon could it be realized?

Dr. WHITE. Western oil shales of the Green River formation are estimated to contain the equivalent of 1.8 trillion barrels of oil. If only the higher quality components of the formation are considered, approximately 600 billion barrels of shale oil have been identified, using the 15-25 gallons of oil per ton of shale as a criterion. A 1972 study prepared for the Federal Council on Science and Technology estimated that a 5-million-barrels-per-day shale oil industry by the year 2000 was feasible based on water availability and requirements and assuming success of the Department of the Interior leasing program resulted in the industry getting underway by the late 1970s.

The more recent Project Independence Blueprint studies identified

current and proposed environmental regulations that could limit the ultimate industry size to a much lower figure, on the order of 1-2 million barrels per day. These estimates have assumed that both above-ground and in situ technologies are advanced to commercial use. Recent escalation of costs and economic uncertainty have resulted in delays in attempting to commercialize present technology. If the recently announced synthetic fuels commercialization program is implemented, it has been estimated that oil shale's share of this program would be three 50,000 barrel per day plants. Technical and economic success of these plants would be expected to result in private sector willingness to assume the financing of subsequent plants.

RELATED WATER RESEARCH

Senator ROBERT C. BYRD. Water is a big problem in oil shale development. How much of ERDA's program is directed at this phase?

Dr. WHITE. Water related research is conducted within ERDA under both the Assistant Administrator for Fossil Energy and the Assistant Administrator for Environment and Safety. Under Fossil Energy, approximately \$800,000 of the oil shale environmental program is directed toward water related problems of in situ processing. This includes field research on changes in quality of formation water affected by retorting operations and on migration of in situ fluids including water as it may affect the environment.

A project on leaching of spent shale under simulated in situ conditions is being performed at Texas Tech University. A project at the Laramie Energy Research Center is being conducted in cooperation with Battelle Pacific Northwest Laboratory under the Division of Biomedical and Environmental Research, in which effluents from the Laramie research scale pilot plants will be measured and evaluated. Experience from this project will be used for environmental site measurement at Rock Springs, Wyoming where in situ retorting development is in progress. Data from the Laramie water monitoring wells in the Green River Basin are being supplied to a computerized regional water data bank in cooperation with the Wyoming Water Resources Institute.

Under Environment and Safety, the Division of Biomedical and Environmental Research has \$444,000 in projects related to oil shale water problems. These include \$143,000 for hydrologic modeling and fluid flow through spent shale; \$235,000 for studies at the University of Colorado, Colorado State University and Colorado School of Mines on the distribution, behavior, and effects of trace elements from oil shale that may enter the environment; and \$66,000 to develop instrumentation for water tracer studies at Pacific Northwest Laboratory.

Senator ROBERT C. BYRD. What is the total Federal commitment to the water aspects of oil shale, including programs in the Interior Department? Do you think water research is adequate?

Dr. WHITE. We have identified \$5.4 million in fiscal year 1975 for water research projects related to oil shale conducted by the Federal Government. These projects include the \$700,000 in ERDA funds, \$1.2 million in hydrologic research by the U.S. Geological Survey, \$3.1 million for inhouse research performed by the Environmental Protection Agency, and \$400,000 for projects sponsored by EPA in other agen-

cies including the U.S. Department of the Interior, the U.S. Department of Agriculture, and the U.S. Department of Commerce. We believe that the program projections of these agencies for water research pertaining to oil shale represent an adequate commitment to this aspect of research on oil shale development problems.

INDUSTRY PARTICIPATION

Senator ROBERT C. BYRD. The justification for your oil shale budget amendment speaks of cost-sharing contracts with industry. Please expand on that.

Dr. WHITE. In 1974, the Bureau of Mines, as part of a study of accelerating in situ oil shale technology, issued a request for research ideas to industry. A number of proposals was received in response that gave an indication of private industry's present areas of interest and the funding levels that would be required to pursue field projects at a developmental level.

In addition to these proposals, new similar projects have been discussed with ERDA either informally or as unsolicited proposals. As discussed in response to an earlier question, ERDA expects to issue a program opportunity notice shortly whereby additional in situ oil shale research projects may be proposed. These would be evaluated along with the unsolicited proposals presently in hand and the most promising proposals will be selected for contract negotiations.

At the \$15 million funding level we anticipate being able to initiate two to three major field development projects, including one on gasification of eastern or midwestern shales and either one or two on modified in situ retorting technology applied to oil production from western Green River formation oil shales. The level of proposed work and degree of cost sharing acceptable by industry will determine the exact number of projects we can fund.

COMPOSITION AND CHARACTERIZATION SUBPROGRAM

Senator ROBERT C. BYRD. Please supply for the record a list of research contracts and the amount obligated for them in fiscal year 1975 under the composition and characterization subprogram.

Dr. WHITE. No research contracts were awarded in fiscal year 1975 under the composition and characterization subprogram. This subprogram consisted of four inhouse projects performed by the Laramie Energy Research Center. I will supply a list of the projects and respective funds obligated.

[The information follows:]

First, Process Evaluation from Product Characteristics—\$306,000, in which composition and quality of produced oils and gases are related to the operating conditions of the retorting process to gain improved understanding and control to optimize the process; second, Characteristics of Oil Shale—\$236,000, in which oil shale samples are obtained by drilling and coring at sites selected for potential field tests, and analysed for oil and mineral content to evaluate the suitability of the sites and guide field operations; third, Refining/Shale-Oil Gasification—\$210,000, in which bench-scale studies are made of the applicability of modern oil refinery techniques to the upgrading of in situ produced shale oils to useful end products and modifications to such techniques that may be required to obtain market acceptability for shale oils and their products; and fourth, New Process Technology—\$210,000, in which pioneering research is conducted on potential improved methods of converting oil shale organic matter

(kerogen) to useful energy. This project in fiscal year 1975 concentrated on the pressurized hot water-carbon monoxide reaction with results that appear particularly interesting in terms of sodium and aluminum mineral byproduct recovery in addition to very high recovery of energy values.

Senator ROBERT C. BYRD. How much is being spent by the Federal Government on the environmental problems involved in oil shale development? Please supply a listing of the amounts by agency.

Dr. WHITE. Environmental research programs of the Federal Government related to oil shale that we can identify totaled about \$8.4 million in fiscal year 1975. These programs include \$6.1 million in research by the Environmental Protection Agency, \$2.1 million by the Department of the Interior, and about \$200,000 in ERDA.

OIL SHALE MINING RESEARCH

Senator ROBERT C. BYRD. Since above ground retorting involves the mining of huge quantities of ore, do you consider ongoing mining research for oil shale to be adequate?

Dr. WHITE. We believe the Interior's mining technology program for oil shale, as developed by the Bureau of Mines, is comprehensive and needed for commercial development of both conventional mines and modified in situ processes, particularly as applied to deeper oil shales including the saline zone. However, advances in oil shale mining technology should result from modified in situ projects that we fund in cooperation with industry.

Similarly, the oil shale mining being performed under the ERDA lease of Anvil Points should result in improved technology. Also, the work to be performed on rock dynamics and explosive fracturing of oil shale will benefit oil shale mining technology although specifically directed at modified in situ bed preparation.

STATUS OF MAGNETOHYDRODYNAMICS

Senator ROBERT C. BYRD. The biggest part of your advanced research request—\$28.5 million—is for magnetohydrodynamics. How close are you to solving some of the serious problems involved in developing this technology?

Dr. WHITE. The problems facing MHD today are generally those associated with scale and those with materials and interactions between materials. Using existing technology as a basis, the present program, which is reflected in the fiscal year 1976 amended budget request, initiates an integrated engineering development effort. No apparent breakthroughs of a fundamental nature are seen to be required in this program. The problems are engineering in nature and are amenable to solutions under application of an appropriate development effort.

Senator ROBERT C. BYRD. Your justification speaks of taking MHD to a commercial demonstration in the 1980's. On what technological breakthrough do you base that estimate?

Dr. WHITE. Commercial demonstration of MHD involves addressing of engineering problems, especially those connected with component scaling and integration and to materials of construction and their interactions. This is not to minimize the difficulty of devising acceptable engineering solutions, but the scientific breakthroughs required as a basis for MHD development have already been made.

PROJECTED MHD COSTS

Senator ROBERT C. BYRD. The program for MHD includes development of an engineering test facility for operation by 1980. What is the total estimated cost of this facility, and to what extent is private industry sharing the cost?

Dr. WHITE. The total estimated cost for design, construction and initial startup of the Montana engineering test facility is about \$170 million. For the work to be undertaken in fiscal year 1976 covering conceptual design, no private industry funds are involved. This is consistent with the long-range, high-risk nature of MHD technology and the lack of a broad industrial base at the present time.

MHD TECHNOLOGIES

Senator ROBERT C. BYRD. What was the basis for selecting open cycle MHD systems for the engineering test facility?

Dr. WHITE. Open cycle MHD has received over the past two decades the major portion of development monies and for that reason its technology is farther advanced than either closed cycle plasma MHD or closed cycle liquid metal MHD. In addition, system studies have indicated that open cycle systems are potentially more efficient and less costly than their closed cycle counterparts, a conclusion reached more recently by the Energy Conversion Alternatives Study, a study on advanced electrical power generation systems undertaken jointly by ERDA, NSF and NASA.

Senator ROBERT C. BYRD. In terms of development how does MHD compare with alternative technologies such as Rankine topping cycles, organic bottoming cycles, and fuel cells?

Dr. WHITE. Probably the most advanced technical systems of the ones you have identified in your question are the organic bottoming cycles followed by the Rankine topping cycles and fuel cells. The least developed technically is probably MHD. It has the highest potential energy conversion efficiency.

INDIVIDUAL MHD PROJECTS

Senator ROBERT C. BYRD. How much of your MHD program is devoted to ongoing work at the University of Tennessee? Where does that project stand?

Dr. WHITE. The \$28.5 million requested includes the second installment of the funding required to maintain the work plan of the current University of Tennessee 3-year project, involving a total expenditure of \$8.1 million. This program is now beginning its fourth quarter of effort. In the past the University of Tennessee has demonstrated the operations of a direct coal-fired MHD generator with a coal combustor and 100 percent ash carryover. The present program is to extend this work to engineering problems of slag-seed management and involves a larger scale test facility to undertake tests which culminate in a 100-hour continuous run. The contractor currently has just acquired an architect/engineer subcontractor to begin work on this larger facility while concurrently obtaining experimental data from its existing laboratory scale equipment to study seed and slag removal from the MHD exhaust stream.

Senator ROBERT C. BYRD. Does your budgeted MHD program include work using surplus facilities in Mississippi?

Dr. WHITE. The facilities at Mississippi State University can be utilized effectively in support of the MHD program and work with them is under consideration.

Senator ROBERT C. BYRD. How much of your amended budget request is for work on the engineering test facility for MHD that is to be located in Montana?

Dr. WHITE. Competitive procurements will be let for the conceptual and preliminary design of the Montana engineering test facility. The request for proposals on this work was issued October 15, 1975. Funding will come from the Public Law 93-404 moneys appropriated in fiscal year 1975.

Senator ROBERT C. BYRD. To what extent is the University of Montana university system participating?

Dr. WHITE. The Montana State University at Bozeman and the Montana College of Mineral Science and Technology at Butte are currently participating in the MHD program in the area of supporting science and technology at a total funding of approximately \$1.7 million.

MHD FUNDING

Senator ROBERT C. BYRD. The Senate Interior Committee increased the MHD program to \$61.8 million in budget authority. Could ERDA effectively obligate that level of funding?

Dr. WHITE. ERDA is building up the level of MHD effort and structuring it as an integrated engineering program. The amended budget reflects the proper funding level for this buildup and redirection during fiscal year 1976 and the level in the budget authority recommended by the Senate Interior Committee is considerably above that needed immediately for the MHD program.

Senator ROBERT C. BYRD. Please submit for the record a detailed breakdown of the MHD program for 1976 showing where the money is going, to whom, and for what. Detail both the budgeted program and the increased program in the Senate authorization.

Dr. WHITE. I will be happy to provide that breakdown.

[The information follows:]

FY 1976 MHD PROGRAM

During FY 1975, the MHD program was organized and a shift in program emphasis from past exploratory and scientific approaches to an engineering oriented program was initiated. The MHD program plan is devised to take full advantage of past accomplishments and current development work. It provides for intensive developmental testing of components, integration of components into sub-systems, and finally integration into system tests in pilot scale engineering test facilities ETF. These ETF's will provide the basis for subsequent commercial demonstration. The program is divided into five program elements for open cycle systems plus an additional element for closed cycle systems. These elements together with the amended budget for 1976 is given in the following table.

MHD Program Elements and
Estimated FY 1976 Budget

<u>Open Cycle Systems</u>	<u>Obligations</u> <u>FY 76 Budget</u>
I. Preliminary Testing	\$ 9,500,000
II. System and Design Analysis	1,400,000
III. Component Development and Testing	15,054,000
IV. Engineering Test Facility	0
V. Supporting Science & Technology	<u>1,900,000</u>
Total Open Cycle	\$27,854,000
<u>Closed Cycle Systems</u>	
I. Closed Cycle Plasma	<u>690,000</u>
Total MHD Program	\$28,544,000

The program contracting breakout and contractor category for FY 1975 is given in the following two tables.

	<u>Obligated</u> <u>FY 1975</u>
AEDC #1542	2,125,000
AVCO #1208	2,375,000
AVCO #1789	24,088
AVCO #1738	7,706
ARGONNE NATIONAL LAB #1740	900,000
FLUIDYNE #1537	320,572
GE #1533	97,619
KELLOG #1233	20,175
MEPPSCO #1733	4,189
MIT #1209	53,697
MONTANA ENERGY INST. #1811	1,707,981
NAT. BUREAU OF STANDARDS #1230	565,500
RICHLAND/NORTHWEST NATIONAL LAB #1816	94,175
STANDFORD UNIV. #1227	53,000
STD RESEARCH #1211	395,934
STD RESEARCH #2001	400,000
UNIV. OF TENN. #1760	2,000,000
WESTINGHOUSE #1540	<u>810,000</u>
	11,837,616

MHD PROGRAM ELEMENT BY CONTRACTOR

Open Cycle Systems

I. Preliminary Testing	AEDC #1542, AVCO #1208, AVCO #1789, AVCO #1738, ARGONNE #1740, FLUIDYNE #1537, UNIV. OF TENN. #1760, WESTINGHOUSE #1540
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- | | |
|--------------------------------------|--|
| II. System and Design Analysis | AVCO #1208, ARGONNE #1740,
KELLOG #1233, MONTANA ENERGY
INST. #1811, STD #1211, STD
2001 |
| III. Component Development & Testing | AVCO #1738, ARGONNE #1740,
MEPPSCO #1733, MIT #1209, |
| IV. Engineering Test Facilities | (PROPOSALS BEING SOLICITED) |
| V. Supporting Science & Technology | MONTANA ENERGY INST. #1811,
NBS #1230, RICHLAND/NORTHWEST
#1816, STANFORD #1227, UNIV.
TENN. #1760, WESTINGHOUSE
#1540 |

Closed Cycle Systems

- | | |
|------------------------|------------------------|
| I. Closed Cycle Plasma | GENERAL ELECTRIC #1533 |
|------------------------|------------------------|

With regard to the increased program in the Senate authorization, no budget plans have been formulated for this level. ERDA is building up the level of MHD effort and structuring it as an integrated engineering program as described above. The level of funding recommended by the Senate Interior Committee is considerably above that needed for the build-up and redirection to be undertaken during FY 76.

ADDITIONAL QUESTIONS

Senator ROBERT C. BYRD. Senators Magnuson and McGee have submitted some questions for the record.

[The questions and answers follow:]

QUESTIONS SUBMITTED BY SENATOR MAGNUSON

SEATTLE'S URBAN WASTE PROJECT

Question. Seattle is proceeding with plans to recycle 550,000 tons of municipal waste into approximately 110,000 tons of methanol and ammonia each year. The project will save significant quantities of natural gas presently used to produce methanol and ammonia. This project will have three benefits: it will solve the environmental problems associated with solid wastes; it will help relieve the natural gas shortage; and it will increase supplies of important chemicals. The increased methanol production will have direct applications as a fuel for vehicles in lieu of gasoline. What plans does ERDA have to support this and similar projects?

Answer. We have been following the development of the Seattle Project and have met several times with the project representatives. We do not have a request for assistance from the project sponsors. There are not funds in the budgeted program to provide significant assistance to projects of this scale. We plan to conduct work in the pyrolysis process which could provide feedstock gas for follow-on chemical processes to produce methanol or ammonia but we do not plan work on those chemical processes which are established technology.

Question. How much money in your budget have you programmed for methanol/ammonia/solid waste recovery projects?

Answer. Within the budgeted program very little work would be done on pyrolysis in this year other than an assessment of the technology.

Question. How much money above the budget request could you constructively use for such projects?

Answer. Within a \$5 million program, as in the Senate authorization, we would invest about \$0.5 million on development of pyrolysis processes.

QUESTION SUBMITTED BY SENATOR MCGEE

LARAMIE RESEARCH CENTER

Question. Would you please provide a complete breakdown of your funding for fiscal 1976 for the Laramie Energy Research Center. What are your long-range plans for the development of this Center?

Answer. Our latest estimate of operating expenses for the Laramie Energy Research Center in fiscal year 1976 is as follows:

Program (estimated) :	<i>Thousands</i>
Oil shale.....	\$4, 535
Oil and gas extraction.....	1, 230
Utilization	270
In situ coal gasification.....	2, 500
Total	8, 535

The Laramie Energy Research Center is staffed by highly skilled scientists, engineers, and technicians with a long history of accomplishments in the production and utilization of fossil fuels. ERDA will rely increasingly on the Laramie Center for new ideas, new data, and new processes to better utilize our fossil energy resources. In particular, Laramie will be deeply involved in the development of in situ techniques and processes for recovering the energy values from coal seams and from oil shale deposits so that these resources can be used more fully with minimum adverse impact on our environment.

COAL LIQUEFACTION VS. GASIFICATION

What is the status of your investigations regarding the feasibility of coal liquefaction vs. gasification? Are there any new technological breakthroughs?

Liquefaction and gasification of coal are not competing activities. Our economy demands both liquid fuels and gaseous fuels. Actually, providing both fuels simultaneously tends to improve the utility of certain coal conversion processes. For example, the Coalcon process which is the basis of a Demonstration Plant, converts coal into approximately equal quantities (in fuel value) of gaseous and liquid fuels. Such combined processes may result in major forward progress towards lower cost conversion of coal.

How is ERDA attempting to coordinate and continue the research and development efforts that had been under the auspices of the Office of Coal Research. Specifically, how is R&D slippage to be avoided in this transition of authority and responsibility.

As you know, ERDA absorbed the energy R&D functions of the former Office of Coal Research as well as those from the Bureau of Mines. Naturally, we have experienced some interruptions in our activities resulting from the transition of these two groups into ERDA. However, we are now well along in developing a set of procedures within the ERDA environment and our contractual research program is operating smoothly.

What is ERDA doing to support scientists and technicians with energy expertise? This pool of talent is indeed small given current R&D demands. Do you have any projections for personnel requirements in this field?

ERDA-Fossil Energy is supporting the expansion of the manpower base with energy expertise by encouragement of proposals from academic institutions throughout the country. During the past fiscal year the level of effort in universities increased from \$3.2 million in FY 1974 to \$8.3 million in FY 1975 and is projected to increase to about \$11.3 million in FY 1976, with about \$4 million to be devoted to several large university MHD projects. With regard to projections of future personnel needs in this field, ERDA-Fossil Energy is currently undertaking a consultant study on this subject. Results and recommendations from this study are anticipated to become available in early November 1975.

What provisions have you made for ongoing technological assessments of energy research so that the most feasible programs and research efforts may be supported?

The answer is several-fold: Research proposals received from industry, Government laboratories, and universities, are screened by operations inside ERDA and by outside reviewers to ensure that the experimental approaches are sound

and that the results are consistent with ERDA's overall goal to provide clean energy at a low cost. Those proposals that qualify are then funded consistent with budget limitations and priorities.

Ongoing research is monitored closely by ERDA experts to make sure it conforms to the objectives and to provide immediate technology transfer to the energy industry.

Close liaison is maintained with the energy industry and existing ERDA pilot plant operations so that research can be initiated as soon as there is a need.

Designs of the various fossil fuel conversion pilot and demonstration plants are reviewed to ascertain that the materials and components used are durable and will function reliably.

With what types of organizations and with what Government agencies will you contract for R&D? Please supply specific details.

The Fossil Energy programs require that a considerable amount of research and development be done through contracts. Our contractors include Universities, non-profit research organizations, industry and private individuals. In some instances the contractor or the industry contributes funds toward the total cost of the project. For example, the Coalcon contract to construct a demonstration plant for low-sulfur boiler fuel requires 50 percent funding by the contractor.

An analysis of some 80 contracts made in fiscal year 1975 shows that 20 were with Universities or non-profit research institutions, 53 were with industry or individuals, and 7 were with other Government agencies.

SUBCOMMITTEE RECESS

Senator ROBERT C. BYRD. It may be necessary for us to come back once we have the determination of several unresolved issues contained in the authorizing legislation. I hope it won't be necessary because there is obviously a need to move the budget along as soon as possible. I thank you, Dr. White, and Mr. Heller, for your statements and I realize that you are confronted with considerable difficulty in putting together so many new programs and so many new efforts.

You gave us some fine testimony today and as of now we will recess until 10 a.m., Thursday, when we will hear the budget estimates of the Federal Energy Administration.

[Whereupon, at 5 p.m., Monday, October 6, the subcommittee was recessed, to reconvene at 10 a.m., Thursday, October 8.]

**DEPARTMENT OF THE INTERIOR AND RELATED
AGENCIES APPROPRIATIONS FOR FISCAL YEAR
1976**

THURSDAY, OCTOBER 23, 1975

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, D.C.

The subcommittee met at 10:15 a.m., in room 1114, Everett McKinley Dirksen Office Building, Hon. Robert C. Byrd (chairman) presiding.

Present: Senators Byrd, Stevens, and Bellmon.

FEDERAL ENERGY ADMINISTRATION

**STATEMENT OF FRANK G. ZARB, ADMINISTRATOR, FEDERAL
ENERGY ADMINISTRATION**

ACCOMPANIED BY:

JOHN A. HILL, DEPUTY ADMINISTRATOR

ERIC R. ZAUSNER, DEPUTY ADMINISTRATOR

**THOMAS E. NOEL, ASSISTANT ADMINISTRATOR, MANAGEMENT
AND ADMINISTRATION**

**WILLIAM G. ROSENBERG, ASSISTANT ADMINISTRATOR, ENER-
GY RESOURCE DEVELOPMENT**

**GORMAN C. SMITH, ASSISTANT ADMINISTRATOR, REGULATO-
RY PROGRAMS**

**MELVIN A. CONANT, ASSISTANT ADMINISTRATOR, INTERNA-
TIONAL ENERGY AFFAIRS**

**ERNEST E. SALISBURY JR., DIRECTOR, OFFICE OF BUDGET
AND FINANCIAL MANAGEMENT**

REVISED BUDGET REQUEST

Senator ROBERT C. BYRD. The subcommittee will come to order.

This is the time set to hear the fiscal 1976 budget estimates of the Federal Energy Administration, which are in the final process of being amended.

We have held up this hearing so that the full budget request would be in front of us. Now I am told the FEA's budget amendment has still not been transmitted to the Congress. However, the committee has the assurance of FEA officials that the amendment has been cleared through to the White House and is expected to be signed momentarily. Accordingly, we will proceed on the revised request, details of which have just been supplied to the committee.

[Note: The amendment was subsequently transmitted, Senate Document No. 94-113.]

Senator ROBERT C. BYRD. It was because of the uncertainty surrounding the FEA budget request that it has been necessary to delay this hearing to such a late date. The original budget submission was little more than a skeleton that did not cover such program needs as petroleum allocation and other matters that have been awaiting a legislative determination.

The original budget submission of the FEA totalled \$112.4 million, which was a reduction of \$17.6 million in the fiscal 1975 program funding. This request did not adequately address the problems of petroleum allocation and compliance, among other things. The budget amendment more than doubles the original request, taking it up to \$260 million.

That new total represents an increase of \$130 million over 1975, and the bulk of that dollar increase is for FEA's conservation and environment activity.

PREPARED STATEMENT, BIOGRAPHIES AND JUSTIFICATIONS

The justifications for the initial budget submission have been included in part 2 of the hearing record. We will have the prepared opening statement of Administrator Zarb and biographies of principal witnesses, together with the justifications for the \$147.6 million budget amendment included in the record at this point.

[The information follows:]

STATEMENT OF FRANK G. ZARB

Mr. Chairman and Members of the Committee, I appreciate this opportunity to appear before you to discuss the budget requirements for the Federal Energy Administration in FY 1976.

As you know, the President's budget estimate prepared more than a year ago for FY 1976 requested only \$112.4 million and a phased down staffing level of 1715 positions. This budget level was based on the assumption that the Emergency Petroleum Allocation Act (EPAA) would expire on August 31, 1975, eliminating all regulatory activity associated with the EPAA except for a very limited follow-up compliance effort. Further, the level requested assumed only limited increases in our conservation programs over the FY 1975 levels and, actually, a slight reduction in the support of our resource development activities.

In hearings before the House Appropriations Subcommittee in May, I stated that because the assumptions on which the budget had been based had not been realized, this budget was not adequate to support the known requirements of the Administration's energy program. I requested that it consider our budget request with the understanding that it was essential to continue the current level of operation and that a request for additional resources to support this activity would be developed and presented in the first supplemental increment for FY 1976.

After reviewing the request, the House allowed the requested 1715 positions but reduced the financial support by \$14 million to only \$98.5 million. I appealed this action in my August 29, 1975, letter to your Committee.

Over the past several months, my staff has worked to develop an agency operation plan that would sustain FEA's legislated energy programs with the minimum essential resources. The resulting amended budget before you today is our statement of the minimum resources required. However, the future of allocation and price control programs remains to be decided. Included in this amendment are \$2.9 million and 105 staff years to operate the allocation and pricing programs through November 15, 1975, which represents a straight 75 day extension of FY 1975 base resources.

After November 15, we will review our position and develop a supplemental request either to support a modified program or to provide for the expenses associated with an extended regulatory program.

We recognize the desire of both the Congress and the President to reduce Federal spending wherever possible. Therefore, we have limited our amended request to 3200 positions and \$260.1 million for the period ending June 30, 1976. The modifications to the President's Budget center on three major program areas: compliance activities, conservation programs and resource development initiatives. The remaining minor adjustments will provide for the administrative personnel necessary to support these expanded programs.

First, I will address the compliance programs for which FEA has a clear mandate. It is essential that we provide a program that will insure compliance with FEA's regulations and the identification of violations that have occurred while regulations were in effect. If we were to complete the investigation or audit of every firm in the energy industry during the regulated period, in a single year, more than 9,250 compliance staff and field positions and additional litigation and appeal staff would be required. The program that we currently propose provides

targetted and limited sampling coverage across the various sectors of the energy industry with emphasis on the major producers and refiners, supplemented by a representative sampling of the mid-sized and smaller firms. The program will result in more intensive audits of major refiners, small refiners, crude producers, natural gas liquid firms, wholesalers and retailers.

We believe that this balanced program will provide the necessary coverage of the regulated industries to insure that the regulations were complied with while such regulations were in force, and that the necessary remedial actions are taken. If this effort is not undertaken, the government will establish a dangerous precedent for future regulatory activities and the FEA will fail in fulfilling its Congressional mandate.

The effects of FEA's price and allocation regulations touch the pocketbooks of every American--each one has been affected by the increases in energy costs over the past two years in both their personal and business lives. Our proposed compliance program is essential to ensure that the consumer's interests are protected and that businessmen who complied with the regulations are not disadvantaged by those who did not. We cannot avoid higher energy costs, but we can and must be sure that those costs are no higher than allowed by law.

Last June I testified before the Congress on needed improvements in the agency's compliance program. As a result of these hearings and the General Accounting Office report of its investigation into the compliance program, we modified and accelerated the Compliance Improvement Plan that had been developed at my direction soon after I joined the agency. This includes the hiring of our full staff authorization, the development of a targetting system for the identification of firms to be audited, more intensive training of our staff in both audit procedures and the

requirements of the EPAA related regulations, and improved procedures for the effective management of the program. A number of these improvements have already been made and the remainder will be in place by January 1976. At that time, the audit staff will be fully ready to begin the EPAA wrap-up program under significantly improved procedures and management control.

This program will continue beyond FY 1976; however, our program for this fiscal year, we will dedicate 1054 staff years and \$24.8 million to the overall compliance program. As I mentioned earlier, these amounts assume total decontrol of both price and allocation on November 15, 1975. In fact, the Administration has requested authority to continue price and allocation controls over propane because of its key role as a substitute for natural gas curtailments. Moreover, we hope to reach an acceptable compromise with the Congress on the decontrol of crude oil prices. Depending on the form of this compromise, additional allocation and compliance staff will be required to implement its provisions.

The goals of almost every energy program include immediate action to promote efficiency in the use of energy resources. To meet this need, we have developed an expanded energy conservation program for FY 1976 to supplement our legislative proposals. This program concentrates on six major areas: residential buildings, commercial buildings, industrial processes, transportation programs, utility efficiency, and consumer education. Overall, our program will require 316 positions and \$141.6 million to be implemented effectively.

Our present conservation programs have not been adequate to meet this national requirement. Furthermore, the opportunities for increasing the efficiency of energy use are little understood. Because of the adverse

impacts of the recent period of "stagflation" on capital availability, neither industrial, commercial nor private consumers have been willing to commit themselves to significant initial investments in energy conservation projects despite demonstrated long-term benefits. The proposal for the Energy Independence Authority recognizes the need for large scale capital investment in high risk, new technology conservation and resource development projects--our programs recognize the need for no-cost and low-cost conservation programs for energy consumers utilizing existing technology.

The problem we face in conservation can be very simply stated: We have to get the ultimate consumers--the people--involved.

To do this, we will provide them with highly specific opportunities and suggestions to save energy costs. Our experience over the past year has shown that over 85% of the population perceives the need to save energy but is uncertain what methods to employ and what the estimated savings would be. We must get this technical information to the consumer in usable form.

Our programs will provide the homeowner the costs and savings of each possible improvement action to insure that they make the best changes in their homes based on particular weather conditions, fuel costs, and building structure. PROJECT CONSERVE will expand the FY 1975 questionnaire demonstration programs and will initially provide detailed residential conservation guides to ten (10) million of the 50 million private homes in FY 1976.

Previously proposed legislation has included incentives for individual conservation actions. For example, our weatherization program, proposed by the President in conjunction with the previous budget submission, would provide \$55 million to low income families to offset the costs of residential conservation actions. The proposed tax credit would provide financial incentives to other private homeowners for residential conservation investments. The proposed national building standards for energy consumption would insure that all new construction fully utilizes known technology to substitute materials and better design for fuel use.

Our industrial and commercial programs will provide energy efficiency technology to businessmen through a series of seminars designed to reach the key people in over 20 thousand of the largest business establishments. Through this program, we will provide these businessmen with practical information to allow them to make no-cost or low-cost modifications to their current energy use practices that will result in savings in both energy and operating costs of the firm. In providing this information to industry, we are at once both educating the business consumers in energy conservation techniques and utilizing the classic free market laws of supply and demand to provide financial incentives. When all firms faced the same increased energy costs, they were not motivated to adopt energy conservation programs or to make an initial investment in conservation actions. They still maintained parity in the marketplace. Our practical conservation technology will result in reduction in operating costs of the user firms--thus giving them a competitive edge, and causing all firms to effect similar cost reducing changes. This program will provide savings in energy consumption and industrial operating costs as well as residual pass through savings to the individual consumer.

The transportation sector, while an obvious area for conservation actions, has proven a most difficult one to change in the short run at a reasonable cost. While we will continue our studies of transportation mixes and car and truck efficiency standards, we believe that we must further

expand our activity in this area. Through data from several private industry demonstration projects, we are convinced that by organizing commuters into vanpools--principally using vans owned by their employing firms--we can achieve significant gasoline savings together with numerous external benefits. This program will provide a viable alternative to the single person commuter automobile and could result in a major change of our current transportation habits. Our primary emphasis in this program area will be one of education--providing the operational know-how to employers and civic groups that would be interested in sponsoring vanpool programs. As with the industrial programs, most of this will be accomplished through seminars. We believe that this program has the potential of saving about 200 thousand barrels of gasoline a day by 1980 if properly supported in the interim. Vanpooling is an innovative concept that should be given full consideration in transportation conservation programs.

In distributing approximately one-half of the total end-use energy in the United States, the gas and electric utility industries account for roughly one-quarter of our total energy consumption. Substantial inefficiencies remain in the generation, transmission, distribution, and end-use of electricity and natural gas. The Utilities Conservation Action Now (UCAN) program--initiated in August, 1975--was designed to elicit the active participation of utilities, regulatory agencies, consumers and environmentalists in achieving our energy goals. The ultimate goal of our utilities program is to encourage the electrical utilities to reduce their reliance on petroleum energy sources. An effective strategy to accomplish this is a combination of load management and end-use conservation. Among the tools we have available for this strategy are: (1) peakload pricing to encourage use of electricity at "off-peak" times, thus reducing the utility plan expansion requirements, (2) heat storage devices for space heating of hot water to enable consumers to take advantage of the lower "off-peak" rates, (3) control devices to cut off unessential high wattage appliances in peak periods, and (4) accelerated conservation activities including insulation financing, clarified billing procedures, and consumer education. This program will reduce the peakload requirements, thereby reducing both the plant capacity requirements and the total demand for electrical power.

Throughout our conservation programs, we have identified consumer education programs as key to our success. We have attempted public service advertising campaigns in the past which have not left a lasting impression on the target audiences. We have proposed a professionally designed marketing and advertising campaign for FY 1976 that would support both the programs outlined in the earlier discussions and major marketing of the national conservation concepts. This program will include mass media advertising through prime time television, magazines and newspapers in addition to the preparation of more traditional conservation education kits appropriate for use in schools, civic meetings, and similar activities. We believe that this multi-faceted program will bring the opportunities of conservation to the people. With the conservation information provided, they can accelerate their actions to save increasingly expensive energy.

Conservation cannot provide the total answer to our energy problems. It can only reduce the quantities of new supplies required and buy us time in which to develop them--but additional energy sources will still be needed. To support our resource development effort, I am requesting 326 positions and \$15.4 million. Our programs in this area will center on a project approach to the expanded development of fossil, nuclear, synthetic, and alternative fuels and electricity through the identification and

alleviation of the current impediments to their development. This project approach will emphasize the development of energy projects on an individual basis--with the total of all efforts resulting in the achievement of our resource development goals.

Currently, the most significant constraint to the development of additional energy resources is capital availability. We will specifically focus on this problem through analysis of financing requirements for the energy industries and developing appropriate long and short term incentives to support expansion of domestic energy resource development. This information will be used in the development of financing recommendations to the Energy Independence Authority, should this financing activity be approved by Congress. If not, we will use this information to develop alternative solutions to development financing requirements. While examining financing requirements, we will also specifically examine other institutional constraints on energy supply expansion. Based on preliminary work in this area, we know that as many as fifty federal, state and local approvals must be obtained for a single energy project. We will identify each of the current approval requirements, develop an expedited system for energy project approval, and seek to obtain federal, state and local government acceptance of the expedited processess.

We believe that the greatest impact in energy supply expansion can be made through the improved management of traditional fuel sources-- natural gas, coal, oil, and the outputs of our public utilities systems. A task force has been established to coordinate the Federal effort in managing our projected natural gas shortfall during the coming winter. This shortfall is estimated at 1.3 trillion cubic feet of natural gas. The program we have developed will identify alternative fuels for curtailed users and will develop a strong program for future conservation of natural gas.

In our non-nuclear fuels development program this project management approach will focus on the expansion of energy resources through the encouragement of production from surface and deep coal mines, the commercialization of synthetic fuels, solar and geothermal energy sources. One example of our efforts will be to inform small industries, businessmen and the public on techniques of ordering coal. Resource development constraints will be examined, and, where appropriate, administrative actions will be taken. If necessary, additional legislation clarifying uncertainties in legal procedures and regulatory processes will be proposed.

Our nuclear energy activities will have three major focal areas. First, work will be directed at improving the productivity of existing nuclear power plants and accelerating the construction of additional facilities. Second, we will address factors that are inhibiting commitments to nuclear growth. These include closing the fuel cycle, expanding enrichment capacity, and improving the efficiency of the licensing process. These actions and others in the area of financing, will be incorporated into an integrated program. Finally we will report to the public the case for nuclear growth as a vital part of our national energy policy.

This public education role will examine the nuclear role in energy policy in an unemotional, technically accurate way. Ours is the only federal effort to integrate the present state of the art in this important area. We cannot wait for additional research and development activities before turning to this essential energy source.

Bearing a close relationship to our support of nuclear power utilization and the UCAN program is our program for replacement of our oil and gas

burning electrical generation facilities with plants which are powered by coal or nuclear fuels.

The use of readily available coal to generate electricity makes the transfer almost ideal in terms of our national goals. We have in the past ordered fuel source conversions from petroleum to coal under the authorities of the Energy Supply and Environmental Coordination Act. Although this statutory authority has lapsed, we anticipate its extension or enactment of similar statutory authority, and will continue to encourage fuel source conversions that will transfer our requirements to this available energy source.

The Federal Energy Administration is providing the program nucleus for the Energy Resources Council Interagency Task Force on utility construction acceleration. This group will work to develop federal policy regarding all resources required for the construction of power plants--to include land use for siting. This background information will be essential to the support of utility plant expansion in the future and should result in clearly defined Federal actions to facilitate utility plant expansions.

These three major program areas--regulation, conservation and resource development--account for the bulk of our operational activity. In addition to these activities, however, we represent national energy policy and programs in our international relations both with consuming and producing nations. This role will be essential for as long as this nation depends significantly on oil imports. Our international energy activity works in multilateral and bilateral contexts to minimize American vulnerability in this period of increasing energy and economic interdependence. We have been a vital factor in the development of the eighteen-nation International Energy Agency and will continue to assist in the leadership and policy direction of this major multilateral organization to protect the industrial nations from energy blackmail. We will continue our bilateral contacts with both Canada and the Soviet Union--the latter in connection with the US-USSR Energy Agreement. In addition, we will continue our analyses of international investment in energy sources and the investment of petrodollars in American industries to insure that our security is not threatened. Our analysis of international policy alternatives will be accomplished in full coordination with the evaluation of domestic policy alternatives to insure that each is maintained in proper balance.

Our policy analysis activity provides a threefold support of national energy policy analysis: internal agency policy analysis, economic impact assessment, and our agency-wide data support. It also serves as the analytical staff of the Energy Resources Council and provides policy impact analysis for all Federal energy programs. Our impact assessments consider both the relationship between the proposed program and existing energy related policies and the economic and inflationary impact of the proposed action. These analyses, prescribed by both the FEA Act and Executive Order 11821, require the evaluation of the impact of our programs on states, regions, consumers, and special impact groups among others. In addition, the policy analysis function evaluates the programs developed within the agency for the implementation of established policy and the development of additional policy alternatives. Because the energy issues touch on all aspects of American life, each program must be thoroughly evaluated to insure that it will reduce inequities as much as possible.

These analyses are accomplished through the application of highly sophisticated analytical models that were initially developed to support the Project Independence effort. Through continued maintenance and updating of the data base and economic assumptions, these important decision-making tools are maintained for the use of the entire federal establishment. When we entered the energy management programs two years ago, we did not have the basic energy supply and demand data base that was required for the realistic evaluation of the national energy policy alternatives. Through long hours and hard work, we have created this vital data base and our FY 1976 program will continue to maintain and improve it.

Our data services staff also provides the essential systems support for regulatory program records and compliance systems management; operational policy analysis; conservation and resource development programs; and the administrative and housekeeping activities of the agency. These data systems are vital portions of the programs that they directly support and, without them our operational programs would be severely impaired.

Our final program area--Executive Direction and Administration--provides both the agency leadership and the necessary support functions required for effective operation. With one exception, the program activities in this area have been held at or below the overall FY 1975 operating levels. The exception is the Office of Review that I established in June to provide my top staff with an independent program review and audit capability similar to that provided Congressional staffs by the General Accounting Office. This office will review operational program activity, financial and accounting procedures, and program/resource management in all facets of our agency operation. Based on these independent reviews, they will provide recommendations for corrective management actions. By coupling this independent evaluation function with the traditional program review accomplished by the management staff, we can significantly improve the operation and effectiveness of our energy programs. By making this investment, we can also insure that we are getting the most out of the funds appropriated to support our major programs.

Our other activities in this area, including public and Congressional affairs, intergovernmental relations, general counsel, and administrative support of agency operations, will remain at the FY 1975 levels despite the expanded scope of agency operations. I remain committed to the reduction of all overhead activity to the minimum essential levels consistent with maintenance of our capability to support our programs and our people.

I have personally supervised the development of this budget program and I believe that this level of support is absolutely essential to meet our national objectives. We have an obligation to the American people to pursue possible pricing violations under the EPAA just as we have an obligation to provide national leadership in the areas of energy conservation and resource development. We have proposed each program at a level of activity that can reasonably be expected to be accomplished in the fiscal year. These times are too critical to request pie-in-the-sky programs for the expenditure of federal funds.

This is a time for all of us in the government to work together to provide the leadership that is necessary to meet the energy challenge effectively.

Mr. Chairman, this concludes my prepared remarks. I will be happy to answer any questions you or the Committee members may have.

FRANK G. ZARB

Education:

B.B.A., 1957 and M.B.A., 1972, Hofstra University.

Experience:

Mr. Zarb was appointed by President Gerald Ford to be FEA Administrator in December 1974. His immediate past position was that of Associate Director, Science, Energy and Natural Resources for the Office of Management and Budget. Among his responsibilities at OMB was that of overseeing budgeting for all Federal energy programs.

Mr. Zarb came to the Federal government in April 1971 and was appointed to the position of Assistant Secretary of Labor for Administration and Management. Prior to that appointment, he had held the post of Executive Vice President of CBWL-Hayden, Stone, Inc., since September 1970. From 1969 to 1970, he served as Senior Vice President of the investment banking firm of Cogan, Berlind, Weill and Levitt, Inc. Before that, he was an official with the New York investment banking firm of Goodbody and Company from 1962 to 1969. Between 1957 and 1962, Mr. Zarb worked in the Industrial Relations Department of the Cities Service Oil Company.

Mr. Zarb is a member of the Board of Arbitrators, National Association of Securities Dealers, and of the Board of Advisors, New York Institute of Finance and has been an allied member of the New York Stock Exchange and a member of the Chicago Board of Trade and the Chicago Mercantile Exchange. He edited "Stock Market Handbook" published in 1970 by Dow, Jones-Irwin, Inc. He has also served as Chairman of the Joint Securities-Bank Industry Committee on Securities Protection.

Mr. Zarb's acceptance of this position marked his return to FEA, an agency he helped to organize during the height of the energy crisis.

JOHN A. HILL

Education:

B.A., Economics, Southern Methodist University, 1964; completion of all work on Ph.D. except dissertation in Social Ethics, Southern Methodist University.

Experience:

Mr. Hill was appointed by President Gerald Ford to be Deputy Administrator of FEA. His immediate past position was that of Associate Director for Natural Resources, Energy and Science for the Office of Management and Budget. Responsibilities included the policies, budgets, legislative initiatives, and management of a wide range of Federal Departments and Agencies, including the FEA and the Interior Department.

From January 1973 to November 1974 Mr. Hill was Deputy Associate Director for Energy, Food and Analysis, OMB. When the Federal Energy Office was established in 1973, he was temporarily detailed from OMB to FEO and served as Assistant Director for Policy, Planning and Regulation. Other experience include: Director, Operations

Analysis Division, Office of Solid Waste Management Programs, U.S. Environment Protection Agency; Senior Budget Examiner, Human Resources Programs Division, OMB; and Executive Associate North Central Region, Educational Associates, Inc., with responsibility for 31 UPWARD BOUND projects funded by the Office of Economic Opportunity in an eleven state area.

ERIC R. ZAUSNER

Education:

B.S., Electrical Engineering, Lehigh University, 1966; M.B.A., Finance, Wharton School, University of Pennsylvania, 1968.

Experience:

Mr. Zausner serves as Deputy to FEA Administrator Frank G. Zarb in shaping and implementing the programs of the Federal Energy Administration.

Prior to this position Mr. Zausner served as FEA Assistant Administrator for Policy and Analysis. In that post, he managed the Project Independence Report, a multi-volume study of America's production and use of energy, which provides the analytical framework for development of a national energy policy.

Mr. Zausner has served with the Federal Energy Administration since its inception in December 1973, as the Federal Energy Office. He served initially as both Assistant Administrator for Economic and Data Analysis and Strategic Planning; and Acting Assistant Administrator for Energy Conservation and Environment.

Prior to his FEA service, Mr. Zausner was Deputy Assistant Secretary of the Interior for Energy. His responsibilities in that post included the development and direction of three new energy staff offices -- the Office of Energy Conservation, the Office of Energy Data and Analysis, and the Office of Energy Research and Development -- many of whose functions were subsequently incorporated into FEA.

At Interior, Mr. Zausner also presided over the office of Oil and Gas, the Office of Coal Research, and the energy-related activities of the Bureau of Mines and the Geological Survey. He worked directly with the Assistant Secretary for Energy and Minerals in overall energy policy matters.

Mr. Zausner has served as a Senior Staff Member on the President's Council on Environmental Quality. His responsibilities included the direction of all economic and quantitative analysis and policy development in solid waste and energy.

Prior to his position with the Council, Mr. Zausner served as Chief of the Management Sciences Section, Bureau of Solid Waste Management, now the Office of Solid Waste Management Programs of the Environmental Protection Agency.

THOMAS E. NOEL

Education:

B.S., United States Military Academy, West Point, New York, 1960; M.A., Duke University, 1968.

Experience:

Mr. Noel was appointed as Assistant Administrator for Management and Administration in May 1975.

Prior to this appointment, Mr. Noel served as the Special Assistant to the former Administrator. In December 1974, he became Executive Assistant to the Administrator.

Prior to joining FEA, Mr. Noel was a member of the United States Army for fourteen years. During his impressive military career, Mr. Noel attended Command and General Staff College; served four and one-half years as an Assistant to General Creighton Abrahms, both in South Vietnam and in the Pentagon; served as Operations Officer for the 173rd Airborne Brigade in Vietnam; was the Commanding Officer of an Artillery Detachment in Greece; and Commanding Officer of an Artillery Battery of the 82nd Airborne Division.

WILLIAM G. ROSENBERG

Education:

B.A., Syracuse University, 1961; M.B.A., Columbia University Graduate School of Business, 1965; J.D., Columbia University School of Law, 1965.

Experience:

Mr. Rosenberg was confirmed as Assistant Administrator, Energy Resource and Development on October 9, 1975 where he will be responsible for developing national programs to increase the production of domestic energy resources.

Prior to joining the Federal Energy Administration, Mr. Rosenberg was Chairman of the Michigan Public Service Commission. Since 1973, he has been a member of the Executive Committee of the National Association of Regulatory Utility Commissioners (NARUC). He was Executive Director of the Michigan State Housing Development Authority from October 1969 until he joined the Michigan Public Service Commission in 1973. From March to September 1969, he was Deputy Director of the Department of Commerce for the State of Michigan. He was with the law firm of Honigman, Miller, Schwartz & Cohn of Detroit from 1965 to 1969.

Mr. Rosenberg has been serving on FEA's Project Independence Advisory Committee and is a member of the Executive Committee of the Energy-Industrial Center Study sponsored by the National Science Foundation. He is the author of several articles on energy and housing.

GORMAN C. SMITH

Education:

B.S., U.S. Military Academy, 1951; M.A. in Economics and International Relations, Columbia University, 1955; Ph.D. in Economics, Columbia University, 1964.

Experience:

Mr. Smith has primary policy responsibility for formulating, implementing, and enforcing FEA regulations. Prior to assuming his present position, he was Deputy Assistant Administrator, Energy Resource Development, in FEA. Mr. Smith came to this agency from the Atomic Energy Commission where he served as Executive Assistant to Chairman Dixy Lee Ray. He was project director for the preparation of her December 1973 report to the President on Energy Research and Development.

His past experience includes four years as Vice President and Director of a private research and development firm. Earlier service with the U.S. Army included varied staff and command assignments; tours as Assistant Professor of Economics in the Department of Social Sciences at the U.S. Military Academy and Deputy Director of Military Compensation in the Office of the Secretary of Defense.

MELVIN A. CONANTEducation:

A.B., Harvard University, 1949; M.A., Harvard University.

Experience:

Mr. Conant joined the Federal Energy Administration in January 1974 from the Exxon Corporation where he was Senior Government Relations Counsellor on political and inter-governmental relations in the Middle East, Far East and Europe from 1961-1973. From 1960-1961, he was professor of International Security Affairs at the U.S. National War College in Washington. From 1955-1960, Mr. Conant was on the directing staff of the Council on Foreign Relations in New York. He has also been the Executive Director of the Pacific and Asian Council, a political and economic research group (1951-1955). He was a founding trustee of that Territory's first Economic Development Committee.

Mr. Conant is also the author of many strategic studies and an annual lecturer at the Royal Naval College (Greenwich), the Canadian National Defense College and the U.S. senior defense colleges.

Justification

The President's Budget for fiscal year 1976 submitted in January, 1975 requested only \$112,435,000 and a phased down staffing of 1,715 positions. This budget level was based on the assumption that the Emergency Petroleum Allocation Act (EPAA) would expire on August 31, 1975, eliminating all regulatory activity except the most limited compliance effort. Further, that budget assumed only limited increases in our conservation programs over the fiscal year 1975 level and, actually a slight reduction in the support of our resource development activities.

The modifications to the President's Budget center on three major program areas: compliance activities, conservation programs and resource development initiatives. The remaining minor adjustments will provide for the administrative personnel and related costs to support these three expanded programs. These increases are discussed in detail under each program activity.

An analysis of the increases in man-years and dollars by program activity follows:

<u>Activity</u>	<u>1975 Actual</u>	<u>Request Pending</u>	<u>1976</u>	
			<u>Proposed Amendment</u>	<u>Revised Request</u>
	<u>Positions</u>			
Executive direction and administration.....	901	453	484	937
Policy and Analysis.....	401	355	45	400
Regulatory Programs.....	1,338	281	898	1,179
Conservation and Environment.....	282	286	30	316
Energy Resource Development.....	282	299	27	326
International Energy Affairs.....	<u>41</u>	<u>41</u>	<u>1</u>	<u>42</u>
Total - Positions....	3,245	1,715	1,485	3,200

Activity	1975 Actual	1976		Revised Request
		Request Pending	Proposed Amendment	
		<u>Man-Years</u>		
Executive direction and administration.....	934	529	408	937
Policy and Analysis.....	366	377	23	400
Regulatory Programs.....	1,338	750	549	1,299
Conservation and Environment.....	255	281	35	316
Energy Resource Development.....	284	299	27	326
International Energy Affairs.....	<u>41</u>	<u>47</u>	<u>- 5</u>	<u>42</u>
Total - Man-Years...	3,164	2,283	1,037	3,320
		<u>Amount (000)</u>		
Executive direction and administration.....	\$ 38,630	\$ 31,357	\$ 12,265	\$ 43,622
Policy and Analysis.....	21,769	23,574	2,110	25,684
Regulatory Programs.....	32,964	17,654	14,401	32,055
Conservation and Environment..... (No-Year Funds)	18,225 (2,000)	27,012 ...	114,650 ...	141,662 ...
Energy Resource Development..... (No-Year Funds)	13,767 (1,000)	11,452 ...	4,025 ...	15,477 ...
International Energy Affairs.....	<u>1,291</u>	<u>1,386</u>	<u>209</u>	<u>1,595</u>
Total - Amount.....	\$126,646	\$112,435	\$147,660	\$260,095
Unobligated balance	389			
No-Year Funds	<u>(3,000)</u>			
Total Appropriation ...	<u>\$130,035</u>			

FEDERAL ENERGY ADMINISTRATION

Analysis of Positions, Man-Years and Dollars
Fiscal Year 1976

	Positions			Man-Years			Amount (\$000)					
	1975 Actual	Request Pending	Proposed Amendment	Revised Request	1975 Actual	Request Pending	Proposed Amendment	Revised Request	1975 Actual	Request Pending	Proposed Amendment	Revised Request
Executive Direction and Administration.....	901	453	484	937	934	529	408	937	\$ 38,630	\$ 31,357	\$ 12,265	\$ 43,622
Policy and Analysis.....	401	355	45	400	366	377	23	400	21,769	23,574	2,110	25,684
Regulatory Programs.....	1,338	281	898	1,179	1,338	750	549	1,299	32,964	17,654	14,401	32,055
Conservation and Environment, (No-Year Funds).....	282	286	30	316	255	281	35	316	18,225	27,012	114,650	141,662
Energy Resource Development, (No-Year Funds).....	282	299	27	326	284	299	27	326	13,767	11,452	4,025	15,477
International Energy Affairs.	41	41	1	42	41	47	- 5	42	(1,000)	1,386	209	1,595
Total.....	3,245	1,715	1,485	3,200	3,218	2,283	1,037	3,320	\$126,646	\$112,435	\$147,660	\$260,095
Unobligated balance.....									389			
No-Year Funds.....									(3,000)			
Total Appropriation.....									<u>\$130,035</u>			

Fiscal Year 1976 Budget AmendmentExecutive Direction and Administration

Item	1975 Actual	1976		
		Request Pending	Proposed Amendment	Revised Request
Positions	901	453	484	937
Man-Years	934	529	408	937
Amount (000)	\$38,630	\$31,357	\$12,265	\$43,622

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 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 maintenance of relationships with the States on energy matters. Also included in this activity is the reimbursement for State energy programs in the amount of \$10,000,000.

The budget amendment will provide essential support for the other five major program areas. Also included in the amendment is \$250,000 for reimbursement for the Temporary Emergency Court of Appeals and \$250,000 for travel and expenses of the sixteen Advisory Committees neither of which were included in the original estimate. The total additional requirement is 484 positions and \$12,265,000.

An analysis of this amended request follows.

	1975 <u>Actual</u>	1976		<u>Revised Request</u>
		<u>Request Pending</u>	<u>Proposed Amendment</u>	
<u>Positions</u>				
Administrator.....	30	22	10	32
Management and Administration.....	293	162	138	300
General Counsel.....	92	65	25	90
Communications and Public Affairs.....	134	100	17	117
Congressional Affairs.....	46	29	14	43
Intergovernmental, Regional and Special Programs.....	36	35	- 2	33
Regions.....	<u>270</u>	<u>40</u>	<u>282</u>	<u>322</u>
Total - Positions.....	901	453	484	937
<u>Man-Years</u>				
Administrator.....	26	23	9	32
Management and Administration.....	311	228	72	300
General Counsel.....	81	69	21	90
Communications and Public Affairs.....	132	100	17	117
Congressional Affairs.....	45	34	9	43
Intergovernmental, Regional and Special Programs.....	40	35	- 2	33
Regions.....	<u>299</u>	<u>40</u>	<u>282</u>	<u>322</u>
Total - Man-Years.....	934	529	408	937
<u>Amount (\$000)</u>				
Administrator.....	\$ 1,271	\$ 897	\$ 559	\$ 1,456
Management and Administration.....	15,055	11,173	4,082	15,255
General Counsel.....	1,723	1,779	539	2,318
Communications and Public Affairs.....	2,550	3,499	880	4,379
Congressional Affairs.....	736	565	217	782
Intergovernmental, Regional and Special Programs.....	828	2,539	- 145	2,394
Regions.....	6,467	905	6,133	7,038
Reimbursement to States....	10,000	10,000	...	10,000
Total - Amount.....	38,630	31,357	12,265	43,622

Executive Direction and Administration

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code	1975 actual	1976 Pending	1976 Amendment	1976 Revised
Personnel compensation:				
11.1 Permanent positions.....	12,045	8,843	7,273	16,116
11.3 Positions other than permanent.....	1,080	...	193	193
11.5 Other personnel compensation.....	751	624	- 108	516
11.8 Special personal services payments.....				
Total personnel compensation.....	13,876	9,467	7,358	16,825
Personnel benefits:				
12.1 Civilian.....	1,232	796	686	1,482
13.0 Benefits for former personnel.....	1	...	...	...
21.0 Travel and transportation of persons.....	863	501	55	556
22.0 Transportation of things.....	266	33	- 12	21
23.0 Rent, communications, and utilities.....	7,444	6,152	756	6,908
24.0 Printing and reproduction.....	1,223	1,123	89	1,212
25.0 Other services.....	1,507	129	1,065	1,194
CONTRACTS	10,936	12,435	2,110	14,545
26.0 Supplies and materials.....	787	529	63	592
31.0 Equipment.....	491	192	95	287
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.....	38,630	31,357	12,265	43,622

Fiscal Year 1976 Budget Amendment

Energy Policy and Analysis

Item	1975 Actual	1976		
		Request Pending	Proposed Amendment	Revised Request
Positions	401	355	45	400
Man-Years	366	377	23	400
Amount (000)	\$21,769	\$23,574	\$2,110	\$25,684

Justification

Energy Policy and Analysis includes the functions of performing long-range energy policy and analysis. It also includes the development of a national energy plan, short- and long-range supply/demand forecasting, coordination of energy-related programs, policies, and legislation, development of deregulation and decontrol strategies, and provision of all ADP support for the Administration, including such things as energy statistics, compliance data systems, and providing a national energy data clearinghouse.

This activity serves as the analytical staff of the Energy Resources Council and provides policy impact analysis for all federal programs with energy implications. Impact assessments consider both the relationship between the proposed program and the existing energy related policies and the economic and inflationary impact of the proposed action. These analyses, prescribed by both the FEA Act and Executive Order 11821, require the evaluation of the impact of the program on states, regions, consumers, and special impact groups among others. In addition, the policy analysis function evaluates the programs developed within the Agency for the implementation of established policy and the development of additional policy alternatives. Because the energy issues touch on all aspects of American life, each program must be thoroughly evaluated to insure that it will achieve the desirable goal of energy independence and avoid creating inequities to any one segment of American life.

These analyses are accomplished through the application of highly sophisticated models that were initially developed to support the Project Independence effort. Through continued maintenance and updating of the data base and economic assumptions, these important decision making tools are maintained for the use of the entire federal establishment. When FEA entered the energy management program two years ago, the basic energy supply and demand data base that was required for the realistic evaluation of the national energy policy alternatives did not exist. These vital data bases have now been created and the FY 1976 program will provide for the refinement and completion of a revised long term energy forecast through 1990.

The data services staff also provides the essential data services for regulatory program records and compliance systems management, support of the conservation and resource development programs, and the administrative and housekeeping support of the agency. These areas may not carry with them the same sense of national importance as the policy impact analysis functions; however, each is a vital portion of the program that it directly supports. Without the data systems support that is required, the operational program would be severely impaired.

Some examples of the information developed under this activity are:

- . Comprehensive natural gas monitoring system.
- . Analysis of competition in the energy industry.
- . Develop and publish leading indicators of future energy situation
- . Development of state forecasting by fuel type thru 1985.
- . Analysis of Utility Plant Deferrals, capital requirements and interfuel substitution.
- . Operation of the Federal Energy Data Clearinghouse.
- . Operation of the National Energy Information Center.

In order to continue the support as outlined this activity will require an additional 45 positions and \$2,110,000 over the pending request.

Energy Policy and Analysis

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code	1975 ACTUAL	1976 Pending	1976 Amendment	1976 Revised
Personnel compensation:				
11.1 Permanent positions.....	6,123	6,872	41	6,913
11.3 Positions other than permanent.....	505	...	...	...
11.5 Other personnel compensation.....	300	395	312	707
11.8 Special personal services payments.....				
Total personnel compensation.....	6,928	7,267	353	7,620
Personnel benefits:				
12.1 Civilian.....	544	601	44	645
13.0 Benefits for former personnel.....				
21.0 Travel and transportation of persons.....	194	206	...	206
22.0 Transportation of things.....	57	19	4	23
23.0 Rent, communications, and utilities.....	319	2,381	- 1,897	484
24.0 Printing and reproduction.....	279	56	124	180
25.0 Other services.....	115	...	169	169
CONTRACTS	12,986	12,970	3,030	16,000
26.0 Supplies and materials.....	237	8	255	263
31.0 Equipment.....	110	66	28	94
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	23,574	2,110	25,684

Fiscal Year 1976 Budget Amendment

Regulatory Programs

Item	1975 Actual	1976		
		Request Pending	Proposed Amendment	Revised Request
Positions:				
Office of Regulatory Programs	1,287	242	883	1,125
Private Grievances & Redress	51	39	15	54
Total-Positions	1,338	281	898	1,179
Man-Years:				
Office of Regulatory Programs	1,290	703	542	1,245
Private Grievances & Redress	48	47	7	54
Total-Man-Years	1,338	750	549	1,299
Amount (000):				
Office of Regulatory Programs	\$32,132	\$16,657	\$14,223	\$30,880
Private Grievances & Redress	832	997	178	1,175
Total-Amount (000)	\$32,964	\$17,654	\$14,401	\$32,055

Justification

Office of Regulatory Programs

The Energy Regulatory Programs activity is responsible for the development and implementation of mandatory allocation and price regulations; 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 November 15, 1975, in accordance with the mandate of the Emergency Petroleum Allocation Act; the provision of a standby force to perform regulation development and operations readiness responsibilities in accordance with the mandate of the FEA. Finally, this activity provides a continuous contingency planning capability to review, develop and update National Energy Contingency plans.

The implications of the expiration of the Emergency Petroleum Allocation Act cannot be ignored while implementing non-regulatory energy programs. It is essential that the program insure the investigation of violations that have occurred under the legislation. The program currently proposed in this amendment would provide targeted coverage across the energy industry with investigation of the major producers in each area as well as a representative sampling of the mid-sized and small firms.

This comprehensive program will provide the necessary coverage of the regulated industries. If this effort were not undertaken, the government would have established a dangerous precedent for future regulatory activities. A rapid phase-out of compliance activities could encourage regulated industries to attempt to deceive the government during the actual period of regulation, secure in the knowledge that subsequent compliance investigations would be haphazard or spotty, at best.

The energy industries reach into the home of every American -- each one has been affected by the increases in energy costs over the past two years in both their personal use and the pass-through of production energy costs in the market place. This compliance program will insure that the consumer's interests are protected and that only lawfully authorized price increases were allowed.

To support this expanded compliance effort an additional 883 positions and \$14,223,000 will be required. No provision has been made in this amendment for the extension of the Emergency Petroleum Allocation Act after November 15, 1975. After a final determination of the future of the Federal allocation program is made a supplemental request will be made either to support a modified program or to provide for the expenses associated with the termination of the current operation. An analysis of this increased requirement follows:

	1975 <u>Actual</u>	Request <u>Pending</u>	1976 Proposed <u>Amendment</u>	Revised <u>Request</u>
<u>Positions</u>				
Office of Regulatory Programs:				
Compliance	840	152	887	1,039
Allocation	323	35	- 35	...
Oil Imports	21	21	...	21
Contingency Planning	...	...	24	24
Regulation Development	71	11	- 1	10
Administration	32	23	8	31
Total-Positions	1,287	242	883	1,125
<u>Man-Years</u>				
Compliance	858	522	522	1,044
Allocation	318	99	+ 16	115
Oil Imports	21	21	...	21
Contingency Planning	...	...	24	24
Regulation Development	64	20	- 10	10
Administration	29	41	- 10	31
Total-Man-Years	1,290	703	542	1,245
<u>Amount (000)</u>				
Compliance	\$20,913	\$11,328	\$13,436	\$24,764
Allocation	8,780	3,078	- 212	2,866
Oil Imports	395	407	...	407
Contingency Planning	...	...	1,779	1,779
Regulation Development	1,407	1,051	- 686	365
Administration	637	793	- 94	699
Total-Amount	\$32,132	\$16,657	\$14,223	\$30,880

Private Grievances and Redress

In addition to the above activities the Office of Private Grievances and Redress is carried under this activity for budget purposes. The Office of Private Grievances and Redress was formed to combine under one administrative framework the independent regulatory functions administered by the Office of Exceptions and Appeals and the special redress relief, and extraordinary assistance function contemplated by Section 21 of the Federal Energy Administration Act of 1974.

The Director of the Office of Private Grievances and Redress reports to the Administrator and has general administrative responsibility over the operations of the Office of Exceptions and Appeals. The Director of the Office of Private Grievances and Redress is also directly responsible for issuing orders in connection with the functions performed by the Office of Special Redress Relief.

Although the increase of \$178,000 in the Office of Private Grievances and Redress is associated with the increased compliance coverage of the program, the Office of Private Grievances and Redress processes cases based on authorities other than the Emergency Petroleum Allocation Act, for instance in fiscal year 1975 the following cases were processed:

. Freedom of Information Appeals	23
. Entitlement Cases	165
. Special Redress Relief	9
. Oil Import Appeals	21
. Coal Conversion Appeals	1
. Propane Exception Submissions	61
. Propane Case Appeals	18
Total	298

Thirteen of the fifteen additional positions requested are for regional support in carrying out the mandate as directed in the FEA Act, Public Law 93-275. An analysis of this increased requirement follows:

	1975 Actual	Request Pending	1976	
			Proposed Amendment	Revised Request
			<u>Positions</u>	
Office of Private Grievances and Redress	51	39	2	41
Regions	..	..	13	13
Total-Positions	51	39	15	54
			<u>Man-Years</u>	
Office of Private Grievances and Redress	48	47	- 6	41
Regions	..	..	13	13
Total-Man-Years	48	47	7	54
			<u>Amount (000)</u>	
Office of Private Grievances and Redress	\$832	\$997	\$-121	\$ 876
Regions	..	..	299	299
Total-Amount	\$832	\$997	\$ 178	\$1,175

Regulatory Programs

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code	19 75 actual	19 76 Pending	19 76 Amendment	19 76 Revised
Personnel compensation:				
11.1 Permanent positions.....	23,399	13,375	8,891	22,266
11.3 Positions other than permanent.....	780	...	70	70
11.5 Other personnel compensation.....	339	274	- 159	115
11.8 Special personal services payments.....				
Total personnel compensation.....	24,518	13,649	8,802	22,451
Personnel benefits:				
12.1 Civilian.....	2,367	1,229	857	2,086
13.0 Benefits for former personnel.....	...	66	- 66	...
21.0 Travel and transportation of persons.....	1,780	367	1,378	1,745
22.0 Transportation of things.....	111	355	- 70	285
23.0 Rent, communications, and utilities.....	1,076	411	- 75	336
24.0 Printing and reproduction.....	112	67	388	455
25.0 Other services.....	246	111	198	309
CONTRACTS	2,448	1,300	2,750	4,050
26.0 Supplies and materials.....	148	44	183	227
31.0 Equipment.....	158	55	56	111
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.....	32,964	17,654	14,401	32,055

Fiscal Year 1976 Budget AmendmentEnergy Conservation and Environment

Item	1975 Actual	1976		
		Request Pending	Proposed Amendment	Revised Request
Positions	282	286	30	316
Man-Years	255	281	35	316
Amount (000)	\$18,225	\$27,012	\$114,650	\$141,662

Justification

The general mission assigned the Office of Energy Conservation and Environment is to promote efficiencies in the use of energy resources. The Office provides policy analysis on environmental issues and fulfills FEA's responsibilities under the National Environmental Policy Act. The office is responsible for developing and implementing new governmental programs to reduce energy demand in transportation, building, industrial, and utilities areas, developing and conducting public education and multi-media campaigns in support of energy conservation programs, and providing technical and program support of energy conservation to States and localities. In brief, the Office of Energy Conservation and Environment mission is to reduce energy demand by implementing programs to promote efficient use of energy resources.

The near-term goals of the Administration's energy program require immediate action to increase the efficiency or productivity of energy consumption. To meet these goals, we have developed an expanded energy conservation program for FY 1976 concentrating on six major areas: residential buildings, commercial buildings, industrial processes, transportation systems, utility efficiency and consumer education.

Our present conservation programs have not been adequate to meet this national requirement. Furthermore, because the opportunities for increasing the efficiency of energy use are little understood as was the adverse impacts of the recent period of "stagflation" on capital availability, neither industrial, commercial nor private consumers have been willing to commit themselves to initial investments in energy conservation projects despite demonstrated long-term benefits. The proposal for the Energy Independence Authority recognizes the need for large scale capital investment in high risk, new technology conservation and resource development projects--our programs recognize the need for no-cost and low-cost conservation programs for the energy consumers utilizing existing technology.

The problem we face in conservation can be very simply stated: We have to provide the people, the ultimate consumers, with highly specific opportunities and suggestions to save energy costs.

Residential Buildings

Experience over the past year has shown that most people (88%) perceive the need to save energy, but they are not certain what methods to employ and what the estimated savings would be. We must get this technical information to the consumer in usable form.

Our programs will provide homeowners the costs and savings of improvement actions to insure that they make the best changes to their homes based on particular weather conditions, fuel costs and building structure. PROJECT CONSERVE will expand the FY 1975 questionnaire demonstration program and will provide detailed residential conservation guides to ten million homes. One million of the guides will include questionnaires to be filled out by homeowners and sent to the FEA for processing. FEA will then inform these homeowners of the appropriate conservation measures to take. We will then evaluate the questionnaire program to see if it results in more significant energy savings by homeowners; if it does, we plan to expand the ratio of questionnaires to booklets in subsequent mailings.

Previously proposed legislation has included incentives for individual conservation actions. For example, our weatherization program, proposed by the President in conjunction with the budget submission, would provide \$55 million to low income families to offset the costs of residential conservation actions. The proposed tax credit would provide financial incentives to other private homeowners for residential conservation investments. The proposed national building standards for energy conservation would insure that all new construction fully utilizes known technology to substitute materials and better design for fuel use.

Commercial Building, Industrial, and Vanpool Conservation Seminars

This program will provide business and industry with cost-effective energy conservation measures through a series of regional seminars. Businessmen will be provided with practical information regarding modifications or capital investments that will result in more efficient energy use in commercial buildings and industrial operations. This program will result in reducing the operating costs of firms, as well as their energy costs, and will result in the pass-through of these savings to the industrial consumer.

Included in this seminar program will be a vanpool promotion program which has already shown a very strong potential for cost-effective energy savings in transportation. Several private sector industry demonstration projects have shown that by organizing commuters into

vanpools, companies have encouraged and effected significant gasoline savings as well as lower commuting costs for their employees. Vanpooling provides a viable alternative to the single person commuter automobile and could result in a major change in American commuting practices.

Our primary emphasis in this program area will be one of information dissemination and education--providing the operational know-how to employers and civic groups that would be interested in sponsoring vanpool programs. We believe that this program has the potential of saving about 200 thousand barrels of gasoline a day by 1980. Vanpooling is an innovative concept that should be given full consideration in transportation conservation programs.

Utilities Conservation

In distributing approximately 42 percent of the total end use energy in the United States, the gas and electric utility industries account for roughly 52 percent of our total energy consumption. Substantial inefficiencies remain in the generation, transmission, distribution, and end-use of electricity and natural gas. The Utilities Conservation Action Now (UCAN) program--initiated in August, 1975--was designed to elicit the active participation of utilities, regulatory agencies, consumers and environmentalists in achieving our energy goals. A central goal of our utilities program is to encourage the electrical utilities to reduce their reliance on petroleum energy sources. An effective strategy to accomplish this is a combination of load management and end-use conservation. Among the tools we have available for this strategy are: (1) peakload pricing to encourage use of electricity at "off-peak" times, thus reducing the utility plant expansion requirements, (2) heat storage devices for space heating or hot water to enable consumers to take advantage of the lower "off-peak" rates, (3) control devices to cut off unessential high wattage appliances in peak periods, and (4) accelerated conservation activities including insulation financing, clarified billing procedures, and consumer education. This program will both reduce our total demand for electrical power and reduce the peakload requirements, and thereby the plant capacity requirements, of utilities themselves.

Conservation Education

Throughout our conservation programs, we have identified the consumer education programs as key to our success. We have attempted public service advertising campaigns in the past which have not left a lasting impression. We have proposed a professionally designed marketing and advertising campaign for FY 1976 that would support both the programs outlined in the earlier discussions and major marketing of the other conservation concepts. This program will include mass media advertising through prime time television, magazines and newspapers in addition to the preparation of more traditional conservation education kits appropriate for use in schools, civic meetings, and similar activities. We believe that this multi-faceted program will bring the opportunities of conservation to the people. With the conservation information provided, they can accelerate their actions to reduce energy costs.

Conservation and Environment

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code	19 75 actual	19 76 Pending	19 76 Amendment	19 76 Revised
Personnel compensation:				
11.1 Permanent positions.....	3,637	5,470	297	5,767
11.3 Positions other than permanent.....	311	177	115	292
11.5 Other personnel compensation.....	122	95	179	274
11.8 Special personal services payments.....				
Total personnel compensation.....	4,070	5,742	591	6,333
Personnel benefits:				
12.1 Civilian.....	345	518	17	535
13.0 Benefits for former personnel.....				
21.0 Travel and transportation of persons.....	292	175	85	260
22.0 Transportation of things.....	18	38	- 33	5
23.0 Rent, communications, and utilities.....	388	88	- 28	60
24.0 Printing and reproduction.....	224	86	321	407
25.0 Other services.....	189	31	142	173
CONTRACTS	12,526	20,300	58,500	78,800
26.0 Supplies and materials.....	62	6	17	23
31.0 Equipment.....	111	28	38	66
32.0 Lands and structures.....				
33.0 Investments and loans.....				
41.0 Grants, subsidies, and contributions.....		...	55,000	55,000
42.0 Insurance claims and indemnities.....				
43.0 Interest and dividends.....				
44.0 Refunds.....				
.....				
.....				
99.0 Total obligations.....	18,225	27,012	114,650	141,662

Fiscal Year 1976 Budget AmendmentEnergy Resource Development

Item	1975 Actual	1976		
		Request Pending	Proposed Amendment	Revised Request
Positions	282	299	27	326
Man-Years	282	299	27	326
Amount (000)	\$13,767	\$11,452	\$4,025	\$15,477

Justification

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. Our program in this area will center on a project approach to the expanded development of fossil, nuclear, synthetic, and alternative fuels and electricity through the identification and alleviation of the current impediments to their development. This project approach will emphasize the development of energy projects on an individual basis -- with the sum total of all the efforts resulting in the achievement of our resource development goals. ERD is responsible for developing an incentive program to encourage the development of required national 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. ERD provides continuing support to the FEA and has the lead in initiation of the Project Independence energy supply programs.

Since the original budget request was submitted a Nuclear Energy Office has been established. This Office will be working to address those factors that inhibit the use of nuclear power for utilities. The shortening of lead times for construction and the much increased interest in nuclear plants since the embargo have not been sufficient to overcome the barriers that have slowed the development of atomic energy facilities. The Office will provide government advocacy needed for public acceptance of the nuclear option. Twenty-one additional positions and \$1,113,000 are required to fund this effort in FY 1976.

ERD is also working to develop programs of a national scope to provide possible solutions to utility financing problems and certain technological or engineering impairments. This is the only Federal effort to implement the present state of the art in this important area. We cannot wait for additional research and development activities before turning to this essential energy source.

The FY 1976 program places emphasis on the expanded use of exotic fuels--primarily in the fields of synthetics, solar energy and bioconversion. All of these fields have shown to have viable commercial applications within the current state of the art. The programs are designed to accelerate the realization among both individuals and corporations that the investment of both capital and effort in this area will yield financial rewards.

It is believed that an important impact in energy supply expansion can be made through the improved management of traditional fuel sources--natural gas, coal and the outputs of our public utilities systems. A task force has been established to lead the Federal programs to manage our projected natural gas shortfall during the coming winter. This shortfall is estimated at 1.3 trillion cubic feet of natural gas. The program that has been developed will identify alternative fuels for curtailed users and will develop a strong program for future conservation of natural gas.

Bearing a close relationship with support of nuclear power utilization and the UCAN program is the program for replacement of our oil dependence with electrical generation--by substituting either coal or nuclear fuels. Although electrical generation is inherently less efficient than point of use fuel systems, the use of plentiful coal to generate this electricity makes the transfer almost ideal in terms of our national goals. In the past fuel source conversions from petroleum to coal under the authorities of the ESECA have been ordered. Although the legislative authorities have expired, we will continue to support fuel source conversions that will transfer our requirements to this available energy source.

The Federal Energy Administration is providing the program nucleus for the Energy Resources Council Interagency Task Force on utility construction acceleration. This group will work to develop Federal policy regarding all resources required for the construction of power plants--to include land use for siting. This background information will be essential to the support of utility plant expansion in the future and should result in clearly defined Federal actions to facilitate utility plan expansions. Based on this program, the FEA would be able to evaluate energy projects for possible referral to the proposed Energy Independence Authority.

Since the original budget submission there has been some realignment of functions and reorganization with ERD. These changes are reflected in this budget amendment. The total increase, including the Nuclear Energy Office is twenty-seven positions and \$4,025,000.

	1975 <u>Actual</u>	1976		<u>Revised Request</u>
		<u>Request Pending</u>	<u>Proposed Amendment</u>	
<u>Positions</u>				
Energy Resource Development Headquarters.....	225	244	- 9	235
Energy Resource Development Regions.....	57	55	15	70
Nuclear Energy.....	...	...	21	21
Natural Gas Task Force.....	...	...	..	...
Total - Positions.....	282	299	27	326
<u>Man-Years</u>				
Energy Resource Development Headquarters.....	229	244	- 9	235
Energy Resource Development Regions.....	55	55	15	70
Nuclear Energy.....	...	...	21	21
Natural Gas Task Force.....	...	...	..	...
Total-Man-Years.....	284	299	27	326
<u>Amount (\$000)</u>				
Energy Resource Development Headquarters.....	\$12,492	\$10,208	\$2,457	\$12,665
Energy Resource Development Regions.....	1,275	1,244	300	1,544
Nuclear Energy.....	...	...	1,085	1,085
Natural Gas Task Force.....	...	...	183	183
Total-Amount.....	\$13,767	\$11,452	\$4,025	\$15,477

Energy Resource Development

· OBJECT CLASSIFICATION (in thousands of dollars)

Identification code	1975 actual	1976 Pending	1976 Amendment	1976 Revised
Personnel compensation:				
11.1 Permanent positions.....	4,300	4,694	1,387	6,081
11.3 Positions other than permanent.....	937	140	529	669
11.5 Other personnel compensation.....	131	78	52	130
11.8 Special personal services payments.....				
Total personnel compensation.....	5,368	4,912	1,968	6,880
Personnel benefits:				
12.1 Civilian.....	437	445	119	564
13.0 Benefits for former personnel.....				
21.0 Travel and transportation of persons.....	273	283	...	283
22.0 Transportation of things.....	15	...	5	5
23.0 Rent, communications, and utilities.....	549	73	104	177
24.0 Printing and reproduction.....	95	60	40	100
25.0 Other services.....	576	50	185	235
CONTRACTS	6,347	5,500	1,650	7,150
26.0 Supplies and materials.....	65	50	- 9	41
31.0 Equipment.....	42	79	- 37	42
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.....	13,767	11,452	4,025	15,477

Fiscal Year 1976 Budget Amendment

International Energy Affairs

Item	1975 Actual	1976		
		Request Pending	Proposed Amendment	Revised Request
Positions	41	41	1	42
Man-Years	41	47	- 5	42
Amount (000)	\$1,291	\$1,386	\$209	\$1,595

Justification

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 IEA 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. IEA has spearheaded the development of the eighteen nation International Energy Agency and will continue to provide the leadership and policy direction to protect the industrial nations from energy blackmail.

The budget amendment requested will adjust this program to its current needs. An increase of \$200 thousand in contractual funds and \$63,000 in international travel is offset by a reduction of \$54,000 in salaries and benefits for a net increase requested of \$209,000.

International Energy Affairs

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code	1975 actual	1976 Pending	1976 Amendment	1976 Revised
Personnel compensation:				
11.1 Permanent positions.....	737	933	- 46	887
11.3 Positions other than permanent.....	62	...	10	10
11.5 Other personnel compensation.....	17	21	- 21	...
11.8 Special personal services payments.....				
Total personnel compensation.....	816	954	- 57	897
Personnel benefits:				
12.1 Civilian.....	62	79	3	82
13.0 Benefits for former personnel.....				
21.0 Travel and transportation of persons.....	97	87	63	150
22.0 Transportation of things.....				
23.0 Rent, communications, and utilities.....	2	...	4	4
24.0 Printing and reproduction.....	3	4	...	4
25.0 Other services.....	14	...	...	...
CONTRACTS	288	250	200	450
26.0 Supplies and materials.....	6	4	...	4
31.0 Equipment.....	3	8	- 4	4
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	1,386	209	1,595

FEDERAL ENERGY ADMINISTRATION

Budget Appendix Page	Heading	1976 Request Pending	1976 Proposed Amendment	1976 Revised Request
876	Salaries and expenses	\$112,435,000	\$147,660,000	\$260,095,000

(Delete the figure "\$112,435,000" and through the end of the first paragraph under the above heading, and insert in lieu thereof the following:)

\$260,095,000, of which \$10,000,000, 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); and of which \$55,000,000 to remain available until expended, shall be available for grants for the weatherization of the dwellings of low-income individuals: 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 \$60,095,000, including \$55,000,000 for the weatherization program, shall be available only upon enactment into law of authorizing legislation.

Salaries and Expenses

Program and Financing (in thousands of dollars)

Identification code	19 76 actual	19 76 estimate	19 76 estimate
30-66-1500-0-1-305			
	Request Pending	Proposed Amendment	Revised Request
<u>Program by activities:</u>			
1. Executive direction and administration.....	31,357	12,265	43,622
2. Energy policy and analysis.....	23,574	2,110	25,684
3. Regulatory programs.....	17,654	14,401	32,055
4. Energy conservation and environment.....	29,012	114,650	143,662
5. Energy resource development.....	12,072	4,025	16,097
6. International energy affairs....	1,386	209	1,595
Total costs (obligations).....	115,055	147,660	262,715
<u>Financing:</u>			
21 Unobligated balance available start of period.....	- 2,620	...	- 2,620
40 Budget authority (appropriation)..	112,435	147,660	260,095
<u>Relation of obligations to outlays:</u>			
71 Obligations incurred.....	115,055	147,660	260,095
72 Obligated balance, start of year..	47,647	...	47,647
74 Obligated balance, end of year....	- 18,585	...	- 42,040
90 Outlays.....	144,117	121,585	265,702

Salaries and Expenses
OBJECT CLASSIFICATION (in thousands of dollars)

Administrative code	19 75 actual	19 76 Pending	19 76 Amendment	19 76 Revised
Personnel compensation:				
11.1 Permanent positions.....	50,241	40,187	17,843	58,030
11.3 Positions other than permanent.....	3,675	317	917	1,234
11.5 Other personnel compensation.....	1,660	1,487	255	1,742
11.8 Special personal services payments.....				
Total personnel compensation.....	55,576	41,991	19,015	61,006
Personnel benefits:				
12.1 Civilian.....	4,987	3,668	1,726	5,394
13.0 Benefits for former personnel.....	1	66	- 66	...
21.0 Travel and transportation of persons.....	3,499	1,619	1,581	3,200
22.0 Transportation of things.....	467	445	- 106	339
23.0 Rent, communications, and utilities.....	9,778	9,105	-1,136	7,969
24.0 Printing and reproduction.....	1,936	1,396	962	2,358
25.0 Other services.....	2,647	321	1,759	2,080
CONTRACTS	45,531	52,755	68,240	120,995
26.0 Supplies and materials.....	1,305	641	509	1,150
31.0 Equipment.....	915	428	176	604
32.0 Lands and structures.....				
33.0 Investments and loans.....				
41.0 Grants, subsidies, and contributions.....	...	...	55,000	55,000
42.0 Insurance claims and indemnities.....	4	...	...	...
43.0 Interest and dividends.....				
44.0 Refunds.....				
99.0 Total obligations.....	126,646	112,435	147,660	260,095

Personnel Summary

Identification code 30-66-1500-0-1-305	19 76	19 76	19 76
	actual	estimate	estimate
	Request Pending	Proposed Amendment	Revised Request
Total number of permanent positions..	1,715	1,485	3,200
Average paid employment.....	2,283	1,037	3,320
Average GS grade.....	10.86	- .51	10.20
Average GS salary.....	\$16,835	\$-1,718	\$15,117
Average salary of ungraded positions.	\$17,611	\$ 2,646	\$20,257

DETAIL OF PERMANENT POSITIONS

	19 76	19 76	19 76
	actual	estimate	estimate
	Request Pending	Proposed Amendments	Revised Request
Executive Level II	1	..	1
Executive Level III	2	..	2
Executive Level IV	7	..	7
Executive Level V	5	..	5
Subtotal	15	..	15
GS-18	10	..	10
GS-17	17	6	23
GS-16	45	20	65
GS-15	130	107	237
GS-14	154	126	280
GS-13	139	187	326
GS-12	364	-6	358
GS-11	121	265	386
GS-10	15	..	15
GS- 9	131	178	309
GS- 8	68	31	99
GS- 7	212	151	363
GS- 6	98	47	145
GS- 5	116	164	280
GS- 4	40	146	186
GS- 3	16	50	66
GS- 2	6	9	15
Subtotal	1,682	1,481	3,163
Ungraded	18	4	22
Total permanent positions	1,715	1,485	3,200
Unfilled positions, June 30 .....	..	..	..
Total permanent employment, end of year	1,715	1,485	3,200

FEDERAL ENERGY ADMINISTRATION

Analysis by Activities

FY 1976 Estimated and July 1-September 30 Period
Salaries and Expenses

(in thousands of dollars)

Activity	FY 1976 Estimate	Estimate July - Sept. 30, 1976
1. Executive direction and administration .	43,622	10,349
2. Energy policy and analysis	25,684	4,146
3. Regulatory programs	32,055	7,302
4. Energy conservation and environment	141,662	26,008
5. Energy resource development	15,477	2,755
6. International energy affairs	<u>1,595</u>	<u>265</u>
Total	<u>260,095</u>	<u>50,825</u>

	Transition Quarter Request	Transition Quarter Proposed Amendment	Transition Quarter Proposed Amendment
Salaries and expenses	\$48,000,000	\$2,825,000	\$50,825,000

(Delete the figure "\$48,000,000" in the second paragraph under the above heading, and insert in lieu thereof the following:)

\$50,825,000, of which \$2,500,000, 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); and of which \$15,000,000, to remain available until expended, shall be available for grants for the weatherization of the dwellings of low-income individuals: 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 all of the amounts above shall be available only upon enactment into law of authorizing legislation.

FEDERAL ENERGY ADMINISTRATION

Salaries and Expenses

Program and Financing - Transition Period (in thousands of dollars)

Identification code 30-66-1500-0-1-305	19 76	19 76	19 76
	actual	estimate	estimate
	Request Pending	Proposed Amendment	Revised Request
<u>Program by activities:</u>			
1. Executive direction and administration	7,680	2,669	10,349
2. Energy policy and analysis	6,240	- 2,094	4,146
3. Regulatory programs	5,760	1,542	7,302
4. Energy conservation and environment	20,160	5,848	26,008
5. Energy resource development	7,680	- 4,925	2,755
6. International energy affairs ...	480	- 215	265
10 Total costs-obligations	48,000	2,825	50,825
<u>Financing:</u>			
40 Budget authority	48,000	2,825	50,825
<u>Relation of obligations to outlays:</u>			
71 Obligations incurred, net	48,000	2,825	50,825
72 Obligated balance, start of year .	18,585	...	18,585
74 Obligated balance, end of year ...	- 4,646	-11,127	-15,773
90 Outlays	61,939	- 8,302	53,637

Justification for Transition Period

Salaries and Expenses \$50,825,000

Executive Direction and Administration \$10,349,000

An estimate of \$10,349,000 is requested for the period July 1, 1976 - September 30, 1976. This amount represents 20 percent of the total transition request. This activity includes the support services necessary for the proper execution of the Administrator's responsibilities including legal, financial, personnel, organization management and procurement functions, as well as public affairs, congressional affairs, and maintaining relationships with the States on energy matters.

Energy Policy and Analysis \$ 4,146,000

As estimate of \$4,146,000 is requested to fund programs under this activity which represents 8 percent of the total transition request. This activity includes the functions of performing long-range energy policy and analysis and includes also the development of a national energy plan, short- and long-range supply/demand forecasting, coordination of energy-related programs, policies, and legislation development of deregulation and decontrol strategies, and provision of all ADP support for the Administrator. This activity also serves as the analytical staff of the Energy Resources Council and provides policy impact analysis for all Federal programs with energy implications.

In addition, the policy analysis function evaluates the programs developed within the agency for the implementation of established policy and the development of additional policy alternatives.

Regulatory Programs \$ 7,302,000

An estimate of \$7,302,000 is requested to fund programs under this activity for the transition period. This represents 14 percent of the total transition amount. This activity is responsible for the development and implementation of mandatory allocation and price regulations, audit and enforcement activities required to assure compliance with any existing regulations in accordance with the mandate of the Emergency Petroleum Allocation Act, and provides a continuous contingency planning capability to review, develop and update National Energy Contingency plans.

In addition to the activities of the Office of Regulatory Programs, the Office of Private Grievances and Redress was formed to combine under one administrative framework the independent regulatory functions

administered by the Office of Exceptions and Appeals and the special redress relief and extraordinary assistance functions contemplated by Section 21 of the Federal Energy Administration Act of 1974.

Energy Conservation and Environment \$26,008,000

An estimate of \$26,008,000 is requested to fund programs under this activity for the period July 1, 1976 - September 30, 1976. This represents 51 percent of the funding requirements for the transition period. The mission of this activity is to promote efficiencies in the use of energy resources. It is responsible for developing and implementing new governmental programs to reduce energy demand in transportation, building, industrial, and utilities areas, developing and conducting public education and multi-media campaigns in support of energy conservation programs. It also provides technical and program support of energy conservation to States and localities.

Energy Resource Development \$ 2,755,000

An estimate of \$2,755,000 is requested for the period July 1, 1976 - September 30, 1976. This amount represents 5 percent of the total transition request. This activity will continue to develop plans, programs, and projects to export domestic production of every currently available fuel source including oil, natural gas, coal, oil shale, nuclear, solar, geothermal, and others. It is 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. This activity also evaluates the impact of present and prospective energy supply alternatives, technologies, resource requirements, programs, and action and provides continuing support to the FEA and the lead in initiation of the Project Independence energy supply programs.

International Energy Affairs \$ 265,000

An estimate of \$265,000 is requested for the period July 1, 1976 - September 30, 1976. This activity deals with general policy review and coordination of all FEA international activities, National Security Council matters, international agreements, multi-national energy negotiations, transportation of energy from abroad, and liaison with defense and nuclear energy agencies. The development of policy options for oil sharing, mandatory conservation, emergency supply, encouraging multi-national energy programs, and the development and evaluation of U.S. export-import policy options are also included under this activity.

EXHIBIT-I

FEDERAL ENERGY ADMINISTRATION

Appropriation, Fiscal Year 1974:

Interior and Related Agencies Appropriation Act, 1974 (PL 93-120):	
- Fuel Allocation, Oil and Gas Programs.....	2,585,000
Supplemental Appropriation Act, 1974 (PL 93-245):	
- Federal Energy Office.....	9,360,000
- Fuel Allocation, Oil & Gas Programs.....	33,545,000
Second Supplemental Appropriation Act, 1974 (PL 93-305):	
- Fuel Allocation, Oil & Gas Programs.....	18,000,000
Transferred to Operating Expenses, Public Building Service, General Services Administration.....	- 5,000
Transferred from:	
- Office of the Secretary, Interior, Salaries & Expenses.....	8,300,000
- Office of the Solicitor, Interior, Salaries & Expenses.....	692,000
- Economic Stabilization Activities.....	<u>1,000,000</u>
Total budget authority, 1974.....	<u>73,477,000</u>

Appropriation, Fiscal Year 1975:

Special Energy Research and Development Appropriation Act, 1975 (PL 93-322):	
- Federal Energy Office.....	19,000,000
- Fuel Allocation, Oil & Gas Programs.....	69,590,000
- Energy Conservation and Analysis.....	26,875,000
Transferred from Department of the Interior:	
- Office of the Solicitor.....	1,285,000
- Oil Import Appeals Board.....	<u>85,000</u>
Total Appropriations, 1975.....	116,835,000
Supplemental Appropriation Act, 1975 (PL 93-554).....	8,000,000
Pay supplemental (PL 94-32).....	<u>2,200,000</u>
Total available and pending, 1975.....	127,035,000
Second Supplemental Appropriation Act, 1975 (PL 94-32).....	<u>3,000,000</u>
Total estimate, 1975.....	<u>130,035,000</u>

Budget Estimate, Fiscal Year 1976:

- Federal Energy Administration (Budget to Congress).....	112,435,000
- Proposed legislation, proposed for later transmittal.....	<u>(75,000,000)</u>
Total estimate, 1976.....	<u>(187,435,000)</u>

EXHIBIT II

FEDERAL ENERGY ADMINISTRATION
Summary of Positions, Man-Years and Obligations
Fiscal Years 1974-76

	1974 actual	1975 estimate	1976 estimate	Increase or decrease (-)
<u>Positions</u>				
Executive direction and administration.....	N.A.	577	413	- 164
Energy policy and analysis.....	N.A.	366	355	- 11
Regulatory programs.....	N.A.	1,750	462	- 1,288
Energy conservation and environment.....	N.A.	183	200	+ 17
Energy resource development.....	N.A.	205	244	+ 39
International energy affairs.....	N.A.	44	41	- 3
Total - Positions.....	<u>3,075</u>	<u>3,125</u>	<u>1,715</u>	<u>- 1,410</u>
<u>Man-Years</u>				
Executive direction and administration.....	N.A.	585	489	- 96
Energy policy and analysis.....	N.A.	370	377	+ 7
Regulatory programs.....	N.A.	1,749	931	- 818
Energy conservation and environment.....	N.A.	174	195	+ 21
Energy resource development.....	N.A.	205	244	+ 39
International energy affairs.....	N.A.	50	47	- 3
Total - Man-Years.....	<u>596</u>	<u>3,133</u>	<u>2,283</u>	<u>- 850</u>
<u>Amount (\$000)</u>				
Executive direction and administration.....	\$ N.A.	\$ 34,887	\$ 30,452	- 4,435
Energy policy and analysis.....	N.A.	20,017	23,574	+ 3,557
Regulatory programs.....	N.A.	41,954	21,749	-20,205
Energy conservation and environment.....	N.A.	19,906	25,066	+ 5,160
Energy resource development.....	N.A.	11,765	10,208	- 1,557
International energy affairs.....	N.A.	1,506	1,386	- 120
Total - Obligations.....	73,833	130,035	112,435	-17,600
Receipts and reimbursements from:				
Federal funds.....	- 484	...	...	...
Unobligated balance lapsing.....	127	...	...	...
Total Budget Authority.....	<u>73,447</u>	<u>130,035</u>	<u>112,435</u>	<u>-17,600</u>

FEDERAL ENERGY ADMINISTRATION
 Summary of Positions, Man-Years and Obligations
 Fiscal Years 1974-1976

	Positions						Man-Years			Amount (in thousands of dollars)				
	1974		1975		1976		1974		1975		1976		Increase or Decrease (-)	
													Amount	Percent
Activity Account														
Executive Direction & Administration:														
Administrator	N.A.	26	22	- 4	N.A.	26	23	- 3	N.A.	\$ 3,754	\$ 897	- 2,857	- 76.1	
Management & Administration	N.A.	242	162	- 80	N.A.	242	238	- 14	N.A.	7,095	4,978	- 2,117	- 29.8	
General Counsel	N.A.	78	65	- 13	N.A.	75	69	- 6	N.A.	2,032	1,779	- 255	- 12.6	
Public Affairs	N.A.	110	100	- 10	N.A.	117	100	- 17	N.A.	2,977	3,499	+ 522	+ 17.5	
Congressional Affairs	N.A.	40	29	- 11	N.A.	40	34	- 6	N.A.	775	585	- 190	- 27.1	
Intergovernmental, Regional & Special Programs	N.A.	35	35	...	N.A.	37	35	- 2	N.A.	1,242	2,539	+ 1,297	+104.4	
Reimbursement for State Energy Programs	N.A.	46	...	...	N.A.	48	...	...	N.A.	10,000	10,000	...	...
Consolidated Account	N.A.	...	...	- 46	N.A.	...	...	- 48	N.A.	7,010	6,195	- 815	- 11.6
Total, Exec. Dir. & Admin.	N.A.	577	413	- 164	N.A.	585	489	- 96	N.A.	34,887	30,452	- 4,435	- 12.7	
Energy Policy & Analysis:														
Policy and Analysis	N.A.	365	355	- 11	N.A.	370	377	+ 7	N.A.	20,017	23,574	+ 3,557	+ 17.8	
Regulatory Programs:														
Operations, Regulations and Compliance	N.A.	305	103	- 202	N.A.	305	184	- 121	N.A.	10,550	4,929	- 5,621	- 53.3	
Private Grievances & Redress	N.A.	55	38	- 16	N.A.	54	47	- 7	N.A.	1,186	997	- 189	- 15.9	
Regions	N.A.	1,390	320	- 1,070	N.A.	1,390	700	- 690	N.A.	30,218	15,823	- 14,395	- 47.6	
Total Regulatory Programs	N.A.	1,750	462	- 1,288	N.A.	1,749	931	- 818	N.A.	41,954	21,749	- 20,205	- 48.2	
Conservation & Environment:														
Conservation and Environment	N.A.	183	200	+ 17	N.A.	174	195	+ 21	N.A.	19,906	25,066	+ 5,160	+ 25.9	
Energy Resource Development:														
Energy Resource Development	N.A.	205	244	+ 39	N.A.	205	244	+ 39	N.A.	11,765	10,208	- 1,557	- 13.2	
International Energy Affairs:														
International Energy Affairs	N.A.	44	41	- 3	N.A.	50	47	- 3	N.A.	1,506	1,386	- 120	- 8.0	
TOTAL, FEA	3,075	3,125	1,715	- 1,410	596	3,133	2,283	- 850	73,833	\$130,035	\$112,435	- 17,600	- 13.5	

1/ Does not include \$75,000,000 budget amendment proposed for later transmittal - proposed legislation.

Congressional Budget Submission
Fiscal Year 1976GENERAL STATEMENTIntroduction:

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 conservation 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.

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 confronted 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.

As a young agency, the FEA has had growing pains. The crisis of a year ago demanded stringent emergency actions: allocation and other Government

control of limited supplies of petroleum products. Today, we must increasingly address the need for energy conservation and development. FEA's budget for Fiscal Year 1976 reflects this shift in emphasis as we move into the post-crisis period of meeting our mid-term and long-term energy goals.

Major objectives and accomplishments for Fiscal Year 1975

Some of the Federal Energy Administration's major accomplishments in fiscal year 1975 include:

- ° The establishment, organization and staffing of the Administration - the first new Federal agency to be created since 1970 - to achieve the objectives of Public Law 93-275, the Federal Energy Administration Act of 1975.
- ° The development and management of the Project Independence Studies and Report - the most comprehensive and sophisticated energy analyses and forecasts ever undertaken by the Federal Government.
- ° The development, implementation and enforcement of 12 major regulatory allocation and price control programs to achieve the objectives of the Emergency Petroleum Allocation Act.
- ° The implementation of the Energy Supply and Environmental Coordination Act of 1974, (P.L. 93-319), which discourages the use of natural gas and petroleum products and encourages increased and continued use of coal. Activities include drafting and issuing regulations governing information gathering and mandatory coal conversions.
- ° The provision of staff support for the Energy Resources Council, created by the Energy Research and Development Act of 1974 (P.L. 93-438). The FEA Administrator is Executive Director of the Energy Resources Council, the function of which is to act as the coordinating body for all energy policy and programs of the Federal Government.
- ° The drafting of legislation and testimony on all aspects of the nation's energy problems, including: material, labor, and equipment shortages; approaches to energy conservation; deepwater ports; surface mining and reclamation; the financial requirements of the electric utility industry; impact of the embargo upon various social, economic and geographic sectors; facilities siting; international implications of U.S. energy policy; and the deregulation of natural gas.
- ° The provision of support to the Department of State in achieving the U.S.-Soviet Energy Agreement and the International Energy Program Agreement.
- ° The disbursement of \$10,000,000 to the States for funding State programs in energy management, fuel allocation, energy conservation, and energy resource development.
- ° The consolidation of all automatic data processing resources throughout FEA for an estimated savings of \$2.8 million in FY 1975 and a projected FY 1976 savings of \$7.6 million.

- ° The establishment of the National Energy Information Center, enabling the Federal Government to collect, process, analyze and act as a clearinghouse for energy data and statistics, independent of industry-controlled sources.
- ° The determination of the energy conservation potential and the implementation of energy conservation programs in the transportation, industrial, building and utilities sectors. Under these programs energy conservation agreements have been reached with the 10 most energy-intensive industries, on their processes; and with the automobile industry on a campaign to improve gasoline mileage by 40% by model year 1979; a lighting and thermal operations program to reduce energy consumption in commercial buildings 300,000 barrels a day equivalent by the close of 1975. Further, demonstration and public education projects have begun in energy conservation by the Federal Government, electric utilities and in all parts of the private sector.

Major objectives, activities and programs for Fiscal Year 1976:

- ° Continuation of mandated responsibilities in accordance with the Federal Energy Administration Act, the Emergency Petroleum Allocation Act, Energy Supply and Environmental Coordination Act, the Energy Research and Development Act, the National Environmental Policy Act and other legislation as relevant to the FEA mission.
- ° Coordination and implementation of the proposed Energy Independence Act which was forwarded to Congress on January 29, 1975. This bill contains thirteen titles and will, when enacted, initiate or accelerate programs to increase domestic energy supply, reduce consumption, revise energy-related regulations and taxes, and provide authority for emergency preparedness measures.
- ° Implementing monitoring programs for energy use and savings in major industries such as petroleum refining, paper, steel, aluminum, chemicals, cement, glass, copper, meat packing and bakery products.
- ° Continuation of analytical efforts on policy alternatives, short- and long-term forecasting, economic and social impact studies, and refinement of forecasting models.
- ° Phase out of the National Office and Regional Compliance and Enforcement activities, assuming the expiration of all price and allocation controls in FY 76; the preparation of contingency enforcement programs in the event controls are reinstated; and implementation of other compliance strategies and programs as required by FEA.
- ° The continuation of on-site audits, investigations, and inspections at the refinery level. The validation and review of actual product costs and profits between different marketing areas and levels.
- ° Substantial expansion of electric utility demonstration projects together with developing energy conservation guidelines for State utility commissions.
- ° Initiation of detailed planning and analysis of the one-billion barrel national emergency storage system.

- ° Development of new data systems covering coal reserves, coal production, new coal mines, nuclear fuel, the consumption of energy, and wholesale and retail fuel prices.
- ° Expansion of the programs to achieve retrofit of existing commercial and residential buildings, an essential effort because of the buildings now in use will still be used in 1990.
- ° Developing and implementing energy performance standards for appliances.
- ° Conduct of market structure and price impact studies upon the basic energy producing industries (petroleum, gas, coal) and the major energy conversion industry (electric utilities).
- ° Development and implementation of regulations, based on revised legislation as required, that will protect the market shares of small and independent retailers and refiners during periods of adequate product supplies.
- ° Disbursement of \$10,000,000 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.
- ° 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.
- ° Expansion of domestic production of major fuel sources through increasing the domestic production of oil, gas, and coal; expediting new powerplant construction and increasing the productivity and reliability of operating powerplants; the promotion of shale conversion and synthetic fuel development, the provision of financial and other incentives for increasing production; expediting energy resource site selection and land use planning; and coordinating the implementation of Project Independence energy supply programs.
- ° Study and development of legislative and administrative initiatives for strengthening the state of the utilities industry including consideration of rate structures, price effects, financial mechanism, conservation, environment and R&D potentials.
- ° Implementation of programs to achieve, monitor and report (to Congress and the public) major gains in energy conservation in both the public and private sector.
- ° Continuation of work to ensure that FEA meets its statutory requirements under the National Environmental Policy Act, to ensure FEA programs and projects are environmentally sound, and to provide a base for FEA work with other Federal agencies in assessing alternate energy sources and the energy efficiency of Federal projects.
- ° Further development of programs for conversion of boilers from oil and gas to coal; performance standards for industrial equipment, e.g., motors, pumps, compressors; and increased in-plant electrical generation.

- ° Intensification and expansion of efforts to gain voluntary adherence to Federal lighting and thermal guidelines to obtain energy savings equivalent to 200,000 barrels a day.
- ° Assessment of increased energy demand resulting from the Federal Water Pollution Control Act and the Clean Air Act to identify the tradeoffs between the environmental benefits from reduced emissions or effluents and the energy benefits of production.
- ° Development, based on new legislation, of an emergency storage program to insulate the U.S. economy from future oil embargoes and of standby allocation and rationing programs to cope with supply interruptions pending completion of the storage programs.
- ° Expansion of FY-75 public education efforts and developing new programs to familiarize consumers with such issues as life-cycle cost considerations, making better purchase decisions, and better energy using habits.
- ° Continuation of participation in and the provision of technical support to the International Energy Agency and the NATO Petroleum Planning Committee.
- ° Continuing participation in the on-going work of the U.S.-Soviet Energy Agreement with particular emphasis on energy information exchange.
- ° Conclusion of a major long-term assessment of the international market in world energy resources and the development of specific recommendations on future U.S. energy trade policy options.
- ° Development of proposals designed to create special relationships on a bilateral basis between the U.S. and major producing countries.

Allocation of resources:

The Federal Energy Administration program is composed of six 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 413 positions and \$30,452,000 in fiscal year 1976. The funds requested include \$10,000,000 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, the development of a national energy plan, for submittal to Congress, 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 of all ADP support for FEA, including such things as energy statistics, allocation data systems, and providing a national energy data clearinghouse.

These responsibilities require 355 positions and \$23,574,000 in fiscal year 1976 as compared to 366 positions and \$20,017,000 in FY 1975.

3. Regulatory programs. - This activity includes development and implementation of mandatory allocation and price regulations, in accordance with the mandate of the Emergency Petroleum Allocation Act; execution of those audit and enforcement activities required to assure compliance with regulations; and design of standby programs to cope with future supply emergencies. Major emphasis in fiscal year 1976 will be on protecting market shares of independent retailers and refiners after the Emergency Petroleum Allocation Act expires on August 31, 1975.

Requirements under this activity are 462 positions and \$21,749,000 in fiscal year 1976, as compared to 1975 levels of 1,750 positions and \$41,954,000. This request assumes that the Petroleum Allocation Act will expire, as presently scheduled, on August 31, 1975. If the EPAA is extended, these positions and funds will be grossly inadequate.

4. Energy conservation and environment. - This activity responds to the unique charter of the Federal Energy Administration to reduce the rate of energy demand growth and fulfills FEA's responsibilities under the National Environmental Policy Act. It develops information through economic and policy analysis, promotes efficiencies in the use and development of energy resources, and provides policy analysis on environmental issues. Developing and implementing new governmental programs to reduce energy demand in transportation, building, industrial and utilities areas, developing and conducting public education and multimedia campaigns in support of energy conservation programs, and providing technical and program support on energy conservation to States and localities are among the major efforts of this activity.

The resources required under this heading are 200 positions and \$25,066,000 in fiscal year 1976. The figures compare with 183 positions and \$19,906,000 in FY 1975.

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 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 244 positions and \$10,208,000 in fiscal year 1976. The figures for fiscal year 1975 were 205 positions and \$11,765,000.

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 U.S. export-import options.

To carry out the responsibilities under this activity will require 41 positions and \$1,386,000 in fiscal year 1976, as compared to 44 positions and \$1,506,000 in fiscal year 1975.

Summary:

A summary comparison of the positions, man-years, and obligations for Fiscal Year 1974-76 is presented below:

Item	1974 Actual	1975 Estimate	Change		1976 Estimate	Change	
			Amount	%		Amount	%
Positions	3,075	3,125	+ 50	+ 2	1,715	- 1,410	-45
Man-Years	596	3,133	+ 2,537	+426	2,283	- 850	-27
Obligations (\$000)	73,833	130,035	+56,202	+ 76	112,435	-17,600	-14

The Fiscal Year 1976 budget request of \$112,435,000 does not include a \$75 million budget amendment proposed for later transmission along with proposed legislation. The FY 76 budget amendment will consist of requests for:

- \$55 million to continue the program for winterizing the dwellings of low-income persons, and

- . \$20 million to implement an energy facilities siting program.

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 and 1976.
- . A statement of each organization's missions, accomplishments, and objectives.
- . An analysis of budgetary changes from FY 1975 to FY 1976.
- . An analysis of requested contract authority for FY 1976.
- . Obligations by object class for FY 1975 and FY 1976.

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 \$11,000 for official reception and representation expenses; \$112,435,000 of which \$10,000,000, to remain to State and local public agencies as authorized by Public Law 93-275, section 7(d): 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.

For the transition period (197T) from July 1, 1976 through September 30, 1976 the following language is requested:

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: \$48,000,000. (Public Law 93-275; additional authorizing legislation to be proposed for \$48,000,000 for the period July 1 1976 through September 30, 1976; Supplemental Appropriations Act, 1975).

"Crosswalk" Statements: There follows three "Crosswalk" statements showing distribution of fiscal year 1975 appropriated funds to the present Federal Energy Administration activities.

FEDERAL ENERGY ADMINISTRATION
 Crosswalk
 Organizational Component
 to
 Program-by-Activity Category
 FY 1975
 (in thousands of dollars)

Organization	Executive Direction & Admin.	Energy Policy & Analysis	Regulatory Programs	Energy Conservation & Environment	Energy Resource Development	International Energy Affairs	TOTAL
Administrator.....	3,754	...	...	...	...	...	3,754
Management and Administration.....	7,095	...	...	...	...	...	7,095
General Counsel.....	2,034	...	...	...	...	...	2,034
Communications and Public Affairs.....	2,977	...	...	...	...	...	2,977
Congressional Affairs.....	775	...	...	...	...	...	775
Intergovernmental, Regional, and Special Programs.....	1,242	...	...	...	...	...	1,242
Consolidated Account.....	7,010	...	...	...	...	...	7,010
Policy and Analysis.....	...	20,017	...	...	...	...	20,017
Operations, Regulations and Compliance.....	...	...	10,550	...	...	...	10,550
Private Grievances and Redress.....	...	...	1,186	...	...	...	1,186
Conservation and Environment.....	...	...	...	19,906	...	...	19,906
Energy Resource Development.....	...	...	...	...	11,765	...	11,765
International Energy Affairs.....	...	...	...	...	...	1,506	1,506
Total, Headquarters.....	24,887	20,017	11,736	19,906	11,765	1,506	89,817
Regions.....	...	...	30,218	...	...	...	30,218
Reimbursement to State Energy Programs.....	10,000	...	...	...	...	...	10,000
TOTAL, FEAs.....	34,887	20,017	41,954	19,906	11,765	1,506	130,035

FEDERAL ENERGY ADMINISTRATION
 Analysis of Appropriation Allowances, FY 1975
 Crosswalk between Appropriations and Organizational Component
 (in thousands of dollars)

Organization	FEO	Petroleum Allocation	Oil & Gas	Energy Conservation	Energy Data & Analysis	Office of the Solicitor	Oil Import Appeals Board	Total	Program Suppl. PL 94-554	Pay Raise Suppl.	Program Suppl.	Total
Administrator.....	1,545	2,194	...	...	...	...	...	3,739	...	15	...	3,754
Management and Administration.....	3,950	2,204	...	...	...	...	...	6,154	729	212	...	7,095
General Counsel.....	1,230	756	...	...	...	...	...	1,986	...	48	...	2,034
Communications and Public Affairs.....	1,941	970	...	...	...	...	...	2,911	...	66	...	2,977
Congressional Affairs.....	470	284	...	...	...	...	...	754	...	21	...	775
Intergovernmental, Regional and Special Programs.....	5,066	1,219	...	...	...	...	...	1,219	...	23	...	1,242
Consolidated Account.....	598	1,944	...	...	...	...	...	7,010	...	...	...	7,010
Policy and Analysis.....	598	6,256	4,598	4,985	...	...	...	16,437	3,328	252	...	20,017
Operations, Regulations and Compliance.....	100	8,234	...	...	...	1,285	...	9,619	736	195	...	10,550
Private Grievances and Redress.....	871	200	...	...	...	...	85	1,156	...	30	...	1,186
Conservation and Environment.....	234	...	17,292	...	...	...	...	17,526	274	106	2,000	19,906
Energy Resource Development.....	1,518	3,269	2,890	...	...	...	...	7,677	2,933	155	1,000	11,765
International Energy Affairs.....	1,477	...	...	...	...	...	...	1,477	...	29	...	1,506
Total, Headquarters.....	19,000	27,530	2,890	21,890	4,985	1,285	85	77,665	8,000	1,152	3,000	89,817
Regions.....	...	29,170	...	...	...	...	...	29,170	...	1,048	...	30,218
Reimbursement to State Energy Programs.....	...	10,000	...	...	...	...	...	10,000	...	...	...	10,000
Total, FEA.....	19,000	66,700	2,890	21,890	4,985	1,285	85	116,835	8,000	2,200	3,000	130,035
FEO	69,590	Fuel Allocation	26,875	Energy Conservation	1,370	Transfer from Interior	...	...	...	...	...	...

Congressional Budget Submission
Fiscal Year 1976

Executive Direction & Administration

(\$000)

Item	1974 Actual	1975 Estimate	Change		1976 Estimate	Change	
			Amount	%		Amount	%
Positions	N/A	577	N/A	N/A	413	- 164	-29
Man-Years	N/A	585	N/A	N/A	489	- 96	-16
Obligations	N/A	\$34,887	N/A	N/A	\$30,452	-4,435	- 3

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 1975 include:

- Implementation of Public Law 93-275 including design and staffing of the organizational structure of the Federal Energy Administration.
- The establishment of specific national priorities and objectives for the agency and provide necessary support for the accomplishment of these goals.
- Developed and implemented a GAO approved computerized accounting system, a GAO approved fund control system, and compiled FEA's "Accounting Principles and Standards" which has preliminary GAO approval.
- 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 Administrator on an average of one per working day.

- Provision of legal support on a wide and complex range of energy matters; support for the development and implementation of regulations authorized by the Energy Supply and Environmental Coordination Act of 1974 (coal conversion of power plants); and support for the development and implementation of fuel allocation and price regulations.
- Disbursement of \$10,000,000 to the States for their involvement in energy management, fuel allocation, energy conservation, and energy resource development.
- Analysis of the impact of the energy crisis in the winter of 1973-74 on the poor and the aged.
- Assessment of the effectiveness of State Offices of Petroleum Allocation during the energy crisis of the winter of 1973-74.

The major FY 1976 objectives for the supporting services in Executive Direction and Administration include:

- The provision of public affairs support to the Energy Resources Council as well as the FEA.
- The "energy-wise" education of the American people concerning energy problems through an increased volume of speeches by the Administrator, two deputy administrators, and administrative assistants who will transmit the Presidential direction for increased efforts in reaching consumer groups on conservation.
- 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 continuation of legal support to the allocation and compliance activities, albeit on a reduced level, if allocation and price control authority is not extended.
- 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 \$10,000,000 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.

Executive Direction & Administration
Analysis of Changes

	<u>Dollars in Thousands</u>	<u>Man-Years</u>
1975 Budget Estimate	34,887	585
1. <u>Decreases:</u>		
<u>Automatic (Non-policy) Decreases:</u>		
- Reduction in personnel compensation and benefits due to less personnel ..	-1,389	-82
- Non-recurring furniture and equipment purchase	- 176	
- Reduction in other service requirements	-1,195	
- Decrease to Administrator's Contingency Contract Fund for Special Programs	-2,503	
- Deferral of Space Renovation	-2,379	
<u>Program Decrease: Public Affairs Management Improvement:</u>		
- Increased Efficiency	-1,137	-14
- Decreased Travel	212	
- Reduction in Printing	- 192	—
Total Decreases	-9,183	-96
2. <u>Increases:</u>		
<u>Automatic (Non-policy) Increases:</u>		
- Increased Travel	+ 54	
- Change in items of rental equipment to support operations	+ 68	
- Increased costs for supplies and material	+ 22	
<u>Program Increases:</u>		
- Centralization of supplies control ..	+ 306	
- Increased contracts	+2,010	
- Upgrading of staff	+ 357	
- Increased personnel benefits resulting from staff upgrade	+ 26	
- Space rental, utilities, and communications costs	+1,905	
Total Increases	+4,748	0
1976 Budget Request	30,452	489

Executive Direction & Administration
Congressional Budget Submission
FY 1976

<u>Analysis of FY 1976 Contracts</u>	<u>Cost (\$000)</u>
Contingency contract funding attendant with energy priorities and changes in program emphasis	\$ 200
Management studies, organizational staffing surveys, and other special projects to enhance the overall management effectiveness of FEA	225
Publications distribution, graphics, community affairs, educational materials, advertising, motion pictures, manuscript editing, radio programs, TV news films, and TV spots	510
Continued development of Consumer Affairs/ Special Impact Comprehensive Human Resources Data System	500
Surveys for assessing energy shortage impact on consumers and special groups	518
State and local government participation and consultation in FEA management policy and program developments	482
Total FY 1976 Contracts	<hr/> \$2,435

FEDERAL ENERGY ADMINISTRATION
EXECUTIVE DIRECTION AND ADMINISTRATION

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code	1974 actual	1975 estimate	1976 estimate
30 1500-0-1-305			
Personnel compensation:			
11.1 Permanent positions.....		9,808	8,100
11.3 Positions other than permanent.....		25	---
11.5 Other personnel compensation.....		900	624
Total personnel compensation.....		10,733	8,724
Personnel benefits:			
12.1 Civilian.....		857	723
21.0 Travel and transportation of persons.....		630	481
22.0 Transportation of things.....		42	33
23.0 Rent, communications, and utilities.....		4,193	6,083
24.0 Printing and reproduction.....		1,300	1,123
25.0 Other services.....		3,260	129
Contracts.....		13,313	12,435
26.0 Supplies and materials.....		259	529
31.0 Equipment.....		300	192
.....			
.....			
99.0 Total obligations.....	N/A	34,887	30,452

Congressional Budget Submission
Fiscal Year 1976

Energy Policy and Analysis

(\$000)

Item	1974 Actual	1975 Estimate	Change		1976 Estimate	Change	
			Amount	%		Amount	%
Positions	N/A	366	N/A	N/A	355	- 11	- 3
Man-Years	N/A	370	N/A	N/A	377	+ 7	+ 2
Obligations	N/A	\$20,017	N/A	N/A	\$23,574	+ 3,557	+18

Justification

Energy Policy and Analysis includes the functions of performing long-range energy policy analysis. It also includes, for example, the development of a national energy plan, short- and long-range supply/demand forecasting, coordination of energy-related programs, policies, and legislation, development of deregulation and decontrol strategies, and provision of all ADP support for the Administration, including such things as energy statistics, allocation data systems, and providing a national energy data clearinghouse.

The Assistant Administrator for Policy and Analysis requests \$23,574,000 for energy supply/demand forecasting, energy policy analysis and energy data collection in FY-76. The forecasting activity is based upon the development, implementation and operation of a family of econometric models which predict all energy supply and demand by geographic region. The energy policy analysis component evaluates the energy, social and economic impact of proposed energy policy alternatives. The data collection activity encompasses all information needed for the formulation of energy policy, the preparation of legislatively required reports, and the administration of allocation programs.

The major accomplishments of Policy and Analysis in FY 1975 include:

- The conduct of long-term analyses of future energy conditions for the November, 1974 Project Independence Report.
- The development of over 100 energy policy issue papers in such areas as deregulation, reaction to potential shortages, and price equalization and control.
- The development of a long-range macroeconomic energy forecasting model, a regional petroleum supply and demand model, and a distribution forecasting model.
- The establishment of an on-going FEA energy data system which measures energy supply levels, conservation efforts, market shares and oil company profits, reserves, etc.
- The development of the National Energy Information Center.
- The completion of a general system design for an integrated petroleum reporting system which will supply the majority of basic energy data requirements, thereby eliminating a number of overlapping data acquisition systems.
- The provision of Quarterly Reports to the Congress which are required under the Energy Supply and Environmental Coordination Act.

The major objectives of Policy and Analysis in FY 1976 are:

- The continuation of Project Independence analysis, including policy, programs, and legislative development.

- The continuation of overall planning, energy analysis and coordination in such areas as supply/demand and emergency systems.
- The development of international models addressing financial flows, balances of payments, and energy conversion, transportation and resources.
- The development of new data systems covering coal reserves, coal production, new coal mines, nuclear fuel, the consumption of energy, and wholesale and retail fuel prices.
- The implementation of data validation and auditing procedures for all FEA data bases.
- The continuation of data collection, data processing and systems design for all FEA automated data systems.
- The conduct of market structure and price impact studies upon the basic energy producing industries (petroleum, gas, coal) and the major energy conversion industry (electric utilities).
- The completion of development of the National Energy Accounts.
- Short-term forecasting of future energy indicators predicting trends and shortages.

Analysis of Changes

	<u>Dollars in Thousands</u>	<u>Man-Years</u>
1975 Budget Estimate.	20,017	370
1. <u>Decreases</u>		
- Non-recurring purchase of office equipment.	- 44	_____
Total Decreases.	-44	-0
2. <u>Increases</u>		
- Increases personnel compensation and benefits.	+ 201	+7
- Increased frequency of domestic travel.	+ 20	
- Increase in rental of ADP equipment.	+ 270	
- Increase in printing to support publication of reports and National Energy Information Ctr.	+ 31	
- Increased computer support for all FEA activities.	+ 3,077	
- Increase in supplies.	+ 2	
Total Increase.	<u>+3,601</u>	<u>+7</u>
FY 1976 Budget Request.	23,574	377

POLICY AND ANALYSIS

Congressional Budget Submission
FY 1976Analysis of FY 1976 ContractsOFFICE OF DATA(\$000)
Cost

· Provide export and import data as required by Section 25(c) of the FEA Act. In addition, provide data of retail gasoline gallonage sales and other data required by the legislation.	\$ 500
· Provide interactive and batch computer services to all FEA activities. This contract will replace most of the other contracts for computer services and expand from the FY 75 initial contract.	6,500
· Provide additional system support for data collection and data processing systems. In addition, FEA is required to develop several new systems to meet legislative mandates, and this contract provides the manpower and expertise necessary to meet these requirements, i.e., cost equalization, transfer price, mandatory conservation, and computer programming for the National Energy Information Center	500
· Provide keypunch, key-to-tape, key-to-disk and other data entry services to support FEA. This contract will make it unnecessary to increase the Office of Data Services' staff level and provide rapid turnaround capability.	400
· Provide data necessary to complete the information gathering and reporting requirements of the National Energy Information Center.	465
· Provide updating of oil and gas reserves, resources and productivity data, including the identification of ownership.	250
· Develop estimates of U.S. coal reserves to include classification of coal and mining techniques.	500
· Forecasting and economic impact studies computer support	<u>1,345</u>
Data Subtotal.	\$10,460

POLICY AND ANALYSIS

Congressional Budget Submission
FY 1976Analysis of FY 1976 Contracts

<u>OFFICE OF ANALYSIS</u>	<u>(\$000) Cost</u>
Develop technical process models for integrating with the econometric regional energy forecasting models to measure the quantity and price impact of alternative energy policies by region.	200
Design appropriate accounting structures and assemble data to implement the energy technology and capital accounts -- three contracts, each on a different industry or economic sector. (Total all three contracts \$270,000)	270
Support projects related to Project Independence initiated in FY 75.	320
Complete development of an integrated world energy model representing refinery and other energy conversion technology, transportation and resources.	150
Continue updating studies on usage, efficiency and conservation of energy by major energy consuming industries.	425
Assess the impacts of energy policy on the real distribution of income.	150
Develop estimates of capacity and expansion plans for 30 categories of critical energy materials and equipment.	125
Three contracts to develop and implement models of short-term electric power demand, coal supply/demand, and natural gas supply demand.	220
Determine full energy sector labor requirements by occupation and State, for use in energy manpower planning.	150
Develop estimates of international availability of selected resources, both as trade flows between the U.S. and the rest of the world, and as trade flows outside of the U.S.	150
Perform regional resource studies, focusing upon areas where resource shortages may severely constrain energy development, to evaluate alternative methods of alleviating such shortages and constraints.	<u>150</u>
Analysis Subtotal.	\$2,310

POLICY AND ANALYSIS

Congressional Budget Submission
FY 1976

Analysis of FY 1976 Contracts

(\$000)
CostOFFICE OF POLICY INTEGRATION AND EVALUATION

Four contracts to provide follow-up analysis for Project Independence; to improve the Issues Process; to analyse regulatory policy; and to provide for special projects (contingency planning, ad hoc problems) 200

Policy Subtotal. 200

GRAND TOTAL - Policy and Analysis Contracts. \$12,970

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 30-66-1500-0-1-305	1974 actual	1975 estimate	1976 estimate
Personnel compensation:			
11.1 Permanent positions.....		6,727	6,872
11.5 Other personnel compensation.....		381	395
Total personnel compensation.....		7,108	7,267
Personnel benefits:			
12.1 Civilian.....		559	601
21.0 Travel and transportation of persons.....		190	206
22.0 Transportation of things.....		15	19
23.0 Rent, communications, and utilities.....		2,111	2,381
24.0 Printing and reproduction.....		25	56
25.0 Other services.....		33	---
Contracts		9,860	12,970
26.0 Supplies and materials.....		6	8
31.0 Equipment.....		110	66
.....			
.....			
99.0 Total obligations.....	N/A	20,017	23,574

Congressional Budget Submission
FY 1976

Regulatory Programs

(\$000)

	1974 Actual	1975 Estimate	Change		1976 Estimate	Change	
			Amount	%		Amount	%
Positions	N/A	1,750	N/A	N/A	462	-1,288	-74
Man-Years	N/A	1,749	N/A	N/A	931	- 818	-47
Obligations	N/A	\$41,954	N/A	N/A	\$21,749	-20,205	-48

Justification

The mission of the three offices which administer the FEA's regulatory programs; namely, Operations, Regulations and Compliance; Private Grievances and Redress; and the Regions; is to support a national energy policy by providing allocation management of energy resources as national needs require.

The major responsibilities include the following:

- Development and implementation of regulatory price and allocation programs.
- Compliance activities required to assure widespread compliance with existing regulations, detect violations, and take appropriate corrective and punitive actions.
- Performance of the independent regulatory functions administered by the Office of Exceptions and Appeals and the Oil Import Appeals Board.
- Implementation of all agency programs in the field; including allocation, enforcement and compliance, conservation and energy resource development.

In FY-75 the Offices performing the above functions had the following major accomplishments:

- The development and implementation of operational procedures for crude oil price equalization program to protect the independent refining sector as mandated in the Emergency Petroleum Allocation Act.
- The continuation and improvement of the effectiveness of the various allocation programs.
- During FY 75 the discovery was made of serious violations in almost every area of the Mandatory Petroleum Pricing and Allocation Regulations. Examples include: refiner failure to include cost recoveries on mandatory sales in its cost computation; refinery calculating its own increased fuel costs as increased cost of product sold to customers; unsubstantiated claims of "new" oil by a producer to escape the price ceiling applicable to "old" oil; illegal price violations by hundreds of retail/wholesale firms; and numerous violations of the allocation regulations at all levels of the industry.
- The implementation of project SPECULATOR, designed to uncover violations in propane pricing, resulted in over \$44 million in refunds to consumers.

- . The revision of allocation regulations for each of the eight (8) fuel programs to reflect changed supply conditions caused by termination of the OPEC embargo.
- . The revision of allocation regulations as required to correct deficiencies noted in operation of FY 1974 allocation programs, removing unintended effects and permitting increased operation of market forces.
- . The development of a stand-by allocation program in the event that future fuel shortages again necessitated 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 varying conditions of supplies. As petroleum products became more plentiful it was necessary to make adjustments in the regulations. Additionally, interpretations of the current regulations and response to inquiries concerning policy changes have expended 12 manyears of effort. These tasks have involved participation in hearings concerning residuals.
- . The development of Consignee-Agent regulations; unleaded gasoline regulations and proposals; retail dealer lease ruling; residual fuel deallocation proposal; transfer pricing amendment; allocation of costs regulation regarding gasoline and non-product costs regulation.
- . The development of regulations, both price and allocation, to assure adequate supplies of unleaded gasoline for 1975 and subsequent model-year automobiles in support of EPA regulations.
- . The development of regulations for the implementation of the Energy Supply and Environmental Coordination Act of 1974 and regulations to begin a more concentrated conservation program. Adjustments of regulations to cope with natural gas curtailments were also achieved.
- . The determination of issues in 658 cases before the Office of Exceptions and Appeals: the issuance of detailed decisions and orders in 330 cases.
- . The taking of final action on 85 petitions and requests for consideration by the Oil Import Appeals Board: Interim action taken on 8 petitions.
- . The establishment of a mandatory petroleum allocation program and the implementation by 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. At the height of the crisis, these offices processed as many as 21 thousand cases per month as well as answering numerous public inquiries on energy matters.
- . The processing of most of FEA's Exception and Appeals cases, many of which were extremely complex and time consuming as a result of the changes in the allocation regulations.
- . The investigation and audit of petroleum procedures, refiners, wholesalers and resellers pursuant to the statutes and regulations governing the allocation program. As a result of their continued efforts, by the end of December, about 86,000 investigations had

been completed. Their investigations resulted in action on about 20,000 pricing violators with rollbacks amounting to over \$66 million dollars.

The implementation of Federal Energy Management Program at the Regional level which includes developing guidance for Federal Executive Boards; outline procedures for teams to visit Federal facilities and check on energy conservation actions currently underway; develop program guidance for future conservation policies and publicize the results of program including cost effectiveness and specific conservation measures undertaken.

The objectives for FY 1976 of the FEA's Regulatory Programs include the following:

The phasing out of the National Office and Regional Compliance and Enforcement activities, assuming the expiration of all price and allocation controls in FY 76; the continuation and expansion of compliance and enforcement activities; the preparation of contingency enforcement programs in the event controls are reinstated; and implementation of other compliance strategies and programs as required by FEA.

The execution of the "Crude Oil Entitlements Program": in conjunction with the program for crude cost equalization, it will be necessary to continue the "crude buy/sell program" in abbreviated form.

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 continued operation of the Office of Private Grievances and Redress to handle a still substantial caseload.

The processing of complex national office directed investigations, compliance cases and data validation surveys, a high priority and highly visible line function now carried out exclusively by the National Case Enforcement Division, will continue through FY 1976.

The analysis of and decisions on exception applications and appeals relating to the use of petroleum products rather than coal in power generators maintained by public utilities.

The analysis of and decisions on exception applications and appeals relating to the FEA's responsibilities under the Energy Supply and Environmental Coordination Act of 1974.

The expansion of the pilot program to five additional cities to upgrade thermal characteristics of existing residential housing stock. The goal is to upgrade 650,000 homes.

The continuation of work to ensure that FEA meets its statutory requirements under the National Environmental Policy Act, to ensure FEA programs and projects are environmentally sound, and to provide a base for FEA to work with other Federal agencies in assessing alternate energy sources and the energy efficiency of Federal projects.

Regulatory Programs
Congressional Budget Submission
BY 1976

Analysis of Changes

	<u>Dollars in Thousands</u>	<u>Man-Years</u>
1975 Budget Estimate	41,954	1,749
1. <u>Decreases:</u>		
<u>Automated (Non-policy) Decreases:</u>		
- Non-recurring equipment purchases. -	672	
- Reduction in personnel compensation and benefits	- 457	- 18
- Other service costs	- 4,404	
<u>Program Decreases:</u>		
- Decreases in operating workload due to deallocation	-14,121	-800
- Other costs (travel, supplies, printing, services)	- 753	_____
Total Decreases	-20,407	-818
2. <u>Increases:</u>		
- Increased transportation to relocate household effects of phased out personnel	+ 202	_____
Total Increases	+ 202	0
Budget request	21,749	931

REGULATORY PROGRAMS

Congressional Budget Submission
FY 1976

<u>Analysis of Major FY 1976 Contracts</u>	<u>(\$000) Cost</u>
. Reimbursement to various agencies and the IRS for the annualization of storage charges for rationing coupons.	\$ 100
. Design of forms, procedural manuals, and training materials to support rapid buildup of compliance program consistent with standby regulatory programs.	100
. Study of oil industry management accounting practices for volume and inventory control for crude oil and for products as they affect allocation and enforcement required to support standby program development	200
. Survey of effect of propane pricing rules on supply and consumer prices with respect to the special propane provisions of the FEA Act and FEA's continuing responsibility for propane until the Act expires June 30, 1976	100
. Survey of economic disincentives to increased production introduced into the marketplace by FEA pricing rules and regulations and corrective measures required.	100
. System study for the distribution of gasoline, diesel and heating oil to support development of standby regulations.	100
. Let two contracts to study interstate petroleum transportation network and petrochemical feedstock production and processing.	100
. Presidential requested study of regulatory practices.	<u>500</u>
Total (All Contracts)	1,300

REGULATORY PROGRAMS
OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 30-66-1500-0-1-305	1974 actual	1975 estimate	1976 estimate
Personnel compensation:			
11.1 Permanent positions.....		29,336	16,876
11.5 Other personnel compensation.....		433	274
Total personnel compensation.....		29,769	17,150
Personnel benefits:			
12.1 Civilian.....		2,355	1,338
13.0 Benefits for former personnel.....		---	83
21.0 Travel and transportation of persons.....		1,877	456
22.0 Transportation of things.....		297	487
23.0 Rent, communications, and utilities.....		1,790	541
24.0 Printing and reproduction.....		628	91
25.0 Other services.....		1,870	157
Contracts.....		2,300	1,300
26.0 Supplies and materials.....		347	67
31.0 Equipment.....		721	79
.....			
.....			
99.0 Total obligations.....	N/A	41,954	21,749

Congressional Budget Submission
FY 1976

Energy Conservation and Environment

(\$000)

Item	1974 Actual	1975 Estimate	Change		1976 Estimate	Change	
			Amount	%		Amount	%
Positions	N/A	183	N/A	N/A	200	+ 17	+ 9
Man-Years	N/A	174	N/A	N/A	195	+ 21	+12
Obligations	N/A	\$19,906	N/A	N/A	\$25,066	+5,160	+26

Justification

The general mission assigned the Office of Energy Conservation and Environment is to promote efficiencies in the use of energy resources. The Office provides policy analysis on environmental issues and fulfills FEA's responsibilities under the National Environmental Policy Act. The office is responsible for developing and implementing new governmental programs to reduce energy demand in transportation, building, industrial, and utilities areas, developing and conducting public education and multimedia campaigns in support of energy conservation programs, and providing technical and program support of energy conservation to States and localities. In brief, the Office of Energy Conservation and Environment (C&E) has the unique charge to reduce the rate of energy demand growth, to implement energy conservation programs, and to promote efficient use of energy resources.

During FY 1975, the Office's most immediate concern has been to generate information and do the related analytical work on which policy decisions or recommendations can be made, identifying the specific areas having the greatest energy savings potential, developing measurement and evaluation methodologies, and planning for the demonstration of feasible energy-conserving actions.

The major accomplishments of the Office in FY 1975 by specific program area are highlighted below:

Transportation Programs. These efforts are to reduce energy demand in the transportation sector which currently accounts for about one-quarter of all energy usage. The focus is on gasoline consumption because of its direct relationship with petroleum imports.

In FY-75, activities included:

- The provision of data and implementation of the President's Program for Improved Auto Fuel Efficiency, which calls for voluntary improvements by the automobile manufacturers of 40 percent by model year 1979.

- The management (with EPA) of the voluntary fuel economy labeling program for new autos. An estimated 7.2 million labels will be placed on this year's new cars and 750,000 booklets listing comparative auto fuel economies will be distributed.

- The evaluation of alternative carpool promotion strategies and solo-driving disincentives in terms of energy savings, mobility, and impacts on different income groups. Urban auto travel accounts for one-third of auto travel; occupancy for such trips is only 1.4 PM/VM;

thus the potential for saving energy -- and for reducing urban air pollution and congestion -- is substantial.

The examination of the energy conservation potentials of further raising airline load factors and of modifying airplane operations both on the ground and in the air. Airline fuel use accounts for about 10 percent of the transportation fuel budget. Because airline travel is growing so rapidly, this percentage is also likely to grow. Measures to conserve fuel via CAB and FAA regulatory changes will have long-term impacts.

Industrial Programs. Industrial energy use is well over one-third the country's total demand. Major users are primary metals, chemicals, petroleum, coal, stone, clay, glass, cement, paper, and food products.

FY-75 work included:

The determination of energy saving potential for the ten most energy intensive industries, and the provisions of the basic data for the workshops with those major industries to establish energy efficiency targets.

The determination of economic feasibility and energy saving potential of improved boiler efficiency. Boilers are common to all industries and generally use the largest amount of energy.

The accomplishment through meetings with chief executive officers of companies in ten industries and established overall BTU/unit of output goals ranging from 10 percent to 20 percent by 1980. It is estimated that 40 percent of the companies established conservation programs solely as a result of this effort. Approximately 25 percent to 50 percent have made conservation a higher priority.

The development of energy data bases for nine major industries.

The development of reports on reduced store hours, energy conservation potential in selected industries, industrial case studies, theoretical potential for energy conservation, energy conservation kits, staggered industry hours, industrial-utility centers, the use of asphalt emulsions for paving, and an off-peak power study.

The formulation of an industry energy conservation monitoring program for use in monitoring conservation achievements at the company level of the major intensive industries.

Building Programs. The buildings sector accounts for approximately one-third of the Nation's total energy consumption. The 1975 State of the Union message included several initiatives in the buildings area: thermal standards for new buildings and mobile homes, residential tax credit, low income conservation program, and appliance labeling and efficiency standards.

Accomplishments during FY-75 included:

The development of programs to gain adherence to FEA's lighting and thermal operations, guidelines for commercial, industrial, and public buildings.

The promotion of a government sponsored marketing program in five cities (Operation Button-Up) to urge retrofit of residential buildings with ceiling insulation, storm windows and doors, and caulking.

- . The development of a manual for building owners, operators, architects, and engineers containing guidelines, energy measurement techniques, and return on investment comparisons.
- . The development and implementation of the Federal Energy Management Program which resulted in significant energy savings and cost avoidance from buildings operations of the Federal government.

Utilities Programs. These present a potential for major energy savings through load leveling, storage, and marketing by utilities of ways to reduce total usage.

In FY-75 accomplishments included:

- . The determination of potential energy savings of leveling electrical loads, improved load management, and supporting strategies.
- . The determination of economic feasibility and marketing implications of innovative rate designs for residential customers in five U.S. utility systems.
- . The initiation of study to identify what improvements in load factor are economic, what fuel shifts will occur, and what strategies have highest feasibility to increase load factors to the goal set.

Environmental Programs. This program area is concerned with development of environmental policies for FEA, preparation of Environmental Impact Statements (EIS), evaluation of environmental implications of legislative proposals, and development of legislative proposals to amend existing environmental laws.

For FY-75, accomplishments were:

- . The continuation of efforts to assure that needed amendments to the Clean Air Act are passed so as to allow the use of intermittent control systems and to remove the nonsignificant deterioration interpretation.
- . The establishment of FEA procedures and programs to implement the National Environmental Policy Act which will prevent costly delays in FEA's implementation of programs such as the Coal Conversion Program, Fuel Allocation Program and the like.
- . The appraisal of the scientific information of sulfates and acid aerosols which will significantly influence the Nation's ability to expand the use of coal.
- . The provision of significant inputs to the development of FEA position on the surface mining legislation.
- . The preparation of environmental assessment of the \$3 import fee on imported petroleum products and managed the development of the draft EIS for the President's Energy Program.

Public Education. The objective of public education is to enlist voluntary public action in energy conservation and to induce permanent changes in behavior through the development of an energy conservation ethic.

FY 1975 activities included:

- . The implementation of a multi-media advertising program consisting of four subjects and 12 treatments of those subjects resulting in

approximately one dozen TV/radio and eight print media exposures per person in the U.S. The space and time cost, if purchased, equaled \$25 million minimum.

The support of specific conservation programs (schools, lighting guidelines, temperatures, auto labeling) in FEA and other agencies and more general topics (Tips to Homeowners, Tips to Motorists) with printed information and promotional material.

Administrative and Cross-Sector Programs. This area encompasses the activities of the Assistant Administrator's immediate staff, personnel providing common support services, and cross-sectoral projects.

Fy-75 activities included:

- The recruitment of 110 professional and support personnel, completion of a major position paper for input to the Project Independence Blueprint; analysis of European per capita energy consumption compared to that of the U.S.; cost/benefit analyses of PIB conservation options.
- The delivery of a report to Congress on the conservation potential of restricting exports of primary energy and energy-intensive products.
- The development and implementation of a system to monitor and evaluate FEA conservation programs.
- The completion of an analysis to identify institutional and technical barriers preventing the productive utilization of the latent energy in both the urban and agricultural solid waste stream.

The major 1976 objectives for the Office of Energy Conservation and Environment include the following:

- The continuation of policy research on new car and automobile fleet fuel economy, urban passenger transportation, and inter-modal shifts, and expansion into the areas of transportation systems questions (fuel and vehicle travel externalities, social and economic impacts) and long-distance freight transportation.
- The continuation of work with industry to achieve their share of the petroleum savings in accordance with the President's 1 and 2 million barrel per day programs.
- The continuation of an industry program by implementing and monitoring programs to include the following industries: petroleum refining, paper, steel, aluminum, chemicals, cement, glass, copper, meat packing, and bakery products (Presidential objective).
- The continuation of a systems research program on fluidized bed technology, waste heat management, and multiple uses of energy in selected industries.
- The development of programs for conversion of boilers from oil and gas to coal; performance standards for industrial equipment; e.g., motors, pumps, compressors; and increased in-plant electrical generation.

- . The intensification and expansion of efforts to gain voluntary adherence to Federal lighting and thermal guidelines to obtain energy savings equivalent to 200,000 barrels a day.
- . The expansion of the Federal Energy Management Program to all Federal agencies.
- . The substantial expansion of electric utility demonstrations to test and assess policy options with regard to rate structures, end-use controls, and the marketing of electricity substitutes.
- . The implementation of a program to encourage utilities to reduce the leakage of natural gas, a factor now responsible for significant losses of an energy source in very short supply.
- . The assessment of increased energy demand resulting from the Federal Water Pollution Control Act and the Clean Air Act to identify the tradeoffs of the environmental benefits from reduced emissions or effluents versus the benefits of production.
- . The development of an independent assessment of air pollution control strategies (intermittent control technologies, fine particulate and sulfate control technologies, transportation control strategies, cooling towers) to determine their efficiency, economy, and impact on energy supply and demand.
- . The implementation of a unified approach to conservation information dissemination throughout the government.
- . The establishment and imposition upon public education programs of a clear and concise marketing matrix in order to more effectively allocate both manpower and resources to specific energy users and decision makers.
- . The development and analysis of the impact of long-term energy conservation proposals.
- . The completion of several studies relative to the economic impact of energy conservation: (1) Dislocation; (2) New product markets; (3) Net energy requirements; (4) Low income family.
- . The completion of studies on how to encourage the productive utilization of the latent energy in the solid waste stream.
- . The continuation of work with other Federal agencies in conducting inspection, providing counseling, determining the effectiveness of Federal field conservation practices and providing feedback on future Federal conservation policies.

OFFICE OF ENERGY CONSERVATION AND ENVIRONMENT

FY 1976 Congressional Budget Submission

Analysis of Changes

	<u>Dollars in Thousands</u>	<u>Man-Years</u>
1975 Budget Estimate.	19,906	174
1. <u>Decreases</u>		
- Non-recurring purchases of equipment.	- 37	
- Non-recurring GSA services.	- 95	
- Reduced use of overtime	- 18	
- Savings generated by reductions to average grade	- 64	
Total Decreases	-214	
2. <u>Increases</u>		
- Increased travel in support of C&E programs.	+ 60	
- Increased rental of equipment	+ 62	
- Increased contractual support	+5,252	
- Increased manyears to support C&E programs.	_____	+ 21
Total Increases	+5,374	21
1976 Budget Request	25,066	195

Congressional Budget Submission
FY 1976

Analysis of FY 1976 Contracts

	(\$000) Cost
· Using results of the FY-75 new car fuel economy policy study, evaluate energy impacts of Federal policies that change prices of: new cars by market class and fuel economy, used cars, and auto operation.	125
· Analyze social impacts of government auto fuel policies on various income groups; on urban, suburban, and rural families; and on geographical regions.	100
· Measure potential energy impacts of widespread van-pooling. Identify and develop Federal policies to stimulate employer involvement in van- and car-pooling efforts.	100
· Based on FY-75 urban transportation research, develop optimal energy-efficient strategies that include line-haul transit, para-transit, auto disincentives, walking, and bicycling.	150
· Based on FY-75 intercity passenger research, evaluate specific CAB and FAA policies to improve airline efficiency; determine impacts on industry, air travelers, and the economy.	150
· Expand models developed in FY-75 to focus on short-haul passenger travel markets, and analyze policies to shift from air to bus and rail.	100
· Continue FY-75 development of intercity freight network and analysis of alternative policies to increase efficiency of the truck and rail freight transportation system.	150
· Continue development of models to predict transportation fuel use demands; use these models to make consistent forecasts.	150
· Analyze the relationships between urban and suburban land-use patterns and planning and transportation energy use. Estimate the energy impacts of alternative land use patterns. (Project to be funded in cooperation with ORPSS.)	150
· Develop and implement car and vanpool demonstration project with selected large suburban employers in conjunction with FHWA supported regional carpool programs.	250

Congressional Budget Submission
FY 1976

Analysis of FY 1976 Contracts

	(\$000) <u>Cost</u>
. Develop and implement voluntary fuel-economy labeling program in conjunction with EPA.	100
. In conjunction with UMTA and possibly EPA, implement a carefully developed program combining transit improvements, carpool locator services, and auto pricing strategies to encourage shifts to more energy-efficient modes in a selected urban area.	200
. Management support necessary to implement the research program, including program support, data system support, various studies on institutional factors, and the development of mechanisms for technology and information transfer in order to achieve the savings which are reflected in project areas.	100
. Development of improved waste heat management programs which include planning and design, installation and maintenance of equipment and establishment of equipment monitoring and control systems. Develop mechanisms for assuring rapid implementation of energy conservation technology into the industrial processes.	200
. Support, including graphics and presentation material, for transferring known and developing technology and information to U.S. industry.	150
. Analyze the feasibilities of fuel substitution in industrial processes. Conduct tests to measure heat output, additional maintenance required, and performance and transfer these results to industry. Determine barriers to implementation of these substitutions.	175
. Conduct a demonstration within the glass or paper industry on the simultaneous manufacture of process steam and electricity which will optimize the utilization of energy. Develop mechanisms for technology transfer as well as policy options for encouraging multiple uses of our energy resources.	150
. Perform analysis to determine methods by which greater recycling of metals can be achieved. Also evaluate the feasibility of reducing the amount of metals in finished products. Develop policy options for encouraging greater use of secondary materials.	100

Congressional Budget Submission
FY 1976

Analysis of FY 1976 Contracts

	(\$000) <u>Cost</u>
<ul style="list-style-type: none"> • Support to continue the FEA/industry cooperative energy conservation program initiated under the "Study of Implementation of Industrial Goals" contract. It will involve the development and presentation of initial briefings and follow-up on workshop sessions for company level executives and energy coordinators of the copper, glass, meat-packing, and bakery products industries. 	140
<ul style="list-style-type: none"> • Analyze and update the reporting format and syllabus for the industrial energy monitoring program initiated in FY-75. Integrate existing industry reporting systems into a monitoring system that will be applicable to all industries. Provide continuity for transfer of the monitoring program to FEA. 	200
<ul style="list-style-type: none"> • Engineering services to provide expertise (one to eight week duration per project) to analyze the feasibility of new technologies or breakthroughs to determine if further detailed effort is warranted, and for short studies regarding energy utilization, etc. 	350
<ul style="list-style-type: none"> • Examine performance characteristics and efficiency ratings of major categories of electric motors, pumps, compressors, and heavy duty refrigeration units for commercial and industrial use. Identify major categories of buyers. Determine feasibility of improving efficiency ratings and examine the potential marketability of more efficient equipment based upon life cycle cost analysis. Estimate impacts and conservation potentials of voluntary and mandatory labeling programs, minimum efficiency standards and other government actions. 	140
<ul style="list-style-type: none"> • Perform an in-depth analysis of agricultural production. Project the characteristics of energy demands and conservation potentials. Determine economic and technical feasibility of a full list of conservation practices and technologies. Write six conservation manuals for the field crop, vegetable crop, orchard crop, livestock, dairy and poultry farmers. 	120
<ul style="list-style-type: none"> • Assess economic impacts of using fluidized beds and identify barriers toward implementation of the technology into industrial processes. Develop policy options and implementation plans for accelerating the onset of this technology into the industrial sector. 	100

Congressional Budget Submission
FY 1976

Analysis of FY 1976 Contracts

	<u>(\$000)</u> <u>Cost</u>
. Identify new technology in furnaces, materials, heat transfer, application of new fuels and insulation. Determine energy conservation potential and develop programs for technology transfer.	150
. Develop a model state program for increased recovery of waste oil. Work with one or two states to implement the program. On the basis of the results of this effort develop an information and technology transfer mechanism for encouraging other states to develop similar programs.	100
. Investigate new types of refractories for industrial furnaces. Determine optional types and thicknesses as well as physical characteristics. Provide recommendations on assuring maximum implementation of findings.	100
. Identify small industries with substantial energy conservation potential. Conduct surveys on a regional basis to identify the industries and firms having a savings potential and develop a conservation goal/monitoring program applicable to these industries. Establish a plan for equitable treatment of all of the industry sector, and provide concrete examples of where small industry can make substantial energy savings.	175
. Life cycle buildings energy analysis; development of methodology and standardization procedures.	150
. Energy budget data survey of building stock and energy use: data by building type, nationwide.	200
. Building energy budget methodology; develop analytical and measurement techniques for standard development, engineering and architectural design and code enforcement.	150
. Building energy analysis computer program development: validations and design for use in standards.	150
. Indirect energy expenditure in building construction; feasibility of material and systems substitutions.	100
. Building energy analysis and design methodology integration: overall conceptual and operational model.	200

Congressional Budget Submission
FY 1976

Analysis of FY 1976 Contracts

	(\$000) Cost
. Test method development for energy performance standards for buildings. Development of model laboratory accreditation, criteria, and techniques.	150
. Development of model energy performance criteria for building complexes and subdivisions (PUD, zonings), building sites.	100
. Financial pattern analysis; impact of financing and lending practices upon building construction and standards.	100
. Impact analysis of selected performance standards upon building types and participant groups and institutions. (New and retrofit.) Include analysis of building structures.	200
. Development of model training program for buildings regulatory officials, professionals and para-professionals.	100
. National architectural and engineering design competition utilizing selected energy performance standards (consider climate, orientation, landscaping, etc.).	100
. Monitoring of prices and supplies of retrofit materials, evaluation of materials allowable for tax credit, and methods of informing consumers of the tax credit.	100
. Technical and manufacturing cost analysis of appliances, investigation of technical attributes and opportunities, test procedures, manufacturing process changes.	200
. Appliance life cycle cost and energy analysis, integration of technical data and national energy conservation goals for standards policy recommendations.	180
. Test, demonstrate, evaluate energy conservation information service for schools.	150
. Manchester, New Hampshire, demonstration building instrumentation and monitoring of energy consumption.	200
. Institution questions and policy analysis related to incentives, disincentives and barriers for energy conservation in the commercial section.	100
. Update of commercial retrofit guidelines, demonstration feedback and new technology update of manual.	100

Congressional Budget Submission
FY 1976

Analysis of FY 1976 Contracts

	<u>(\$000)</u> <u>Cost</u>
. High performance heat pump systems.	100
. Evaluation of large building system for option for optimization of energy utilization and computer control.	100
. Laboratory testing of HVAC system and components, continuation of FY-75 work.	100
. Prioritization and evaluation of commercially available heating equipment. Particular emphasis on heat pump application.	100
. Mobile home studies use of integrated systems use of waste heat for water system, new building techniques.	125
. Multi-family studies--technical and institutional opportunities for retrofit activities.	100
. Development of model energy performance criteria for existing buildings.	150
. Laboratory vision research; task, age and other controlling factors in lighting requirements.	200
. Institutional and economic factors which influence fuel choice in residential and commercial buildings.	125
. Implementation of a manual to aid architects, engineers, and building owner/managers in making energy conserving retrofit actions to commercial, industrial, and public buildings.	110
. Implementation of a program to aid architects, engineers, and building owners in adding energy conserving technology in the new building design process.	100
. Implementation of a program providing technical support regarding retrofit and new design for schools and hospitals.	125
. Project Conserve--regional/state/local implementation of individual homeowner questionnaire.	350
. Certification and verification of actual retrofit.	100
. Multi-family retrofit actions.	100

Congressional Budget Submission
FY 1976

Analysis of FY 1976 Contracts

	(\$000) Cost
. Feasibility analysis and preliminary design of energy independent neighborhood and communities (retrofit and new; e.g., China Lake).	150
. Feasibility and pilot demonstration of solar assist systems for existing structures.	100
. Air change rate study.	100
. Study of conservation potential of the natural gas industry to determine supply and demand elasticities, to identify specific points of wastage and inefficiency, and to recommend institutional, economic and/or technological adaptations for solving the problem.	100
. Study to independently test the FPC conclusions that a reduction of the electricity growth rate to 5% per year would substantially ease the utility industry's financial burdens, and that end-use conservation would therefore be in the industry's own self-interest. The utility industry and the State Regulatory Commissions would be involved, and optimal growth goals for installed capacity formulated. Total kwh usage, peak demand, load/capacity factors, and reserve margins would all be considered in developing a quantitative model of the electric utility industry in 1985.	125
. Expansion of electricity load management demonstrations to encompass alternative techniques and additional systems characteristics.	1,750
. Analysis of systems for utilizing waste generator heat to assess the relative cost-effectiveness of alternative systems for recapturing and productively utilizing this "waste" energy, and to identify the economic, institutional, and technological variables which would affect the widespread adoption of such systems.	140
. Study of the potential of improved generation (conversion) efficiencies to determine the extent to which such improvements promise to contribute to the goals of energy conservation.	125
. Regional energy planning to develop comprehensive strategies to include power plant siting, energy resource development, energy conservation, and environmental protection to provide a basis for FEA policy on proposed legislation.	100

Congressional Budget Submission
FY 1976

Analysis of FY 1976 Contracts

	<u>(\$000)</u> <u>Cost</u>
· Evaluation of alternative sulfate control strategies to allow FEA to develop policies concerning the suitability of alternative sulfate control systems.	125
· At the request of the National Association of Regulatory Utility Commissioners (NARUC), both the Edison Electric Institute (EEI) and Electric Power Research Institute (EPRI) have embarked upon an ambitious 3-5 year study of rate structures and load management techniques. FEA participation in this project, which is likely to cost a total of at least \$10 million, would enable the agency to shape and benefit directly from this industry-sponsored research.	250
· Continuation and expansion of work initiated in FY-75 to develop and disseminate guidelines to assist regulatory authorities in formulating policies and reaching decisions that help achieve such public goals as more efficient use of electricity, of installed capacity, and of primary generator fuels.	140
· Develop instructional materials for utilities to assist them in improving their own energy efficiencies. Such materials must emphasize the self-interest, particularly the economic self-interest, of the individual utilities and must present conservation techniques and technologies which tend to ameliorate the financial problems of the industry.	140
· To augment the contribution of permanent FEA staff, a team of non-government experts will be retained to selectively participate in state and local regulatory hearings in a timely and comprehensive manner to advocate energy-conserving regulatory decisions.	190
· Saline water availability and the environmental consequences of its use for energy development in the Rocky Mountain region. Phase II.	125
· Identification of the location and magnitude of secondary impacts resulting from major energy development programs to provide basis for FEA policy on proposed legislation.	175

Congressional Budget Submission
FY 1976Analysis of FY 1976 Contracts(\$000)
Cost

- | | (\$000)
Cost |
|--|-----------------|
| . Project Conserve is being funded in FY 1975 as a part of the C&E Buildings Program, and will probably be continued in FY 1976. The purpose of this project is to specifically identify the energy conservation potential of selected residential areas and to advise homeowners of appropriate improvements, behavior, etc., which might be implemented to save energy. The utilities conservation program plans to supplement this basic project to allow the contractor to enlist the support of the utilities industry in their work. | 100 |
| . Environmental policy studies to ascertain the environmental impacts of proposed legislation; environmental regulations, health effects problems, government/industry interaction, and energy development. | 400 |
| . Monitor and evaluate the effectiveness of the Office of Conservation and Environment's key energy conservation programs to enable us to determine whether or not and to what extent specific programs are effective in terms of reducing energy consumption and adjust and improve subsequent program efforts. | 200 |
| . Continuation of FY-75 work to facilitate the rapid utilization of the latent energy in urban waste through identifying and eliminating institutional barriers to using waste as an energy source as well as providing seed money for limited feasibility demonstrations. | 100 |
| . The potential energy available from agricultural wastes is even higher than the energy potential in urban waste. However, the dispersion of the waste has made its utilization unattractive for any large scale system. The purpose of this study will be to study the economical feasibility of collection and utilization of the agricultural wastes in relatively small scale system. | 100 |
| . A continuation of the studies stated in FY-75 which are attempting to develop a three-fold construct for micro economic analysis of: (1) the extent to which sub-sectoral energy savings are efficient substitutes for added supply; (2) direct and indirect substitution effects of alternative policies for achieving selected kinds and degrees of energy conservation; and (3) secondary (income) effects as the economy reacts to the alternative policies. | 175 |

Congressional Budget Submission
FY 1976

Analysis of FY 1976 Contracts

	(\$000) <u>Cost</u>
. Assessment of regional trends in the United States, determination of federal incentives and disincentives to regions and/or states where land use powers are being used in a manner contrary to the overall national interest, and development of possible additional legislation in this area.	100
. Land use policies have been the jealously guarded prerogative of local and sometimes regional communities. Translation of standards set at the national level into implementable local policy must carefully study alternative strategies for effecting energy conservation through land use including analysis of the legal precedents involved, the nature of the mechanisms to be employed--total regional energy allocations, the presentation of state and/or local land use plans for approval, incentives or disincentives for achieving energy conservation through land use.	100
. Determination of the long range impact of new technologies on land use patterns in the United States and concomitant impact on energy use.	100
. Evaluation of energy conservation alternatives on an economy-wide basis, including: analysis of impact of major Federal policy changes across the spectrum of energy use; determination of the interrelationships of energy demands among various users; the elasticity of such demands, and the impact of shifts from one source to another; assessment of growth of total energy demand and sensitivity of such projections to price changes of various magnitudes.	400
. Develop public service advertising for energy conservation including TV ads, radio ads, magazine insertions, and posters for transportation advertising.	750
. Continue development of "Energy Conservation Corps" expanded from New England to rest of Nation.	100
. Develop, produce, and disseminate through HEW, teaching materials for elementary and secondary schools.	100
. Develop educational support materials for conservation programs in the transportation, industrial, and buildings sectors.	425

Congressional Budget Submission
FY 1976

Analysis of FY 1976 Contracts

	(\$000) <u>Cost</u>
<ul style="list-style-type: none"> . Develop and implement training program for community leaders using national citizen's organization. 	450
<ul style="list-style-type: none"> . Identify consumers' motivations to save energy, evaluate the effectiveness of Office of Energy Conservation and Environment's advertising effort, help design new advertising, and evaluate changes made. Also, as part of the legal regulatory process, FEA can petition the Federal Trade Commission's Division of National Advertising to require that advertisements for consumer products (like appliances) include energy efficiency as a component of the life-cycle cost of the product. However, as a part of its legal evidence, the FTC must have research findings that demonstrate that consumers are led to buy less efficient and more life-cycle costly products by the current manufacturer's advertising than they would be if the energy efficiency and life-cycle costs of operation were included in the advertising. 	125
Subtotal (contracts \$100,000 and above)	\$16,450
Contracts (\$100,000 and below)	<u>3,850</u>
Total: All Contracts	\$20,300

CONSERVATION AND ENVIRONMENT
OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 30-66-1500-0-1-305	1974 actual	1975 estimate	1976 estimate
Personnel compensation:			
11.1 Permanent positions.....		4,019	3,888
11.3 Positions other than permanent.....		92	177
11.5 Other personnel compensation.....		113	95
Total personnel compensation.....		4,224	4,160
Personnel benefits:			
12.1 Civilian.....		363	345
21.0 Travel and transportation of persons.....		111	133
22.0 Transportation of things.....		---	38
23.0 Rent, communications, and utilities.....		11	73
24.0 Printing and reproduction.....		1	1
25.0 Other services.....		100	5
Contracts.....		15,048	20,300
31.0 Equipment.....		48	11
.....			
.....			
99.0 Total obligations.....	N/A	19,906	25,066

Congressional Budget Submission
Fiscal Year 1976

Energy Resource Development
(\$000)

Item	1974 Actual	1975 Estimate	Change		1976 Estimate	Change	
			Amount	%		Amount	%
Positions	N/A	205	N/A	N/A	244	+39	+19
Man-Years	N/A	205	N/A	N/A	244	+39	+19
Obligations	N/A	\$11,765	N/A	N/A	\$10,208	-\$1,557	-13

Justification

The Assistant Administrator for Energy Resource Development develops and implements national policies and programs 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 and programs 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 an incentive program to encourage the development of required national 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. ERD provides continuing support to the FEA and will have the lead in initiation of the Project Independence energy supply programs. ERD has been assigned the lead within FEA for implementation of the Energy Supply and Environmental Coordination Act of 1974 (PL 93-319) and will be assigned the lead for the FEA Research and Development Program during FY 1976.

The major accomplishments of Energy Resource Development in FY 1975 include:

- The preparation of the Project Independence Blueprint resource development activities for oil, natural gas, coal, nuclear energy, oil shale, solar energy, geothermal energy, electric power plants, and synthetic fuels.
- The drafting of legislation and the preparation of testimony on material, labor, and equipment shortages; deepwater ports; surface mining, and reclamation; the financial requirements of the electric utility industry; facilities siting; and the deregulation of natural gas.
- The development of a plan for alleviating the potential anthracite shortage in northeastern Pennsylvania.
- The development of a list of utilities which are candidates for conversion from oil to coal and the analysis of the economic, technical, and environmental factors affecting the coal conversion potential of thirty of these candidate utilities.
- The securing of the AEC's approval of a new licensing option for nuclear power plants which provides for replication of designs already approved by the AEC.

- . The development of a program for coordinating the efforts of Federal agencies in solar energy development.
 - . The analysis of the capital requirements of the electric utility industry.
 - . The organization and implementation of the Energy Supply and Environmental Coordination Act of 1974 (P.L. 93-319).
 - . The drafting of comprehensive Federal siting and development legislation.
 - . The development of a state site selection technical assistance program.
 - . The completion of an initial nationwide survey of energy facility site deficiency.
 - . The survey of Federal and State license and permit application procedures.
 - . The securing of Defense Production Act priority status for the Alaska pipeline.
 - . The integration of long-range research and development planning of other government agencies with FEA's long-range forecast to achieve unified efforts and to avoid duplication.
 - . The development of studies for emergency strategic energy storage.
- The major objectives of Energy Resource Development in FY 1976 are:
- . The implementation of the non-reporting aspects of the Energy Supply and Environmental Coordination Act of 1974 (P.L. 93-319).
 - . The passage of legislation to deregulate new natural gas field prices and to mitigate governmental impediments to increased production of natural gas.
 - . The mitigation of impediments to the development of domestic energy resources imposed by Federal, State, and local regulations.
 - . The utilization of the Defense Production Act to obtain priority status for critical energy production materials.
 - . The provision of direction and administration support to ERD programs.

Energy Resource Development
 FY 1976 Congressional Budget Submission
Analysis of Changes

	<u>Dollars in Thousands</u>	<u>Man-Years</u>
1975 Budget Estimate.	\$ 11,765	205
1. <u>Decreases</u>		
<u>Automatic (non-policy) Decreases:</u>		
- Non-recurring equipment purchases.	- 27	
- Reductions in travel costs.	-105	
- Reduction in other Support Costs.	-297	
- Non-recurring 1975 Contracts.	-1,130	
Program Decreases	-130	<u>-5</u>
Total Decreases.	-1,689	-5
2. <u>Increases:</u>		
<u>Administrative Comments:</u>		
<u>Automatic (non-policy) Increases:</u>		
- Personnel Benefits.	+ 7	
- Other Personnel Costs.	+ 28	
Program Increases:	<u>+ 97</u>	<u>+44</u>
Total Increases.	<u>+132</u>	<u>+44</u>
1976 Budget Request.	\$10,208	244

CONGRESSIONAL BUDGET SUBMISSION
FY 1976

Analysis of FY 1976 Contracts (Cont'd.)

	(\$000) <u>Cost</u>
. Assess needs for equipment, power, manpower, transportation, and other resources in construction of coal facilities and distribution systems.	125
. Investigate power plants (30 top priority plants).	370
. Let two contracts for additional powerplant investigations and hearings (30 middle priority plants) and the preliminary analysis of non-utility candidates	330
. Investigate non-utility candidate powerplants.	300
. Continue FY 1975 FEA Task Force program to promote component standardization for those items which seriously impact powerplant reliability.	100
. Let three contracts to study the water requirements and supply conditions for synthetic fuel manufacture; for a complete economic evaluation of three synthetic fuel processes; and to encourage <u>in site</u> oil shale processing technical development.	120
. Let three contracts to promote Federal Government implementation of solar energy technologies by mitigating economic constraints; to analyze data on solar and geothermal energy economics; and to provide public education on the economics of the electric utility industry	180
. Implement detail study of long-term institutional structure of electric utility industry 1985 - 2000.	240
. Draft uniform national rate-making code in cooperation with NARUC to obtain PUC adoptions.	100
. Let nine contracts to evaluate the economics of expanded coal production, energy storage devices, national gas utilities, and the expansion of uranium enrichment and processing.	295

CONGRESSIONAL BUDGET SUBMISSION
FY 1976Analysis of FY 1976 Contracts

	<u>(\$000)</u> <u>Cost</u>
· Prepare inventory of top priority oil and gas land requirements for exploration, production, right-of-way, terminals, and facilities	100
· Complete a draft study of transportation support facilities needed to handle the oil expected from the Alaskan pipelines.	200
· Complete a study of the additional transportation/market facility of the Northeast.	200
· Conduct a survey to identify significant elements of demand for Eastern coal, analyze funding, and prepare documentation. Prepare a report determining Eastern mine production capabilities and constraints by preparing mine profiles and analyzing labor and material shortage problems.	225
· Let four contracts to determine how government R&D funds should be channeled into geological research; to monitor domestic petroleum exploration activity; to examine oil recovery potential from existing reservoirs; and to analyze production capacity levels for all domestic oil fields.	100
· Let two contracts to analyze the impacts of material, equipment, and labor constraints on gas production; and to identify needs for Synthetic Natural Gas and the enhanced development of SNG	100
· Prepare a report determining Western mine production capabilities and constraints by preparing mine profiles and analyzing labor and material shortage problems. Prepare an analysis of data on the projected demand for Western coal and also on constraints to demand.	250

CONGRESSIONAL BUDGET SUBMISSION
FY 1976

Analysis of FY 1976 Contracts (Cont'd.)

	(\$000) <u>Cost</u>
. Let three contracts to analyze oil industry cash flow existing and new tax measures; and the impact of anti-trust laws on the energy sector.	165
. Study to determine financing of alternative methods of use of municipal waste for electricity generation.	100
. Evaluation of ability of energy industry to generate internal funds and attract external funds.	150
. Study to determine unit capital costs of incremental supply compared with capital cost of conserving same incremental unit of supply.	200
. Assessment of effectiveness of state water resource laws, regulations, interstate agreements and related federal legislation for energy resource development purposes.	100
. Let three contracts to provide financing advice to State and local governments for energy resource development projects; to study the financing of U.S. oil stock with possible FEA participation; and to provide management and technical analyses of proposed energy production action programs.	150
. Integrate all data on energy resource development activities of Project Independence implementation program and evaluate its supply program.	175
. Expedite the selection of alternative methodologies for determination of the optimum energy supply program mix.	275
. Let eight contracts to plan, coordinate, and analyze energy facility siting programs; and for other energy research and development projects	350
. Energy Resource Council Study of State Regulatory Processes.	<u>500</u>
TOTAL ENERGY RESOURCE DEVELOPMENT CONTRACTS.....	\$5,500

ENERGY RESOURCE DEVELOPMENT
OBJECT CLASSIFICATION (in thousands of dollars)

Identification code	19 74 actual	19 75 estimate	19 76 estimate
30-66-1500-0-1-305			
Personnel compensation:			
11.1 Permanent positions.....		3,750	3,693
11.3 Positions other than permanent.....		116	140
11.5 Other personnel compensation.....		50	78
Total personnel compensation.....		3,916	3,911
Personnel benefits:			
12.1 Civilian.....		317	324
21.0 Travel and transportation of persons.....		361	256
23.0 Rent, communications, and utilities.....		60	46
24.0 Printing and reproduction.....		62	45
25.0 Other services.....		249	9
Contracts.....		6,630	5,500
26.0 Supplies and materials.....		70	44
31.0 Equipment.....		100	73
.....			
.....			
99.0 Total obligations.....	N/A	11,765	10,208

Congressional Budget Submission
FY 1976International Energy Affairs
(\$000)

Item	1974 Actual	1975 Estimate	Change		1976 Estimate	Change	
			Amount	%		Amount	%
Positions	N/A	44	N/A	N/A	41	- 3	- 7
Man-Years	N/A	50	N/A	N/A	47	- 3	- 6
Obligations	N/A	\$1506	N/A	N/A	\$1386	-120	- 8

Justification

International Energy Affairs 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 1975 were:

- The provision of support to the Department of State in achieving the U.S.-Soviet Energy Agreement and the International Energy Program Agreement.
- The participation in the support of the Energy Coordinating Group, the OECD, the Law of the Sea Conference, the United Nations, and NATO Civil Emergency Planning.
- The study of existing and probable future relationships between the major oil companies and the U.S. Government within the control of the international oil trade.
- The study of the growth and changes in the world tanker market and their implications for U.S. security.
- A study of the economics and the desirability of liquid natural gas imports over the next 15 years.
- A review of the options available to the U.S. on coal export policy.

- . A study of the extent of foreign investment in energy-related U.S. industries.
 - . The preparation of the international assessment portion of the Project Independence Blueprint.
- The major objectives of International Energy Affairs for FY 1976 are:
- . The development of legislative proposals regarding the future role of the U.S. government in relation to the international petroleum industry.
 - . The continuation of participation in and the provision of technical support to the International Energy Agency and the NATO Petroleum Planning Committee.
 - . The continuing participation in the on-going work of the U.S.-Soviet Energy Agreement with particular emphasis on energy information exchange.
 - . The determination of the present and projected size, composition, and ownership of the international tanker fleet and the implications for the future security of U.S. supply.
 - . The conclusion of a major long-term assessment of the international market in world energy resources and the development of specific recommendations on future U.S. energy trade policy options.
 - . The development of policy options for the achievement of a coordinated North American energy policy.
 - . The development of proposals designed to create special relationships on a bilateral basis between the U.S. and major producing countries.

FY 1975 Congressional Budget Submission

Analysis of Changes

	<u>Dollars in Thousands</u>	<u>Man-Years</u>
FY 1975 Budget Estimate.	1,506	50
1. <u>Decreases:</u>		
<u>Automatic (Non-policy) Decreases:</u>		
- Reduction in permanent staff.		-3
- Reduced overtime due to reduced staff and better staff utilization. - 4		
- Small adjustment to personnel benefits payments. - 1		
- Substantial reduction in foreign and domestic travel -40		
- Reduced printing and reproduction workload. - 1		
- Changes and improvements in office quarters completed in FY 1975 -22		
- Reduction in periodical subscriptions . . . - 1		
- Non-recurring furniture and equipment purchase. -16		
<u>Program Decreases:</u>		
- Reduction in contract requirements. -50		
Total Decreases.	-135	-3
2. <u>Increases:</u>		
<u>Automatic (Non-policy) Increases:</u>		
- Personnel compensation increased to cover October, 1974 pay increase. NOTE: This increase offsets the expected decrease from the reduction in permanent positions shown above.		
Total Increases.	+ 15	
FY 1976 Budget Request	1,386	47

INTERNATIONAL ENERGY AFFAIRS

Congressional Budget Submission
FY 1976

Analysis of FY 1976 Contracts

(\$000)
Cost

<ul style="list-style-type: none"> · Identify and evaluate the impact and effectiveness of alternative US/OECD energy export/import trade policies given their respective projected energy requirements, resource and financial constraints, and commercial markets for primary and secondary energy related resources. 	\$ 100
<ul style="list-style-type: none"> · Analyze the energy market shares currently held within the major energy consuming countries by (1) the international oil companies and their major subsidiaries, (2) the major consumer state-owned companies, and (3) the principal independent operations. The study would also analyze the relative competitive standings of these groups as a basis for evaluating the effects of alternative producer-consumer energy policies on their respective energy market structures. 	50
<ul style="list-style-type: none"> · Analyze the near-to-medium term (up to 1990) potential for Free World oil and gas discoveries that may reduce import dependency on OPEC and the impact of such discoveries on the energy import/export policies of energy consuming nations. 	50
<ul style="list-style-type: none"> · Assess to what degree high priority energy R&D in the U.S. in coal conversion and coal combustion would be facilitated through cooperative research with scientific institutions in the UK and the Federal Republic of Germany 	<u>50</u>
Total	<u>250</u>

INTERNATIONAL ENERGY AFFAIRS
OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 30-66-1500-0-1-305	1974 actual	1975 estimate	1976 estimate
Personnel compensation:			
11.1 Permanent positions.....		918	933
11.5 Other personnel compensation.....		25	21
Total personnel compensation.....		943	954
Personnel benefits:			
12.1 Civilian.....		80	79
21.0 Travel and transportation of persons.....		127	87
24.0 Printing and reproduction.....		5	4
25.0 Other services.....		22	---
Contracts		300	250
26.0 Supplies and materials.....		5	4
31.0 Equipment.....		24	8
.....			
.....			
99.0 Total obligations.....	N/A	1,506	1,386

Summary
Analysis of Changes

	<u>Dollars in Thousands</u>	<u>Man-Years</u>
1975 Budget Estimate	\$130,035	3,133
1. <u>Decreases:</u>		
- Reduction in personnel compensation and benefits	-15,565	-850
- Reduction in travel	- 1,454	
- Reduction in printing costs	- 701	
- Reduction in other services	- 5,234	
- Reduction in supplies, materials and equipment	- 909	
Total Decreases	-23,863	-850
2. <u>Increases:</u>		
- Increase in Rent, Communications and Utilities	+ 959	
- Increased contracts	+ 5,304	
Total Increases	+ 6,263	-0-
1976 Budget Request	<u>\$112,435</u>	<u>2,283</u>

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 \$11,000 for official reception and representation expenses; \$112,435,000, of which \$10,000,000, 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): 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.

[For an additional amount for "Salaries and Expenses", \$8,000,000.]

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: \$48,000,000. (Public Law 93-275; additional authorizing legislation to be proposed for \$48,000,000 for the period July 1, 1976, through September 30, 1976; Supplemental Appropriations Act, 1976.)

[FUEL ALLOCATION, OIL AND GAS PROGRAMS]

[SALARIES AND EXPENSES]

[For necessary expenses to enable the Secretary to discharge his responsibilities with respect to oil and gas, including cooperation with the petroleum and natural gas industries and State and local authorities in the production, processing, and utilization of petroleum and its products, and natural gas, \$69,590,000, of which \$10,000,000, 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).]

[OFFICE OF THE SECRETARY]

[ENERGY CONSERVATION AND ANALYSIS]

[For necessary expenses to support energy conservation research, data collection, and analysis, \$26,875,000.]

[FEDERAL ENERGY OFFICE]

[SALARIES AND EXPENSES]

[For necessary expenses of the Federal Energy Office established by Executive Order Numbered 11748, dated December 4, 1973, including hire of passenger motor vehicles, reimbursements to the Emergency Fund of the President for allocations to the Office, 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: \$19,000,000; Provided, That advances or repayments or transfers from this appropriation may be made to any department or agency for expenses of carrying out such activities.]

SALARIES AND EXPENSES

Program and Financing (in thousands of dollars)

Identification code	1974 actual	1975 estimate	1976 estimate
30-66-1500-0-1-305			
Program by activities:			
1. Executive direction and administration.....	3,737	34,887	30,452
2. Energy policy and analysis.....	2,600	20,017	23,574
3. Regulatory programs.....	32,791	41,954	21,749
4. Energy conservation and environment.....	1,963	17,906	27,066
5. Energy resource development.....	2,430	11,145	10,828
6. International energy affairs.....	826	1,506	1,386
Total direct program.....	44,347	127,415	115,055
Reimbursable programs.....	483	...	...
Total program costs, funded.....	44,830	127,415	115,055
Change in selected resources (undelivered orders).....	29,003	...	...
10 Total obligations.....	73,833	127,415	115,055
Financing:			
11 Receipts and reimbursements from:			
Federal funds.....	-483		
21 Unobligated balance start of period.....	...	...	-2,620
24 Unobligated balance available end of period.....	...	2,620	...
25 Unobligated balance lapsing.....	127	...	...
Budget authority.....	73,477	130,035	112,435
Budget authority:			
40 Appropriation.....	63,490	130,035	112,435
41 Transfers to other accounts.....	-5	...	...
42 Transfer from other accounts.....	9,992	...	...
43 Appropriation (adjusted).....	73,477	130,035	112,435

SALARIES AND EXPENSES

Program and Financing (in thousands of dollars)

Identification code	1974 actual	1975 estimate	1976 estimate
30-66-1500-0-1-305			
Distribution of budget authority by account:			
Federal Energy Office, salaries and expenses.....	9,360	...	...
Fuel allocation, oil and gas programs, salaries and expenses...	54,125	...	...
Office of the Secretary, Interior, departmental operations, salaries and expenses.....	...	85	...
Office of the Secretary, Interior, salaries and expenses.....	8,300	...	...
Office of the Solicitor, Interior, salaries and expenses.....	692	1,285	...
Economic Stabilization activities, salaries and expenses.....	1,000	...	...
Federal Energy Administration, salaries and expenses.....	...	128,665	112,435
Relation of obligation to outlays:			
71 Obligations incurred, net.....	73,350	127,415	115,055
72 Obligated balance, start of year.....	42	40,468	47,647
74 Obligated balance, end of year..	-40,468	-47,647	-18,585
77 Adjustments in expired accounts.	-40	...	...
90 Outlays excluding pay raise supplemental.....	32,884	120,236	144,117
Distribution of outlays by account:			
Federal Energy Office, salaries and expenses.....	9,360	...	...
Fuel allocation, oil and gas programs, salaries and expenses...	19,220	...	...
Office of the Secretary, Interior, salaries and expenses.....	2,612	...	...
Office of the Solicitor, Interior, salaries and expenses.....	692	...	...
Economic Stabilization activities, salaries and expenses.....	1,000	...	...
Federal Energy Administration, salaries and expenses.....	...	120,236	144,117

SALARIES AND EXPENSES

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code	19 74 actual	19 75 estimate	19 76 estimate
30-66-1500-0-1-305			
Personnel compensation:			
11.1 Permanent positions.....	14,633	54,558	40,362
11.3 Positions other than permanent.....	3,224	233	317
11.5 Other personnel compensation.....	1,342	1,902	1,487
Total personnel compensation.....	19,199	56,693	42,166
Personnel benefits:			
12.1 Civilian.....	1,648	4,531	3,410
13.0 Benefits for former personnel.....	..	..	83
21.0 Travel and transportation of persons.....	1,808	3,296	1,619
22.0 Transportation of things.....	334	354	577
23.0 Rent, communications, and utilities.....	3,841	8,165	9,124
24.0 Printing and reproduction.....	1,138	2,021	1,320
25.0 Other services.....	41,956	52,985	53,055
26.0 Supplies and materials.....	846	687	652
31.0 Equipment.....	3,063	1,303	429
.....			
.....			
99.0 Total obligations.....	73,833	130,035	112,435

SALARIES AND EXPENSES

DETAIL OF PERMANENT POSITIONS

	1974 actual	1975 estimate	1976 estimate
Executive Level II	1	1	1
Executive Level III	1	2	2
Executive Level IV	7	7	7
Executive Level V	3	5	5
Subtotal	12	15	15
GS-18	11	10	10
GS-17	18	23	17
GS-16	51	65	45
GS-15	127	237	130
GS-14	144	280	154
GS-13	205	326	139
GS-12	234	358	364
GS-11	431	361	121
GS-10	74	15	15
GS- 9	432	284	131
GS- 8	144	99	68
GS- 7	303	338	212
GS- 6	90	145	98
GS- 5	277	280	116
GS- 4	313	186	40
GS- 3	190	66	16
GS- 2	---	15	6
Subtotal	3,044	3,088	1,682
Ungraded	19	22	18
Total permanent positions	3,075	3,125	1,715
Unfilled positions, June 30	- 122	---	---
Total permanent employment, end of year	2,953	3,125	1,715

Analysis by Activities

FY 1976 Estimated and July 1-September 30 Period
Salaries and Expenses

(in thousands of dollars)

Activity	FY 1976 Estimate	Estimate July - Sept. 30, 1976
1. Executive direction and administration .	30,452	7,680
2. Energy policy and analysis	23,574	6,240
3. Regulatory programs	21,749	5,760
4. Energy conservation and environment	80,066	20,160
5. Energy resource development	30,208	7,680
6. International energy affairs	<u>1,386</u>	<u>480</u>
Total	<u>187,435</u> ^{1/}	<u>48,000</u>

^{1/} Includes \$75,000,000 proposed budget amendment pending authorizing legislation.

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 \$11,000 for official reception and representation expenses; \$112,435,000, of which \$10,000,000 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): 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.

[Request for transition period is based on above \$112,435,000 plus proposed budget amendment pending authorizing legislation of \$75,000,000 for a total FY 1976 request of \$187,435,000.]

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 grade GS-18: \$48,000,000. (Public Law 93-275; additional authorizing legislation to be proposed for \$48,000,000 for the period July 1, 1976, through September 30, 1976; Supplemental Appropriations Act, 1975.)

PROGRAM AND FINANCING - TRANSITION PERIOD
(in thousands of dollars)

19--Classification code 30-66-1500-0-1-305	19 actual	19 estimate	19 estimate
	July 1 - Sept. 30, 1976		
<u>Program by activities:</u>			
1. Executive direction and administration	7,680		
2. Energy policy and analysis	6,240		
3. Regulatory programs	5,760		
4. Energy conservation and environment	20,160		
5. Energy resource development	7,680		
6. International energy affairs	<u>480</u>		
10 Total costs - obligations	48,000		
<u>Financing:</u>			
40 Budget authority (appropriation) ..	48,000		
<u>Relation of obligations to outlays:</u>			
71 Obligations incurred, net	48,000		
72 Obligated balance, start of year ..	18,585		
74 Obligated balance, end of year	<u>-4,646</u>		
90 Outlays	<u>61,939</u>		

SALARIES AND EXPENSES

Justification for Transition Period

Salaries and Expenses	\$48,000,000
Executive Direction and Administration	\$ 7,680,000

An estimate of \$7,680,000 is requested for the period July 1, 1976 - September 30, 1976. This amount represents a 16 percent level for the transition period. The responsibilities of the Administrator as well as the supporting services necessary to the proper execution of the Administrator's responsibilities will be conducted at the 1976 level with no increase in positions or programs. These programs have been and will continue to be directed at the proper execution of the Administrator's responsibilities including legal, financial, personnel organization management and procurement functions, as well as public affairs, congressional affairs, and maintaining relationships with the States on energy matters.

Energy Policy and Analysis	\$ 6,240,000
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An estimate of \$6,240,000 is requested to fund programs under this activity which represents a 13 percent level for the transition period. This activity includes the functions of performing long-range energy policy analysis, and will continue to be directed at the development of a national energy plan, short- and long-range supply/demand forecasting, coordination of energy-related programs, policies, and legislation, development of deregulation and decontrol strategies, and provision of all ADP support for the Administrator, including such things as energy statistics, allocation data systems, and providing a national energy data clearinghouse.

The forecasting activity is based upon the development, implementation and operation of a family of econometric models which predict all energy supply and demand by geographic region. The energy policy analysis component evaluates the energy, social and economic impact of proposed energy policy, the preparation of legislatively required reports, and the administration of allocation programs.

Regulatory Programs	\$ 5,760,000
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An estimate of \$5,760,000 is requested to fund programs under this activity for the period July 1, 1976 - September 30, 1976. This represents a 12 percent level for the transition period. This activity will continue to fund operations which administer the FEA regulatory programs; namely, Operations, Regulations and Compliance; Private Grievances and Redress; and the Regions; to support a national energy policy by providing allocation management of energy resources as national needs require. These programs will continue: development and implementation of regulatory price and allocation programs; compliance activities required to assure widespread compliance and existing regulations, detect violations, and take appropriate corrective and punitive actions; performance of the independent regulatory functions administered by the Office of Exceptions and Appeals and the Oil Import Appeals Board; implementation of all agency programs in the field; including allocation, enforcement and compliance, conservation and energy resource development.

Energy Conservation and Environment \$20,160,000

An estimate of \$20,160,000 is requested to fund programs under this activity for the period July 1, 1976 - September 30, 1976. This represents a 42 percent level for the transition period. This activity has the responsibility for developing and implementing new governmental programs to reduce energy demand in transportation, building, industrial, and utilities areas, developing and conducting public education and multi-media campaigns in support of energy conservation programs, and providing technical and program support of energy conservation to States and localities. Legislation is proposed to establish a program to offer direct subsidies to low-income homeowners to assist them in the installation of insulation to conserve energy. In brief, this activity has the unique charge to reduce the rate of energy demand growth, to implement energy conservation programs, and to promote efficient use of energy resources. The responsibilities of this activity will be conducted at the 1976 level with no increase in positions or programs.

Energy Resource Development \$ 7,680,000

An estimate of \$7,680,000 is requested for the period July 1, 1976 - September 30, 1976. This amount represents a 16 percent level for the transition period. This activity will continue to fund operations which develops plans and programs to expand domestic production of every currently available fuel source including oil, natural gas, coal, oil shale, nuclear, solar, geothermal, and others. This activity will continue to be 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, evaluating the impact of present and prospective energy supply alternatives, technologies, resource requirements, programs and actions, continuing the lead within FEA for implementation of the Energy Supply and Environmental Coordination Act of 1974 (PL 93-319) and leading the FEA Research and Development Program during FY 1976. Legislation is proposed to remove obstacles to energy facility siting, and to assure timely development of new energy facilities in accordance with proper land use considerations.

International Energy Affairs \$ 480,000

An estimate of \$480,000 is requested for the period July 1, 1976 - September 30, 1976. This activity deals with general policy review and coordination of all FEA international activities, national security council matters, international agreements, multi-national energy negotiations, transportation of energy from abroad, and liaison with defense and nuclear energy agencies. This activity will continue the development of policy options for oil sharing, mandatory conservation, emergency supply, and encouraging multi-national 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 of the imperatives of U.S. foreign policy and vice versa.

APPEAL FROM HOUSE ALLOWANCE

Senator ROBERT C. BYRD. The subcommittee has received, under date of August 29, 1975, the FEA's appeal from the House reductions in its original budget request. The FEA asks that \$13.7 million of the \$14 million reduction be restored. We will include that information in the record at this point since we will be referring to the appeal from time to time.

[The information follows:]

FEDERAL ENERGY ADMINISTRATION

WASHINGTON, D. C. 20461

AUG 29 1975

Honorable Robert C. Byrd
Chairman, Subcommittee on Interior and
Related Agencies Appropriations
United States Senate
Washington, D. C. 20510

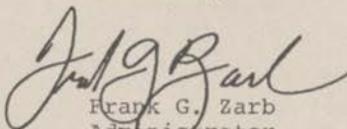
Dear Mr. Chairman:

There is submitted herewith proposed adjustments in the Federal Energy Administration's portion of the Department of Interior and Related Agencies Appropriation Bill, 1976 (H.R. 8773). These are presented in the form of amendments with an explanatory statement covering each change recommended. The amendments refer to page and line numbers on the Bill as reported by the House Committee on Appropriations.

Due to the uncertainty concerning a National Energy Policy I do not believe it wise to reduce the amount requested in the President's Budget at this time. As I testified before the House Committee and as the Committee recognized in their Report (H. Report No. 94-374) the amounts as requested are insufficient to meet our present needs. These estimates, now before the Congress, were prepared in September, 1974 and as you well know the situation has changed greatly since then.

I appreciate the opportunity to present to the Committee these recommendations for changes in the bill which I consider essential to our operations. It is my desire to cooperate in every way possible in the consideration of these amendments.

Sincerely,



Frank G. Zarb
Administrator

FEDERAL ENERGY ADMINISTRATION
SALARIES AND EXPENSES

(House Hearings, part 6, pp. 273-592)

Appropriation, 1975.....	\$130,035,000
Estimate, 1976.....	112,435,000
House allowance.....	98,388,000
Restoration requested.....	13,770,000

(P. 42, line 12)

Amendment Requested:

Page 42, line 12, strike out "\$98,388,000" and insert in lieu thereof "\$112,158,000," an increase of \$13,770,000 in the appropriation.

Justification

This amount is for the following activities:

Activity	Appropriation 1975	Budget Estimate 1976	House Allowance 1976	Restoration Requested
Executive Direction and Administration....	\$ 34,887,000	\$ 30,452,000	\$23,175,000	\$ 7,000,000
Energy Policy and Analysis.....	20,017,000	23,574,000	21,839,000	1,735,000
Regulatory Programs....	41,954,000	21,749,000	21,749,000	...
Energy Conservation and Environment.....	19,906,000	25,066,000	20,031,000	5,035,000
Energy Resource Development.....	11,765,000	10,208,000	10,208,000	...
International Energy Affairs.....	1,506,000	1,386,000	1,386,000	...
Total.....	<u>\$130,035,000</u>	<u>\$112,435,000</u>	<u>\$98,388,000</u>	<u>\$13,770,000</u>

A breakdown of the restoration by objects of expenditures follows:

11. Personnel compensation.....	\$ 1,147,000
12. Personnel benefits.....	153,000
23. Rents, communications and utilities.....	1,735,000
25. Contract accounts.....	10,735,000
Total.....	<u>\$13,770,000</u>

Executive Direction and Administration:

House action on the F.Y. 1976 appropriation request reduced this activity by \$7,277,000. The reduction was specifically applied to the following areas:

Administrative overhead, executive direction and administration.....	\$1,300,000
GSA space.....	277,000
Contracts, executive direction and administration....	700,000
Reimbursement to States.....	5,000,000
Total.....	<u>\$7,277,000</u>

Personnel compensation and benefits - A reduction of \$1.3 million would reduce estimated staffing in Executive Direction and Administration by approximately 68 positions. This activity comprises the executive, management and support personnel whose functions are applicable to the proper execution of the responsibilities of the Administrator. The 413 positions requested 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 regional activity coordination.

A staffing reduction would restrict the Administrator's ability to effectively communicate adequately executive mandates to headquarters and regional offices as follows:

- Decrease the overall effectiveness of the FEA MBO program which is responsive to the administrative needs of the organization; reduce special management information reports for FEA senior staff; and delay refined management systems.
- Reduce or eliminate the internal audit of various headquarters and regional financial and program operations.
- Reduce occupation studies to develop standards and criteria for additional positions which may result from the changing mission of the Agency.
- The elimination of the organization and direction of an agency-wide system of personal property management that achieves economical acquisition, effective utilization, and thorough accountability of all FEA property.
- Reduce the Agency's ability to give personalized responses to letters from the general public; downgrades ability to respond to requests for information in a timely manner and increases the number of requests which cannot be handled in 48 hours or less; less responsive to press and media as well as to program offices within FEA.
- Reduce the Agency's ability to comment on or formulate the ever increasing volume of energy legislation.
- Reduce state and local government participation in FEA energy management policy and programs.
- Reduce significantly the overall requirement for legal support for price control authority.

GSA Space - The reduction of \$277,000 for GSA Space rental costs reflects a 10 percent reduction of our total F.Y. 1976 request of \$2,767,000. The reduction of 10 percent of GSA rental estimates results from the general provision inserted in Senate Report No. 93-903 of the Special Energy Research and Development Appropriation Bill, 1975. This general provision, in the nature of a limitation, provided that "no part of any appropriation contained in this Act shall be available for paying to the Administrator of the General Services Administration of excess of 90 per centum of standard level user charge for space and services." We are not requesting restoration of this reduction.

Contracts - A reduction of \$700,000 for contracts would eliminate the following:

- Contingency contract funding attendant with implementation of Project Independence and promotion of conservation efforts..... \$200,000
- Continued development of Consumer Affairs/Special Impact Comprehensive Human Resources Data System..... \$500,000

The Administrator needs the necessary flexibility to allocate funds to various program areas on energy related matters, such as accelerated printing and distribution of publications on conservation emphasis, etc.,

and to undertake special studies and contractual requirements, such as services for public hearings.

There is a continuous need to collect and analyze data on the impact that FEA's policies of energy pricing, etc. have on consumers, the poor, the elderly, and the handicapped. This contract would continue the CA/SI Comprehensive Human Resources Data System on those adversely affected by the energy crisis and increased energy costs and prices.

Reimbursement to States - Cutting the State Reimbursement program from \$10 million to \$5 million in F.Y. 1976 would seriously impede the efforts of the Federal Energy Administration to enlist the help of the state governments in implementing a comprehensive national energy program.

The recommendation to this effect by the House Committee on Appropriations:

1. The recommendation is probably based on the assumption that the "energy emergency" is past.

In point of fact, while gasoline lines have shortened in recent months there has been increasing recognition that the United States and the world as a whole face a long term energy crisis of far more ominous proportions than had previously been imagined. The United States and other countries have responded to this crisis by planning and implementing long term comprehensive energy programs to conserve existing supplies and develop new resources.

2. The recommendation ignores the fact that the \$10 million distributed in F.Y. 1975 was a key factor in enabling states to assist in carrying out a wide range of Federally initiated energy programs. FEA negotiated for each project that would be operated by the states for the Federal Government and emphasized in each case that the money was for reimbursement of expenses and was not a grant.

The 93rd Congress realized correctly that the states would have to be active participants in the solution of national energy problems. In Section 20 of the FEA Act of 1974 (P.L. 93-275) the Congress mandated close Federal-State cooperation in energy matters and in the Special Energy Research Act of 1974 (P.L. 93-322) the Congress appropriated \$10 million to reimburse states for expenses incurred in carrying out Federal energy programs.

After consulting with states and obtaining the express approval of appropriate Congressional committees, the FEA issued program guidelines under which states could apply for reimbursement. Recognizing that the National energy problems went far beyond fuel allocation, the guidelines encouraged states to construct energy conservation, resource development and overall energy management programs that were appropriate for their own situations. The monies were apportioned on a formula basis (\$50,000 plus 3.04¢ per capita) and were provided on a 2:1 matching basis to ensure state commitment.

The programs for which states were reimbursed clearly reflected both the objectives of the overall Federal energy program and the unique characteristics of the states. While individual states varied considerably in how they used this money, the total money was spent as follows:

<u>F.Y. 1975 Energy Activity</u>	<u>Percent of FEA Reimbursement Fund</u>
Fuel Allocation	32%
Conservation	22%
Energy Resources	21%
Overall Energy Management	22%
Other Energy Activities	3%

This response was particularly noteworthy because many of the programs funded were new this year, and had been encouraged directly by the Federal energy program. At a minimum, it has meant that every state has stimulated the appropriation of considerably more funds for energy projects than were required by the State Reimbursement Program. Without the initial Federal contribution of \$10 million it is doubtful that the states would have responded to the Federal Government's call for assistance nearly as actively.

3. The recommendation is a false signal to the states that the Federal Government does not desire as much assistance in facing the continuing "energy emergency" and if it is passed state energy activity will drop correspondingly.

As the dimensions of the National energy situation become better understood, it is clear that more, rather than less, state assistance is needed. States are critical in any plans to

- ° Distribute all types of fuel to needy users in shortage situations.
- ° Formulate land use plans which allow for managed development of natural resources (including the Outer Continental Shelf) and energy facilities.
- ° Adopt building codes which are energy efficient.
- ° Enforce the 55 mph speed limit.
- ° Reform utility rate structures.
- ° Expedite the approval of new energy facilities.
- ° Implement the nationwide joint Federal-State Energy Conservation Program recently agreed to by the FEA and the National Governors' Conference.

State action in each of these areas will be very important to the Federal Energy Program in F.Y. 1976.

Cutting the State Reimbursement Program from \$10 million to \$5 million in F.Y. 1976 would result directly in the reduction of substantial staff and programs by states where treasuries are currently hard-pressed. Of special importance is the fact that if there are serious energy shortages this winter it will cost much more to reactivate state programs than if funding is continued at the current level. Beyond the direct effect of the money not replaced by the State Governments there is the additional danger that states will be encouraged by the Federal example to appropriate less for energy problems. The nation can ill-afford such action.

Energy Policy and Analysis:

House action on the F.Y. 1976 appropriation request for Policy and Analysis reduced this activity by \$1,735,000. The reduction was specifically applied to the following areas:

Energy data systems (computer costs)..... \$1,735,000

Policy and Analysis' decrease of \$1,735,000 for energy data systems (computer costs), in support of the petroleum allocation program, results from the Committee's desire to wait until Congressional action is completed on energy programs, including any extension of the allocation program. However, because of the high costs involved in phasing out and reinstating complex data systems, it would be more cost effective to maintain the existing allocation support systems until final action is taken on the future of the petroleum allocation program. Maintenance of existing data support systems will result in a continuity of systems and will allow immediate response to Congressional energy program direction.

Therefore, it is requested that the \$1,735,000 for energy data systems (computer costs) remain as part of the initial F.Y. 1976 budget and that this amount be reprogrammed to support the Congress' intent for allocation programs.

Energy Conservation and Environment:

House action on the F.Y. 1976 appropriation request reduced this activity by \$5,035,000. The reduction was specifically applied to the following area:

Contracts, energy conservation and environment..... \$5,035,000

The Committee contends it is not convinced that the kind of programs described by the FEA will result in the progress which must be made in energy conservation. It further expresses concern that there is might be overlapping duplication between FEA and ERDA in energy conservation programs.

While we would certainly agree with the Committee that the programs presented will not accomplish all that needs to be accomplished in energy conservation, the FEA contends that its conservation programs are among the most cost effective energy programs the Government has undertaken. Information was supplied to the Committees indicating estimated savings of 278,000 barrels per day in 1975 and a projected 424,000 barrels per day in 1977 resulting from its 1975 programs (Exhibit 1). We further provided information to the Committee giving specific estimates of additional 117,000 barrels per day in 1976 and an additional 340,000 barrels per day in 1977 resulting from 1976 proposed programs (Exhibit 2). The combined import reduction in 1977 from both years programs would be \$3.0 billion, a 71 to 1 ratio to FEA expenditures.

With regard to the FEA/ERDA overlap, it was admitted to the Committee that since the FEA budget was prepared prior to the ERDA budget, there might have been some overlap originally. However, the lines of responsibility of ERDA and FEA are very clear. FEA is responsible for implementing conservation programs using existing know-how and technology, and ERDA implements programs developing new technology. As a result, the Committee was supplied with a redirection of its F.Y. 1976 funding so as to eliminate any potential overlap (Exhibit 3).

In addition to the voluntary programs submitted, the Administration has asked the Congress for legislation involving several incentive-type and mandatory energy conservation measures. These proposals are comple-

mentary to the voluntary programs FEA is undertaking. Furthermore, FEA is now in the process of preparing proposals of eight major new initiatives which it looks forward to presenting to the Committee.

EXHIBIT 1

Results From Programs Initiated in 1975

		Savings in Barrels Per Day	
		1975	1977
1.	<u>Improve Efficiency of Motor Vehicles</u>		
	- Initiated 40% auto efficiency goal program		
	. Improvement from fleet average of 16 MPG to 17 MPG	...	33,000
	- Initiated jointly with EPA auto efficiency labeling and booklet distribution		
	. resulted in .5 MPG increase in average fuel economy to sales mix change	6,000	12,000
2.	<u>Reduce Vehicle Miles Traveled</u>		
	- Developed administration analysis of impacts of rationing, taxes and other options	...	...
3.	<u>Improve Efficiency of Existing Buildings and Homes</u>		
	- Test marketed Project Conserve in 2 cities		
	. 427 homes (10% of those sent) made some changes with an average savings of 20%	7	7
	- Contacted 10,000 building operators achieving 20% average savings in 6,000 buildings	16,330	16,330
	- Managed Federal Energy Reduction Program		
	. 24% savings from 1973 base	247,000	247,000
	- Proposed 15% insulation tax credit to Congress	...	...
4.	<u>Design and Build More Efficient New Structures and Appliances</u>		
	- Completed analysis and proposed legislation for National Building Standards		
	. Results will be 30-50% savings on all new structures after 1978	...	...

		Savings in Barrels Per Day	
		1975	1977
-	Began appliance efficiency goals program		
	. 2% improvement by 1977	...	5,800
5.	<u>Improve Efficiency of Industrial Processes and Equipment</u>		
-	Obtained commitments from 200 of the largest firms on efficiency goals		
	. Approximately 40% launched programs as a result. Savings for these companies will be 3% in 1977 (33% of usage x 40% x 3%)	9,000	60,000
6.	<u>Cut fuel Required to Generate each KWH of Electricity</u>		
-	Initiated and partially funded load management demonstration in 7 States		
	. 1.0 MBPD affected with a 5% improvement by 1977	...	50,000
7.	<u>Improve Public Awareness of Conservation Needs and Opportunities</u>		
-	Initiated public service advertising and limited distribution of energy savings tips		
	. 75% of the public now recognize "Don't be Fuelish"	...	...
	. 37% of the public believes the energy problem is "very serious"--up from 23% in March 1974 (still not enough)	...	...
	Total Savings in BPD	278,337	424,137
	Total \$ Savings in Imports	1.1 Billion	1.7 Billion.
	Ratio to FEA Expenditure	65:1	100:1

EXHIBIT 2

Results From Programs Initiated in 1976

		Savings in Barrels Per Day	
		1976	1977
1.	<u>Improve Efficiency of Motor Vehicles</u>		
-	Conduct program to influence new car purchase decisions by labeling autos and disseminating fuel economy information to potential new car buyers.	14,000	28,000
-	Implement with DOT the Truck Efficiency Program, securing signed agreements for 20% improvements by 1980 with 10 major manufacturers and 100 largest fleet operators.	7,500	18,000

		Savings in Barrels Per Day	
		1976	1977
2.	<u>Reduce Vehicle Miles Traveled</u>		
	- Initiate major vanpool projects in three to five metropolitan areas (1,000 vans).	250	1,000
	- Intervene in those regulatory actions with major conservation potential in the transportation area (ICC, CAB, FAA, etc.). (Raise airline load factor one point.)	10,000	10,000
3.	<u>Improve Energy Efficiency of Existing Buildings and Homes</u>		
	- Place Project Conserve questionnaire in 10 million homes (six States), obtain 20% response rate resulting in thermal improvements in 1,000,000 homes.	18,000	18,000
	- Conduct Lighting and Thermal Operations program to obtain 20% reduction in energy in 6,000 of 10,000 commercial buildings contacted.	16,000	16,000
	- Conduct Federal Energy Management Program to continue reducing amount of energy used by the Federal Government (2% further reduction).	16,000	16,000
	- Test new programs now being developed to obtain conservation in schools, hospitals, universities, existing multi-family homes and new and existing mobile homes.	...	25
4.	<u>Design and Build More Efficient New Structures and Appliances</u>		
	- Implement program to obtain conservation in appliances and building equipment including labeling dishwashers, water heaters, central heating and cooling equipment and obtain a commitment from appliance manufacturers to improve appliance efficiency 20% by 1980 (increase efficiency by 8%).	...	23,000
	- Support initiatives to establish building standards for residential and commercial buildings. (Would not affect construction until 1978.)	...	...
5.	<u>Improve Efficiency of Industrial Processes and Equipment</u>		
	- Obtain acceptable commitments to energy targets and conservation programs from 2,000 companies in 10 industries and transfer to industry data and knowledge on latest conservation techniques.	15,000	100,000
	- Complete development and test specific conservation program targets including waste oil, agricultural handbook, standards for certain equipment and processes, boiler efficiency management (contributes to above).	...	...

Savings in Barrels
Per Day
1976 1977

6.	<u>Cut Fuel Required to Generate KWH of Electricity</u>		
	- Conduct 10-14 utility conservation demonstrations of the feasibility and effectiveness of peak load pricing and other load management techniques.	...	40,000
	- Obtain commitments from 50% of 150 major utilities and their regulatory commissions to take actions to level loads and increase the end use efficiency of electrical use.	...	...
7.	<u>Improve Public Awareness of Conservation Needs and Opportunities</u>		
	- Develop for public service advertising six TV spots, six radio spots, one film, and newspaper, magazine and billboards advertising targeted on the general public to reach 50% of the public.	...	...
	- Design and distribute booklets, posters, bumper stickers.	...	...
	- Fund local conservation education initiatives, train community influence people, and distribute activity guidebook to schools.	...	...
	- Implement a joint State/Federal energy conservation program (announced June 11, 1975).	20,000	70,000
8.	<u>Develop Policy Options and Potential Legislation to Conserve Energy</u>		
	- Carry out transportation policy analysis and support study on auto efficiency 1980-1985.	...	...
	- Complete analysis of technical and operational conservation options for specific industries.	...	...
	- Develop policy options in buildings and appliance sectors.	...	...
	- Analyze utility conservation issues and develop policy options.	...	...
	- Develop conservation policy options for post 1985 period.	...	...
	- Conduct system studies on energy conservation issues that cross sectorial lines such as energy implications of land use, program evaluation, benefit-cost assessments, energy from solid waste, and public opinion surveys.	...	...
	Total Savings in BPD	116,750	340,025
	Total \$ Savings in Imports	.5 Billion	1.4 Billion
	Ratio to FEA Expenditures	20:1	56:1

Savings in Barrels	
Per Day	
1976	1977

Combines results from 1975-1976 actions:

Total Savings In BPD	395,087	764,162
Total \$ Savings in Imports	1.6 Billion	3.0 Billio
Ratio to FEA Expenditures	38:1	71:1

EXHIBIT 3

Conservation and Environment
FY-76 Objectives

<u>Objective</u>	<u>Contract \$</u>
1. <u>Improve Efficiency of Motor Vehicles</u>	\$ 900,000
<ul style="list-style-type: none"> - Conduct program to influence new car purchase decisions by labeling autos and disseminating fuel economy information to potential new car buyers. - Implement with DOT the Truck Efficiency Program, securing agreements for 20% improvements by 1980 with 10 major manufacturers and 100 largest fleet operators. 	
2. <u>Reduce Vehicle Miles Traveled</u>	1,200,000
<ul style="list-style-type: none"> - Initiate major vanpool projects in three to five metropolitan areas. - Intervene in those regulatory actions with major conservation potential in the transportation area (ICC, CAB, FAA, etc.). 	
3. <u>Improve Energy Efficiency of Existing Buildings and Homes</u>	4,760,000
<ul style="list-style-type: none"> - Place Project Conserve questionnaire in 10 million homes (six States), obtain 20% response rate resulting in thermal improvements in 1,000,000 homes. - Conduct Lighting and Thermal Operations program to obtain 20% reduction in energy in 6,000 of 10,000 commercial buildings contacted. - Conduct Federal Energy Management program to continue reducing amount of energy used by the Federal Government. - Test new programs now being developed to obtain conservation in schools, hospitals, universities, existing multi-family homes and new and existing mobile homes. 	
4. <u>Design and Build More Efficient New Structures and Appliances</u>	600,000

<u>Objective</u>	<u>Contract \$</u>
<ul style="list-style-type: none"> - Implement program to obtain conservation in appliances and building equipment including labeling dishwashers, water heaters, central heating and cooling equipment and obtain a commitment from appliance manufacturers to improve appliance efficiency 25% by 1980. - Support initiatives to establish building standards for residential and commercial buildings. 	
5. <u>Improve Efficiency of Industrial Processes and Equipment</u>	1,950,000
<ul style="list-style-type: none"> - Obtain acceptable commitments to energy targets and conservation programs from 2,000 companies in 10 industries and transfer to industry data and knowledge on latest conservation techniques. - Complete development and test specific conservation program targets including waste oil, agricultural handbook, standards for certain equipment and processes, boiler efficiency management. 	
6. <u>Cut Fuel Required to Generate Each KWH of Electricity</u>	3,650,000
<ul style="list-style-type: none"> - Conduct 10-14 utility conservation demonstrations of the feasibility and effectiveness of peak load pricing and other load management techniques. - Obtain commitments from 50% of 150 major utilities and their regulatory commissions to take actions to level loads and increase the end use of efficiency of electrical use. 	
7. <u>Improve Public Awareness of Conservation Needs and Opportunities</u>	1,900,000
<ul style="list-style-type: none"> - Develop for public service advertising six TV spots, six radio spots, one film, and newspaper, magazine and billboard advertising targeted on the general public to reach 50% of the public. - Design and distribute booklets, posters, bumper stickers. - Fund local conservation education initiatives, train community influence people, and distribute activity guidebook to schools. - Implement a joint State/Federal energy conservation program. 	
8. <u>Develop Policy Options and Potential Legislation to Conserve Energy</u>	3,540,000
<ul style="list-style-type: none"> - Carry out transportation policy analysis and support study on auto efficiency 1980-1985. - Complete analysis of technical and operational conservation options for specific industries. - Develop policy options in buildings and appliance sectors. 	

Objective

Contract \$

- Analyze utility conservation issues and develop policy options.
- Develop conservation policy options for post 1985 period.
- Conduct systems studies on energy conservation issues that cross sectorial lines such as energy implications of land use, program evaluation, benefit-cost assessments, energy from solid waste, and public opinion surveys.

9. Environment

1,800,000

- Assure that FEA fulfills its NEPA responsibilities and environmental issues are adequately addressed in fossil fuel resource policy development so that domestic resources can be developed in a timely manner.
- Analyze, develop options and make recommendations on major energy related environmental issues including:
 - (a) the Federal Water Pollution Control Act and its effect on energy intensive industries, (b) sulfate emissions from both mobile and stationary sources, (c) two studies on the relationship between fuel economy and various auto emissions standards, and (d) other proposed environmental regulations that pass through the OMB quality of life review.

TOTAL CONTRACT FUNDS

\$20,300,000

CONTINUATION OF PETROLEUM ALLOCATION

Senator ROBERT C. BYRD. Mr. Zarb, as I have already indicated, your statement has been placed in the record.

I apologize for my tardiness in opening the hearing, but the Majority Leader could not open the Senate this morning and I received word of that just prior to the time of the hearing, so I had to excuse myself just prior to the time of the hearing to open the Senate.

One of the increases in your budget amendment is for the continuation of petroleum allocation through November 15, the expiration of the latest extension for this program, but not beyond that date. Is that correct?

Mr. ZARB. Yes, sir. When that question is cleared up with respect to continuation and noncontinuation of controls, we are going to have to come back to the committee and review our agency's resources at that time.

COMPROMISE OIL DECONTROL PLAN

Senator ROBERT C. BYRD. Mr. Zarb, what are your own recommendations for petroleum allocation, including price controls, beyond November 15? Is there a phased decontrol schedule prepared?

Mr. ZARB. My recommendation has been for some months that we enter into an arrangement whereby controls be phased out over a period of time. I supported the 39-month program which would have given us the right time and sequence of events to eliminate controls and, at the same time, attend to the things that need to

be accomplished. I am hopeful that the conference committee now working will finally come out with that kind of arrangement.

Senator ROBERT C. BYRD. Is there a phased decontrol schedule prepared?

Mr. ZARB. Yes, sir; and we have prepared a very detailed phased decontrol schedule associated with the plan, along with all the economic impacts and so on.

Senator ROBERT C. BYRD. Will you supply that for the record?

Mr. ZARB. Yes, sir, we will.

[An analysis of the economic impact of the President's proposal was also submitted and adopted by reference.]

[The information follows:]

THE WHITE HOUSEFACT SHEETTHE PRESIDENT'S COMPROMISE OIL DECONTROL PLANTHE PRESIDENT'S ANNOUNCEMENT

The President today announced a new compromise plan to gradually decontrol the price of old oil (oil now under federal price controls) over a 39-month period. In addition, the President announced for the same period a ceiling on the price of all uncontrolled domestic oil (other than from wells which produce less than 10 barrels per day which are currently exempted from controls) of approximately \$11.50, increasing at \$.05 per month beginning October 1, 1975.

The President also called for enactment of energy taxes including a windfall profits tax (with appropriate plowback provisions) and a 3 month extension of the Emergency Petroleum Allocation Act to implement the decontrol plan. The energy taxes collected would be rebated to each energy consumer. These actions will result in substantial energy savings, provide an incentive for expanding domestic production, and ultimately remove a complex and counter-productive set of regulations.

Under the President's plan, imports will be reduced and prices will increase gradually. Phased decontrol will thus not impede economic recovery.

BACKGROUND

- The price of old oil is currently controlled at an average of about \$5.25 per barrel, while the average price of new domestic oil is now uncontrolled and is about \$12.50
- Controlled oil currently represents about 60 percent of domestic oil production. New, released, and stripper well oil account for the remainder.
- Domestic oil production has been declining since 1970 (it is down 11% since early 1973) and is now about 8.4 million barrels per day (MMB/D), a decline of more than 500,000 barrels per day from last year (see chart 1).
- Imports are predicted to average about 6.5 million B/D, but are expected to rise to up to 7 MB/D by the end of this year, which is about 40% of domestic consumption.
- Imports are expected to grow to an average of more than 7.5 MMB/D in 1977, if no action is taken to reduce demand or increase supply. The added imports in the next two years are expected to come mainly from Arab nations and could double our vulnerability to an embargo (see chart 2).
- The Emergency Petroleum Allocation Act of 1973, which requires the control of prices and distribution of oil expires on August 31, 1975.
- None of the measures requested by the President almost six months ago in his State of the Union Address has been enacted by the Congress.

- The President originally proposed in his State of the Union Address immediate and total decontrol in April, 1975. In response to concerns expressed by some Members of Congress, on April 30, 1975, the President directed FEA to hold public hearings on a phased decontrol plan in May.
- The President submitted a 30-month decontrol plan to the Congress on July 14, 1975, which also contained a \$13.50 per barrel ceiling on domestic oil. The 30-month plan was disapproved by the House of Representatives on July 22.
- Under provisions of the Emergency Petroleum Allocation Act, either House of Congress has five working days in which to disapprove a decontrol plan by majority vote.

OBJECTIVES OF THE PLAN

The plan announced by the President is designed to meet the following objectives:

- Achieve a major reduction in imports by providing an incentive to increase domestic production and by cutting demand through increased conservation.
- Reduce the power of foreign oil cartels to control the prices Americans pay for energy.
- Provide a compromise decontrol plan acceptable to the Congress.
- Remove over a 39-month period the complex, counter-productive, and administratively burdensome government regulations.
- Eliminate excessive oil company profits and minimize consumer and economic impact by rebating energy taxes.

PRINCIPAL ELEMENTS OF THE PLAN

Today's proposal by the President would gradually remove price controls from all currently controlled oil over a 39-month period beginning September 1 of this year and ending in November, 1978. Under this plan, the amount of oil under controls is decreased by an additional 1.5 percent per month of a decontrol base production level (which is the average monthly production of old oil during April, May, and June of this year) for the first year beginning September 1, 1975, 2.5 percent per month for the second year; and 3.5 percent per month for the remaining 15 months.

The 39-month ceiling on prices for domestic crude oil proposed by the President would be equal to the old oil ceiling price plus \$6.25 per barrel, for a total of approximately \$11.50 per barrel.

Prices of domestic oil produced from stripper wells -- wells producing less than 10 barrels per day -- are not now controlled nor would they be under the President's proposal.

The President also announced that along with the decontrol plan, he would urge the Congress to enact his proposed energy taxes including a windfall profits tax with appropriate plow-back provisions and to extend the Allocation Act with appropriate modifications to cover this 39-month decontrol period.

The President also called upon the Congress to enact the other critical conservation, domestic supply, and emergency standby measures which were included in his State of the Union proposals of January 15, 1975.

IMPACT OF THE PLAN

- On prices:

The President's phased decontrol plan will increase the average petroleum product price (such as gasoline) by a cumulative amount of approximately:

End of	
1975 -	-45-1.0¢/gallon
1977 -	2.0¢/gallon
1978 -	5- 6¢/gallon

- On Import Savings:

Average for year	Phased decontrol - alone	Phased decontrol, existing \$2 import fee & other pro- posals by President
1975	20,000	270,000
1977	190,000	1,240,000
1978	515,000	1,770,000

- Impact of Compromise on Prices

Timing of Decontrol	Cap	Cumulative Prices Increases, as of 4th Quarter		
		1975	1977	1978
Immediate ⁽¹⁾	None	6-7¢/gal	--	--
30 Month ⁽²⁾	\$13.50	0.5¢/gal	4.5	5.6
39 Months ⁽³⁾	11.50	-(.5-1.0)/gal ⁽⁴⁾	2.0	5.6

(1) Proposed on January 15, 1975

(2) Proposed on July 14, 1975

(3) Proposed on July 25, 1975

(4) Decrease from current price levels

CHART 1
DOMESTIC PRODUCTION OF CRUDE OIL

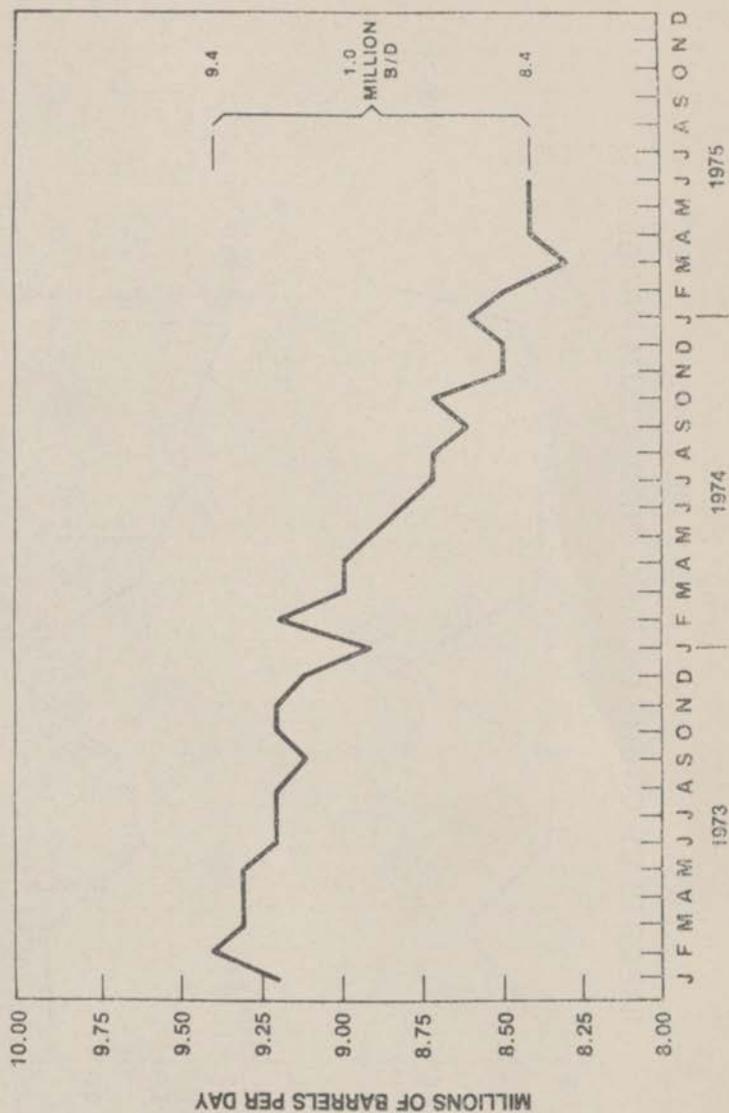
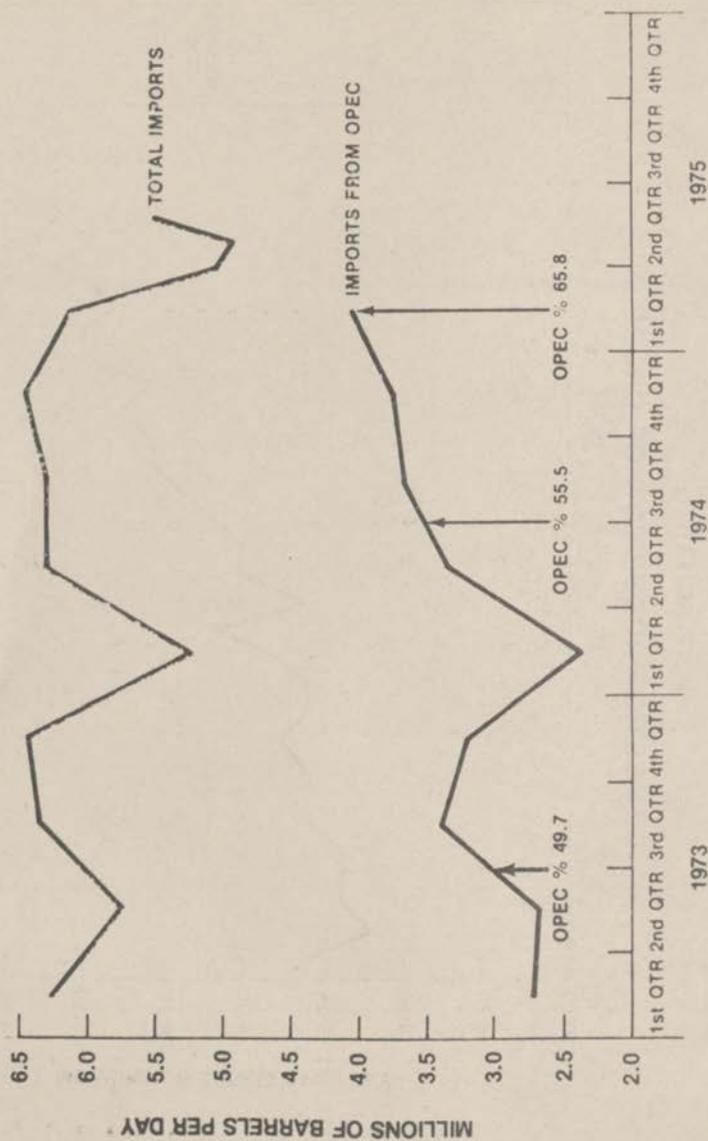


CHART 2
IMPORTS OF CRUDE OIL AND PETROLEUM PRODUCTS



PHASING OUT PETROLEUM ALLOCATION

Senator ROBERT C. BYRD. Since your budget estimates for petroleum allocation do not go beyond November 15, is there any funding included for the costs of terminating or phasing out petroleum allocation?

Mr. ZARB. No, sir; there is not. We have essentially provided a standstill budget for the moment which provides us with strength virtually equal to where we are currently. We would want to come back to you if, in fact, there was an abrupt and complete decontrol, to discuss with you the requirements we would have to wind out the system, and that would take a considerable amount of work and effort, since we have some backlog to clean up.

Senator ROBERT C. BYRD. Because of the delays discussed earlier, it is not likely that your fiscal 1976 appropriations will be enacted and available until after November 15. Where will that leave petroleum allocation in the period between November 15 and the date when additional appropriations might be made available?

Mr. ZARB. In the amendment, Mr. Chairman, we have asked for sufficient strength to assure that we can continue the allocation system and continue our compliance efforts.

At the same time, we had an agreement with the Office of Management and Budget where, in addition to our ceiling of 3,200, we will have additional "float" of 300, to bring us up to 3,500 people. So between now and the time that the question is completely resolved, we have sufficient strength to continue the program.

COST ESTIMATES FOR PETROLEUM ALLOCATION PROGRAMS

Senator ROBERT C. BYRD. Please submit estimates on your funding needs for the various alternatives for petroleum allocation after November 15. Estimated costs of termination, phased decontrol and continuation of the full program.

Mr. ZARB. All right, sir.

[The information follows:]

The estimated funding increases under the various alternatives follow:

1. Abrupt decontrol for the allocations and pricing programs excluding the compliance wrap-up program would require \$3 million and 150 additional staff years of effort.
2. Continuation of the full program for fiscal year 1976 would require an additional \$12 million and 783 additional staff years of effort. This amount includes additional compliance support. Note: An annualized cost of the EPAA would be about \$50 million for about 2,750 staff years.
3. The additional costs associated with a phased decontrol would require an estimated \$15 million and 350 additional staff years of effort if implemented November 16, 1975. Note: An annualized cost of a phased decontrol program would be approximately \$60 million and 2,950 staff years.

CONTINGENCY PLANS

Senator ROBERT C. BYRD. Did you consider asking for a contingency appropriation to provide for whatever decision is made on the future of petroleum allocation after November 15?

Mr. ZARB. Over the past several months we have worked to develop an agency operation plan that would sustain FEA's legislated energy programs with the minimum essential resources. The resulting amended budget is our statement of the minimum resources required.

However, the future of allocation and price control programs remains to be decided. Included in the budget amendment are \$2.9 million and 105 staff years to operate the allocation and pricing programs through November 15, 1975. After November 15, we will review our position and develop a supplemental request either to support a modified program or to provide for the expenses associated with an extended regulatory program. A contingency appropriation relative to the petroleum allocation program is not requested as a part of this budget amendment.

COMPLIANCE AND ENFORCEMENT PROGRAM

Senator ROBERT C. BYRD. As to fuel allocation, Mr. Zarb, how effective do you judge your compliance and enforcement program to be?

Mr. ZARB. In terms of the allocation systems, Mr. Chairman, you know that was for the most part devoted to the embargo and our ability to insure that we allocated a shortage in equitable form.

Inasmuch as we don't have that kind of a broad shortage at this moment, the allocation system is held in place because of the agency's existing laws, and oftentimes we come to paperwork exercise. Of course, that does not include the propane markets which are currently in a little different situation because of the natural gas situation.

With respect to our compliance in the price area and regulatory work, it has steadily been improving over the last year. I devoted extra strength to that area and I intend to see that as long as that law is on the books it is thoroughly and completely enforced. I might say, however, we are improving the quality of that program with training programs and installation of other systems that were required but were not in place.

Senator ROBERT C. BYRD. Your prepared statement addresses itself to a balanced compliance program with emphasis on major producers and refiners. Is this in response to the serious deficiencies pointed out in the GAO report of last December?

Mr. ZARB. I think GAO's report certainly provided me with some information that was useful in developing my plans when I took office.

There were other efforts being done both within and outside of FEA which isolated the areas that I thought needed strengthening, and in response to all of those reports and analyses, we have begun to move in the direction you just stated.

Senator ROBERT C. BYRD. Is your budget request for compliance sufficient to correct the deficiencies noted by GAO? Is an increase in 800 to 1,000 positions enough?

Mr. ZARB. It is for the moment. If agreement is reached to phase out decontrol, we are going to be back to ask for additional resources.

Senator ROBERT C. BYRD. Will you need additional positions?

Mr. ZARB. Yes.

CONSUMER COMPENSATION FOR GROSS PRICE VIOLATIONS

Senator ROBERT C. BYRD. How will the consumer be compensated for any gross price violations?

Mr. ZARB. Under our current system, Mr. Chairman, where a violation is found we have the authority to order a rollback, and a rollback

frequently finds itself going back to the consumer level. Oftentimes it is not easy to get back to the same consumers who paid the overcharge during the period of the violation.

In the event there is a criminal violation, we then move on two fronts: One, request the rollback; and second, we refer it to the Department of Justice for prosecution.

Senator ROBERT C. BYRD. Why did your price compliance program in 1974 concentrate so heavily on retailers, while neglecting producers and most wholesalers?

Mr. ZARB. Well, within the last year we have found that the retail end of the business has been pretty much in compliance because of natural reasons. The marketplace was not able to accept prices above some of their ceilings. However, we continue to sample that population to be sure that is the case.

Our work with major producers and major refiners is, in my view, just in recent months really getting started in a major way, so I can't comment on that. We have done a number of audits and continue to, of course, on all price changes as they occur, and we have ordered a substantial amount of rollbacks in recent years.

GAO ACCESS TO FEA RECORDS

Senator ROBERT C. BYRD. Have FEA and GAO satisfactorily resolved the question of GAO access to FEA records, including refinery audit records?

Mr. ZARB. I am absolutely certain we have, Mr. Chairman. I have had no question from GAO on that score.

They took up residence in our Dallas office and have been there for the last year, where we provide them with facilities and they have steady access to our records. I understand they are now prepared to leave that site, having completed their work.

EXPENDITURES ON OUTSIDE CONTRACTORS

Senator ROBERT C. BYRD. Why does FEA compliance spend so much money on outside contractors?

Mr. SMITH. Contractors have been hired to perform short-term developmental work. It would not pay in the long run to hire through CSC procedures full-time staff to perform short-term projects which, when implemented, can be handled by the authorized staff.

STATUS OF ALLOCATION PERSONNEL

Senator ROBERT C. BYRD. The Emergency Petroleum Allocation Act expired, as you know, last August 31, mainly because of a presidential veto on the extension bill. It was not reactivated until about 2 weeks ago. What was the status of your allocation personnel during that interim?

Mr. ZARB. The work that was underway continued. We took the position that any violations that occurred while the law was in effect were those that we needed to complete our investigations on and take necessary action on. So there was no problem with respect to keeping our people at work.

Of course, now we have taken the position that the regulation was in force as of August 31 and continued to be in force even

during the hiatus period, so the civil part of our work could apply during that period.

Senator ROBERT C. BYRD. If fuel allocation expires November 15, as presently authorized, what will you do with the personnel associated with the execution of the program?

Mr. ZARB. We made some adjustments within the organization that we have, but we would have, Mr. Chairman, to complete all the work that was required during the period that regulations were in force.

In some areas we haven't completed the analysis work that goes back as far as the embargo to make a determination that the transactions were done within the law. So, I would anticipate, if we have abrupt decontrol, that we would be able to keep our people fully employed for at least 18 months and beyond that point.

PROPANE FUEL PROGRAM

Senator ROBERT C. BYRD. It would appear highly likely at this point that, regardless of general fuel control decisions, there will be some control apparatus for propane fuel. What kind of funding would you require for that activity in 1976?

Mr. ZARB. It would not be nearly as substantial as for the whole, and probably within the context of the budget we laid out, we would be able to accommodate both the windout of the crude oil control program and the sustaining of the propane control program.

We asked the Congress for continuation of those authorities even if we have an elimination of the Emergency Petroleum Allocation Act, and we understand that did pass the Senate last night.

The specific answer is: 320 people would be devoted to the program.

Senator ROBERT C. BYRD. Would you supply any further details for the record, please?

Mr. ZARB. Yes, sir.

[The information follows:]

The 320 estimated positions required to support the proposed allocations and pricing program for propane would be distributed as follows:

	Compliance	Allocation	Total
Headquarters	20	10	30
Regions	250	40	290
Total	270	50	320

FUNDING FOR FISCAL YEAR 1976

Senator ROBERT C. BYRD. As we have noted, Mr. Zarb, your amended budget request not only expands your original submission, but more than doubles your 1975 spending. With fiscal 1976 already well along, does your agency have the capability to utilize all this additional funding effectively?

Mr. ZARB. Yes, sir. As you know, we have been operating under a continuing resolution, so the change isn't that abrupt. We aren't

adding substantial strength; we just never reduced, because the allocation act did not expire.

Mr. HILL. I might just add, Mr. Chairman, in the conservation area, while we may not expend all the funds, we feel confident in looking at the management plans that we are going to carry out with those funds; that we will have committed that level of funds by the end of the fiscal year, even though all of them might not be fully expended at the end of the year.

CONTRACTS IN THE AMENDED BUDGET

Senator ROBERT C. BYRD. The subcommittee may wish to ask additional questions in writing on this point.

The vast bulk of your amended budget, some \$173 million, is for contracting, and it appears now that you will have only about 6 months to let those contracts.

How will your agency manage that kind of a contracting load without waste and duplication?

Mr. ZARB. We have been planning for some months, Mr. Chairman, particularly in the conservation and environmental areas, so that we have sufficient preplanning, in my view, to make sure that the contracting work is accomplished without waste and duplication.

We have a rather detailed process within the agency, so that I have a board of senior management people analyze all contract commitments of any size to assure me that commitments are being made within an area where we are going to get the best possible results with a minimum amount of work.

FEA APPROPRIATION AUTHORIZATION

Senator ROBERT C. BYRD. Your existing FEA authorization contains a ceiling of \$200 million on annual appropriations. What is your authority for requesting \$260 million?

Mr. NOEL. We made it clear in the language submitted to your committee, Mr. Chairman, that the amount, the \$60 million in excess of the \$200 million statutory limit, has been included in the language that we have provided to you, sir. That is contingent, of course, on the favorable action of that particular authorization legislation.

WEATHERIZATION GRANTS TO LOW-INCOME HOMEOWNERS

Senator ROBERT C. BYRD. Your budget amendment includes \$55 million for "weatherization" grants to low-income homeowners. Since this is not yet authorized, why are you requesting the appropriation at this time?

Mr. ZARB. Well, Mr. Chairman, we have been asking for authorization since January and February of 1975 and we are hopeful and we have reason to believe that we will have authorization before the end of this year. We have planned for the expenditure of those funds and we would like to have the appropriation subject to the authorization being granted to us. I am told that the authorization has passed the House.

Senator ROBERT C. BYRD. Can you effectively utilize that full amount at this late date?

Mr. ZARB. I am convinced we can, Mr. Chairman. I hoped we would be in a position to have some of it out this coming winter, but that looks like it might not be accomplishable.

Senator ROBERT C. BYRD. What is the status of the authorizing legislation in the Senate?

Mr. ZARB. It is currently in the Banking Committee and has not been reported out, Mr. Chairman.

PROGRAM STATUS

Senator ROBERT C. BYRD. Are you aware that funds for weatherization grants have already been appropriated to the Community Services Administration in HEW? What is the status of that program?

Mr. ZARB. The \$16 million, I believe, Mr. Chairman. Yes, I am aware of that.

We will let Mr. Noel answer as to the status of that program.

Mr. NOEL. In June the Congress appropriated \$16.5 million to the Community Services Administration for their emergency conservation services program and Congress stated that CSA would work in coordination with FEA. Specific guidelines for programs within all Community Action Agencies were formulated and a series of joint regional meetings were sponsored by CSA and FEA. As a consequence, the CAA's were given an opportunity to grasp the winterization effort in a relatively short time.

The actual expenditure of funds has started in the emergency conservation services program and it appears that less than \$9 million of the \$16.5 million will actually be spent for insulation work in low-income homes. FEA has provided technical assistance and monitored the application process for the grants to those parts of the country with CAA's. Even though much of the money will not be spent in energy conservation activities, many low-income persons will be helped through the CAA's in ameliorating the high cost of heating fuel, advocating changes in electric utility rate structures, and rehabilitating substandard housing.

Additional funds have been appropriated for fiscal year 1976 for the CSA emergency conservation services program. Some of this money will be spent on energy conservation through cost-effective insulation material in low-income housing although it is unclear how much will be targeted for specific weatherization activities.

WEATHERIZATION PROGRAM

Senator ROBERT C. BYRD. Would you provide additional information on how the weatherization program would function, should it be authorized?

Mr. ZARB. Yes, sir.

Senator ROBERT C. BYRD. Also include information as to how the CSA weatherization program would function.

Mr. ZARB. We will provide that, Mr. Chairman.

[The information follows:]

WEATHERIZATION FUNDING

The proposed legislation authorizes the Federal Energy Administration to administer a grant program to the States totalling \$55 million for fiscal year 1976. Upon submission of an acceptable application, funds will be given to the office or agency designated

by the Governor to receive the grant. The designated State agency or office will be responsible for coordinating a delivery system for the installation of materials, developing criteria for selection of homes, and keeping the proper financial and program records.

FEA expects that each State will cooperate with and utilize the resources of the Community Action Agencies in implementing their own weatherization program. A State may accomplish this by funding either the State CSA organization or the local CAP agency or by funding another organization where CSA programs are nonexistent. Since existing programs vary from State to State, the State office is best qualified to determine which implementation procedure would be most effective.

CSA WEATHERIZATION PROGRAM

Mr. HILL. We have been working with the CSA for the last several months, vis-a-vis the expenditure of those funds that will be provided to the CSA for the initial cut at this program. Even though it is being provided for general programs, they have committed themselves to spend that level of funds and will do so in the way that is consistent with how our weatherization program would work once the program is approved.

RESULTS OF FEA PROGRAM

Senator ROBERT C. BYRD. How will the FEA and CSA weatherization programs function if and when the FEA version is authorized?

Mr. HILL. CSA has a program underway, part of which insulates homes of low-income persons. There are 881 CAAs in the country and this covers about two-thirds of the Nation. Most of the CAAs have a weatherization program in progress.

The FEA program would expand the existing programs of the CAAs and make available moneys to other organizations outside of the community action program areas. FEA would provide grants to State Governors and the Governors would fund the local implementing organizations. Many Governors have indicated they will fund the CSA organizations in their State.

The legislation, H.R. 8650, specifically speaks to the use of CAAs by the Governor so that the burden will be on the Governor to fund the local CAA.

It is certainly possible for CSA to get more money at the local level from the FEA program in fiscal year 1976 than CSA is providing directly, and at the same time, those low-income persons eligible for the weatherization program will not be excluded because they do not reside in a CAP area, or one that has not established a weatherization program.

ENERGY CONSERVATION

Senator ROBERT C. BYRD. The biggest increase in your amended request is for conservation. You are expanding that more than seven times over, from the \$18 million to \$141 million. Please explain this heavy emphasis.

Mr. ZARB. When I took office in January, I analyzed the mission that our legislation provided and where we had made progress and where we had not. I concluded that the intent of Congress was for our agency to take a lead position in both the analytical work and the education for conservation.

The program that we put forward in this budget provides us with the combination of a program that will allow us to help the American people to understand the ways in which they can conserve energy and thereby benefit themselves and, at the same time, serve our national program for energy conservation.

SPEECH OF ROGER W. SANT

I am submitting for the record a speech made by our assistant administrator for energy conservation and environment, Mr. Roger W. Sant, before the conference board. This outlines our approach to energy conservation in more detail.

[The information follows:]

REMARKS OF THE HONORABLE ROGER W. SANT
ASSISTANT ADMINISTRATOR, ENERGY CONSERVATION & ENVIRONMENT
BEFORE

THE CONFERENCE BOARD
AMERICANA HOTEL, NEW YORK, NEW YORK
TUESDAY, SEPTEMBER 30, 1975, 9:15 A.M., EDT

Before addressing the main question--whether we should have voluntary or mandatory energy efficiency standards--I'd like to take a little time to put conservation in perspective.

Promoting energy conservation should be easy. Natural gas and petroleum grow scarcer each day. The cost of what's left is rising. The cost of their potential replacements is even higher. Fewer and fewer people still cling to the hope that we can turn back the clock on energy prices, and sometimes it seems like the only ones left are Congressmen or Senators.

Actually, there should be no trouble convincing America that to save energy is--quite apart from being patriotic--to save money.

Why, then, are we not reducing consumption 10 to 15 percent instead of 1 or 2 percent?

Unfortunately, a number of factors are responsible.

Apathy to conservation has become institutionalized in many circles as a sort of conventional wisdom, which goes something like this:

"Since we're running out of cheap energy, the businesslike thing to do is to bring on more supplies." Conservation is regarded as a hobbyhorse of the environmentalists.

And outside of perhaps the insulation manufacturers, there is no organized conservation industry in this country, so we have nothing to compare to the energy producers in terms of marketing, distribution, and lobbying. The oil companies and utilities are busy talking up how much they need to produce. But no one's out there wholesaling conservation by the ton and barrel.

Lending institutions are still focused on first-cost considerations. Equipment that will save energy costs more to purchase and install than more traditional equipment. With capital tight, investors are all too often willing to wait around to see if such equipment will pay for itself--to see if energy prices really are going to stay this high.

This Doubting Thomas attitude is helped along by the fact that natural gas regulation--and controls on old domestic oil--have held the price of those resources so artificially low that many legitimate conservation investments have been difficult to justify economically.

The waste involved in our present consumption of energy is obvious. But as long as we have controlled prices and supply-oriented decisionmaking on the part of the energy industry and some policymakers, it will continue.

I am not by any means opposed to developing new supplies in line with our future needs for them. But, the purpose of any energy policy must be to fill the gap between the increasing demand and the decreasing supply on the basis of what's cheapest, what's environmentally the most attractive, and what's fastest.

As you might expect, you're about to hear a pitch for conservation. But I still think I may surprise you. I'm sure there is little doubt in most minds that conservation is the quickest contributor. No matter how hard we work at developing new supplies, we will not be able to bring them on fast enough to do us much good in the near future. Conservation is available to us here and now, when we need it.

And I don't expect that anyone would dispute conservation's desirability from an environmental standpoint either. It's obvious that cleaning up emissions is substantially less beneficial than not creating the emissions in the first place.

But it may be news to some people that the most compelling reason for conservation by far is an economic one. Let me explain.

The fact is that energy is only a means to economic well being, not the end product. If a fuel becomes overly expensive, or unavailable, then common business sense dictates that the thing to do is replace it with the lowest cost substitute. In that light, conservation is merely the process of putting in place non-energy substitutes like insulation or preheaters, while resource development is producing energy substitutes. In the tradition of our great economy, we should be indifferent as to whether we choose an energy substitute or a non-energy substitute, as long as we choose the lowest cost option.

It then becomes apparent that a barrel saved is equivalent in value to a barrel produced. Thus, from an economic standpoint, conservation is itself a form of supply. Each conservation project has a cost per barrel, just as every supply project does.

To illustrate this point, I have calculated that installing ceiling insulation in a home, for instance, saves energy equal in value to fuel oil retailed at \$5 a barrel.

It's easy to arrive at this figure. Home ceiling insulation, on the average, costs \$300 to install. The savings from having \$300 worth of insulation add up to 7 barrels of oil a year, and a present value of some 60 barrels over the lifetime of the insulation. When you divide this 60 barrels into the \$300 original cost, you get \$5 a barrel.

Now, for the sake of comparison, if the homeowner (or office or plant manager) chooses to buy more fuel for heating instead of installing the insulation, he would now pay, at retail, the equivalent of \$16 a barrel for fuel oil--\$11 more. Even regulated natural gas is \$11 or so. Shale oil, when produced, might run him \$22 a barrel; gas from coal perhaps \$23 a barrel. Solar heating devices would save at the cost equivalent of \$25 a barrel oil; and electricity from nuclear power weighs in at \$27 to \$35 a barrel, all of which make the \$5 for insulation look pretty good--or even \$9 a barrel for storm windows.

The same is true of auto efficiency. Expected industry investments in automobile fuel economy look like they will translate into the equivalent of oil at \$2.50 a barrel, or 6¢ a gallon, using the same calculation method. On the other hand, the option of substituting gasoline produced from shale might have a total cost of almost \$30 a barrel, or 70¢ a gallon plus tax. And just to show objectivity, and that not all conservation options are cheap, I estimate that installing Washington's urban rapid transit system would be the equivalent of buying oil at \$287 a barrel.

We must get as comfortable dealing with conservation projects as we are with supply projects. Suppose 3 gas utilities with 12 million residential customers in the same region are faced with a curtailment. They have at least two options. They can build a synthetic gas plant at a cost of \$800 million and after eight years lead-time, it will produce an additional supply of 91 billion cubic feet per year of natural gas.

Or they can go out and retrofit all of their customers' residential gas furnaces with electronic igniters instead of pilot lights and as a result, save an equivalent amount of gas. But the investment required to install the igniters will be 10 percent less than the cost of the synthetics plant, and unlike the plant, there are no continuing operating costs for producing and distributing the product.

The net result is that installing igniters brings on a supply of gas at 93¢ per MCF, while the gas from the synthetics plant will have a total cost of probably three to four times that. The same kind of favorable comparison will result from the installation of preheaters, heat exchangers, or other devices designed to save waste heat in industrial plants.

The point of such examples is that conservation projects are not only viable alternatives, but generally represent the most cost-effective way we have of dealing with energy problems. Ultimately, again, we are going to need both conservation and new supplies. Neither will do the job by itself. But in my opinion, any hope we have of emerging from the energy crisis with our shirts still on our backs is going to depend heavily on our ability to break out of our institutionalized "supplies or bust" attitude, choose the lowest cost option, and give conservation a fair chance to compete.

No one but the militant ideologue is proposing that we reduce energy consumption beyond an economically justifiable

level. We are by no stretch of the imagination advocating curtailment. That is simply not conservation. Allocation and rationing, with all of the problems they cause, can be justified economically only by the constraints of an emergency situation. When I speak of conservation measures, I am talking about actions that fall well within existing economic criteria.

When free to choose, as we are now, we ought to be putting our emphasis on the things that cost the least. In this respect, conservation projects should be the first energy priority for the country, not because this sounds enlightened, but because it makes hard-nosed, economic sense.

The problem faced by those of us who support this objective is how best to go about breaching the established barriers--the institutional inertia and first-cost bias of buyers--with information about opportunities for economically attractive conservation projects.

What this means is that we have a marketing job to do. We are looking for the lowest cost way to effectively communicate the maximum information. And it is in this light that we must consider the question of voluntary or mandatory conservation.

In most people's minds the choice is one of taking away freedoms, or not taking them away. I don't think that is accurate. This Administration has committed itself to keeping Government interference in the daily lives of the American people to a minimum. Again, our primary consideration is what is the most cost effective way to transfer the information--to make the sales pitch.

For example, in the case of building standards, the existence of over three thousand different building code jurisdictions makes it very difficult to achieve a unanimous voluntary adherence to energy efficiency standards--difficult because of the money and man-hours needed to reach every jurisdiction with the specialized information needed for that situation. So we have found that mandating Federal standards adapted to each community is the most cost effective way to achieve the improvements we need. And the Governors all seem to agree.

On the other hand, there are only four major automobile manufacturers. It is easy to maintain close contact with their management. And the standard is easy to set--miles per gallon. In their case, we think voluntary programs and goals are the answer, at least until those goals are ignored.

These may be the two poles of the issue. In between you have decisions to be made over such things as appliances and industrial equipment and processes. In dealing with these cases individually, we consider two things. First, as I have indicated, the number of people involved--the size of the target audience; and secondly, the complexity of the standard--how easy or difficult it will be to set one that will be equitable in all cases.

In the case of the building industry, where setting a series of standards was far more fair and cost effective than urging thousands of individual code-setters to adopt guidelines, we felt obliged to go the mandatory route. The situation fulfilled both criteria for imposing mandatory standards--the audience was large and difficult to reach, and the standards could be clearly spelled out.

As a contrast, in the steel industry there are just a few companies to deal with and the processes themselves are far too complex to standardize through regulation. In such a case, encouraging voluntary goals and programs is the proper and cost-effective step to take. Monitoring the BTU consumption of thousands of individual pieces of equipment and processes is not the way for Government to use the taxpayers' money or its own manpower.

To my mind most situations fall into the voluntary category. In general, we are not going to get involved in mandating standards unless this will be the least costly approach.

And even when we do set a mandatory standard, we are not going to go against natural market forces as in the case of price controls. What we will be doing, essentially, is ordering a proven money saving step with which too few are aware.

In short, I view the whole problem as one of information transfer. We are going to do whatever will bring the largest share of the market and that means using every means of marketing at our disposal, from issuing guidelines to setting mandatory standards, to advertising, or mobilizing citizen efforts.

But the duty is not all ours. The energy crisis is not exclusively--or even largely--a Government problem. The day when it becomes the sole responsibility of Government to make our economic system work will be a day when America as we know it is dead and gone.

It is Government's job to try to undo the ill effects of its own interference in the marketplace--by removing price controls, for instance, and letting the price of energy reflect its true value.

But the job of making our economic system work is not ours, but yours. Each of you, working within his or her own sphere of influence, will be the one who sets the price this country pays to regain its energy independence.

You have a cost-effective means of reducing that price ready at hand--energy conservation. For the sake of the country--and for your own sake--I urge you strongly to set doubts aside and start putting it to work for you:

- To turn your utilities toward marketing energy-saving devices as well as energy and energy-using devices,
- To develop and market new lines of energy-saving equipment and materials in your companies,

- To find a way to make yourselves a business out of this opportunity,
- And to support us in breaching the institutionalized barriers to conservation.

This country can cut energy use per dollar of product just as we have cut labor hours, but not until we become convinced that the energy saving business is as good--or better--than the energy producing business. I hope a few more of you are now convinced.

Thank you.

EXPANSION OF ENERGY CONSERVATION EFFORT

Senator ROBERT C. BYRD. What are you doing to see that this tremendous expansion is carried out effectively and without duplication?

Mr. ZARB. From an interagency standpoint, we work very closely with the other agencies who are involved, and there are others such as the Energy Research and Development Administration—HUD is involved; HEW to some extent. We work closely with those Departments to insure that what we are doing is complementary and in no way a duplication.

However, we do not have, as yet, a main program within the Federal Government to insure that we not only work with all of our sister agencies, but also all of the States and provide the necessary support. The budget that we put forward will give us the basis for that kind of program.

CONSERVATION COST-BENEFIT RATIO

Senator ROBERT C. BYRD. What cost-benefit ratio are you seeking?

Mr. ZARB. I would like to provide that for the record, Mr. Chairman, because different parts of our conservation program will achieve different kinds of results, both in dollars and savings and barrels.

[The information follows:]

COST-BENEFIT RATIO

No single numerical target ratio can be specified, however, we are committed to support implementation of proposals for using energy more efficiently which are good investments in the normal business sense. Specifically, we are considering the costs that would be incurred and the benefits that would be received over the useful life of the investment; from this information we are computing returns on investment as well as a related statistic which we are calling the cost-per-barrel. Briefly, the cost-per-barrel is a measure of the minimum price of the fuel saved that would have to exist in order for the investment to provide a stipulated return on investment. We have used a 10 percent real rate of return.

Although the cost-per-barrel is somewhat of a novel concept, it is, as stated, merely a modification of the more familiar method of return on investment. At a 10 percent real rate of discount many of our programs yield cost-per-barrel of less than \$5; that is, we only have to be saving a fuel worth \$5 or more per 5.8 million Btu's, a barrel of oil equivalent, to insure that we have a sound investment. To illustrate how attractive such a cost-per-barrel should be regarded, we can compute the price per barrel of regulated natural gas at \$2 per thousand cubic feet at retail to be over \$11 per barrel of oil equivalent. The greater the gap between the computed cost-per-barrel from a conservation investment and the actual price per barrel of the fuel saved, the greater will be the associated return on investment.

PAID ADVERTISEMENTS

Senator ROBERT C. BYRD. I understand that some \$20 million of your amended conservation request is for paid advertisements. What is involved in that request, and what justification is there for spending that kind of money on ads?

Mr. ZARB. Mr. Hill will answer that.

Mr. HILL. Mr. Chairman, we had used some of the free time provided by the Advertising Council and others over the past year and a half to try to promote the idea of saving energy, turning down thermostats, car pooling, driving your cars more efficiently and carefully.

We have done some major analysis and studies of the impact of the free ads, what kind of audiences are they reaching, and it is concluded that we are not reaching enough of the consuming public. We looked at it from the point of view of a marketer of a major product and the kind of exposure and penetration of the market that you need to get to begin to influence people's behavior.

This broad \$20 million program would carryout what I think is a very carefully constructed program of using prime time television, radio, with different messages and different regions and market areas of the country. Just in the sense that people should conserve energy, professionally done, very competent campaigns or educational material, all aimed at trying to influence their behavior on how much energy they use will be a great help.

Senator ROBERT C. BYRD. What evidence do you have that such advertising produces any results?

Mr. HILL. I think in looking at the experience of American business over the years, I think we would conclude that advertising does have an impact on what people do. What they prefer and what they don't prefer.

We have also seen, I think, from the efforts we have made to date, a beginning of changes in American people's attitudes towards energy conservation.

Senator ROBERT C. BYRD. What evidence do you have that the spending of this money this way is the cause of that change?

Mr. HILL. I guess it would be quite difficult, actually, to pinpoint a particular dollar that we have expended, or sets of dollars, and say these dollars resulted in that change. I don't think it is just what FEA has been doing; I think people just reading their daily newspapers about the energy debate has an effect.

Senator ROBERT C. BYRD. And you don't have to spend money for that?

Mr. HILL. No; we are not sure that the type of information they are getting out of their newspapers necessarily leads them to take steps to conserve energy.

Senator ROBERT C. BYRD. Are you sure of the advertisements, which do cost the taxpayers money—are you sure that leads to energy conservation?

Mr. HILL. We have some degree of confidence that these types of advertisements will create change.

Senator ROBERT C. BYRD. What is your confidence based on?

Mr. HILL. I think, again, it is the experience of the private sector that they have had over the years in the advertising of their products.

Senator ROBERT C. BYRD. That is quite different.

Mr. HILL. We view energy conservation as a product that needs to be marketed in this country, just like any other product that a private corporation might try to sell.

Senator ROBERT C. BYRD. Why not let them do the advertising?

Mr. HILL. They do some advertising, no doubt about it.

Senator ROBERT C. BYRD. How much has been spent on this program so far?

Mr. HILL. In terms of paid-for television, we have not spent any moneys to buy television time or radio time.

This is a new thrust. It is based on some of the studies we have done to date in this area and our experience with the free time.

Senator ROBERT C. BYRD. How much have you spent thus far on advertising?

"DON'T BE FUELISH" CAMPAIGN

Mr. ZARB. The program including the development of the "Don't Be Fuelish" advertisements have come to about \$700,000 in expenditures.

Senator ROBERT C. BYRD. Do you think it is worth the money, Mr. Zarb?

Mr. ZARB. I do, Mr. Chairman, and I understand there is a question on this subject from a number of standpoints.

First, the material needs to be good professional, educational material and in no way a political implication with respect to anybody's program or approach.

But it seems to me, when we develop material, for example, that gives automobile buyers a clear indication on how they might assess the information on those labels and make a judgment with respect to efficiency of those automobiles or in appliances, or the different levels of insulation in the home, or how one air-conditioner is less fuel consuming than another, or what changes can occur within the home with respect to thermostat settings and so on, we provide the American people with a service that helps them make better choices because they understand what those choices are.

In no way—and I am prepared to go over this plan in detail every step of the way—in no way will we allow these funds to go in any other direction other than the ones I just described.

Senator ROBERT C. BYRD. I can appreciate the possible value of such advertising that you have enumerated, but the catch phrase, "Don't Be Fuelish": has that brought any changes?

Mr. ZARB. It would be impossible to make that judgment. I would prefer to get more into the specifics in terms of how people can understand what their real choices are, and that is the direction we prefer to take.

Mr. Chairman, I have to leave. I hope you will excuse me. John Hill, my deputy, will stay, and all of my assistant administrators are here. I really apologize.

Senator ROBERT C. BYRD. That is all right, Mr. Zarb. We understand your problem and I regret the hearing was delayed.

Let's have some further information on this conservation request for paid advertisements. I think we ought to see an example of what you have in mind.

Mr. HILL. We will be glad to supply for you, Mr. Chairman and Members of the Committee, the type of program envisioned, so you will have a clear idea of what is involved there.

I might stress one thing that Mr. Zarb said. We will really be aiming this to not only try to convince people to save energy, but to provide them with this sort of "How-To" information. A lot of our studies indicate that even when people want to take conserving steps, they frequently do not know what to do, what the most cost effective steps are they can take.

A good part of this advertising campaign would be aimed at these "How-To" kind of steps, which I think would be extremely responsive to the attitudes we found that were ready and willing to do it, "But what do we do? What is the most efficient thing for me to do? What are the good ideas and what are not such good ideas?"

ENERGY RESOURCE DEVELOPMENT

Senator BELLMON. According to our information, you are budgeting a 12 percent increase in your resources development activity, which is minor compared to conservation. Why isn't there more emphasis on resource development?

Mr. HILL. I think in the case of resource development, we are dealing with essentially a different kind of animal, if you will. As you know, we have a major legislative program that we submitted to the Congress in the early part of January and a lot of that legislation was aimed at Government policies; policy actions which would stimulate the development, the greater development of those domestic energy resources.

So, while we do not have a lot of specific FEA-type programs, we have proposed a broad legislative program which would make maximum use of market forces to stimulate the development of domestic energy resources.

What we have chosen to do in the FEA area, apart from those broad legislative programs such as deregulation of natural gas, decontrol of oil and others, is to focus on a project-by-project basis.

As you well know, today, when anyone wants to go out, say, and build a new powerplant, there are sometimes 40 and 50 Federal and State agencies that have to sign off on that project. At times there may be financing constraints on some of the projects or environmental constraints.

We have chosen to focus our efforts primarily on taking on some of these projects that are currently caught up somewhere in the bureaucracy, or caught up for lack of proper attention, and pick out those projects and sort of setup a management program where we manage them and bring all the Federal agencies and local agencies together and insure that all the things necessary to reach a good or knowing decision on that project is done.

That is in addition to the broad efforts of FEA to understand what is happening in resources review development and to be competent in the various fields and to have a policy analysis capability to recommend changes when they are in order.

Conservation is a little bit different. It is an effort to try to convince people to do something to take a step they might not otherwise take. That is basically the reason for the imbalance.

We view our decontrol program, for example, as a major resource development kind of program, even though it is not the kind of thing that shows up in our budget as a major budget item.

TRANSFER OF TECHNOLOGY FROM ERDA

Senator BELLMON. I was in the Military Construction Subcommittee hearing and didn't hear your earlier statement.

Is there some provision here for the transfer of technology that will be gained through research projects which ERDA is funding by the FEA? In other words, if ERDA learns something that will increase our resource development, are you prepared to get that technology into the commercial channel?

Mr. HILL. Yes; that is correct. One of our efforts is to take technologies that have been proven; this is also true in the conservation area such as in heat loss or new technologies, such as solar, that have been proven. We have the responsibility in FEA to take whatever steps are necessary to bring that technology into full-scale commercial application.

Senator BELLMON. Have you budgeted a sum of money for technology transfer?

Mr. HILL. Yes, we haven't budgeted directly under that heading, but a lot of people who work in Energy Resource Development and a lot of the contract funds there are all aimed at that type of outcome.

I think, also, a lot of the individual projects will be taken on technology transfer, which will be a component of some of those projects of trying to take a proven technology and put it on the ground in a commercial setting and make it go.

Senator BELLMON. Can you cite a figure as to how much of this budget will be dedicated to technology transfer?

Mr. HILL. We can do a cut of our budget for you, Senator Bellmon, along that line. I don't have one with me this morning, but we will be glad to provide it.

[The information follows:]

FEA ROLE IN TECHNOLOGY TRANSFER

As yet, it is hard to identify any technology as peculiarly ERDA technology. We attempt to take into account all available technology, whether it has been commercialized or not, in the development and conduct of C. & E. programs. Generally, the technology employed in conjunction with current C. & E. programs is that which is now readily available for utilization by business and consumers in order to maximize the savings of energy resources. We have no funds appropriated specifically for the use of "ERDA technology". We are, however, apprised by ERDA of new technological developments, particularly those which are approaching the commercialization stage, so that our specific policy recommendations, analytic studies, and operational programs reflect that reality.

REDUCTION IN RESOURCE DEVELOPMENT PROGRAM

Senator BELLMON. Your original budget submission would have reduced your resource development program. Why was the reduction considered?

Mr. HILL. I think at the time we put the budget forward, it was basically consistent with the President's overall energy program. There was a clear preference in that program for freeing up the marketplace to stimulate the development of the energy resources.

Since that time, there have been modifications to that program in the sense that we are not going to have immediate decontrol. For example, it is likely to be phased, and as these changes have occurred through the year, we have been forced to take another look at our overall energy resource development requirements.

I think it is also safe to say that out of the last 12 or 15 months since this budget was first submitted to OMB, we have learned a great deal more about constraints in the system, many of which are generated by other Federal agencies, and have demonstrated to OMB and the others that we can play a major and effective role in removing some of those constraints.

In a sense this is new knowledge in many ways, but I think we have better defined some of the problems and a way for FEA to go after some of those problems. Hence, we were able with OMB—at this point, easily able—to justify a higher allocation for energy resource development.

SHIFTING OF UTILITIES FROM OIL OR GAS TO COAL

Senator BELLMON. What funding, if any, is included in your resource development request for continuing the program to shift utilities from oil or gas to coal? How does it compare to 1975?

Mr. HILL. I will get the exact number for you.

Mr. NOEL. We do have a variety of individual entries that would contribute to that end. I don't have it consolidated; we can provide that for the record.

Senator BELLMON. Can you give us a rough figure?

Mr. NOEL. Well, we budgeted \$150,000 for additional powerplants—

Senator BELLMON. \$150,000?

Mr. NOEL. Yes, sir, we have some other investments in the sum of \$100,000, nonutility investigations into powerplants.

Senator BELLMON. They don't seem like very significant figures.

Mr. NOEL. We have broken them out and I think it would be better to give you a complete package on these.

Senator BELLMON. You are not prepared to provide any incentive for a company to go from oil and gas to coal; is that right?

Mr. HILL. That is correct. Our basic regulatory program is primarily a people program.

We did have contract money for doing studies of the conversion program and individual settings where we may want to do a conversion. We have moneys for doing environmental impact assessments, filing the environmental impact statements, but the bulk of the money is in salaries and related expenses.

We have one activity, ERD, which has responsibility for the program. Most of the people are there. But in the general counsel's shop, we have people budgeted to support the program; and the data shop and policy analysis shop, have people budgeted for this program.

We can give you a complete breakout of all the positions across the agency. But, again, it is primarily analytical studies money to carry out the program and the salaries and expenses of the personnel required. We do not have any funds in FEA to do any compensation

to any individual utilities or companies who have to make the conversion, nor do we have the legal authority to make such compensation.

Senator BELLMON. There is an authorization that I understand has run out that it is likely to be renewed fairly soon. Are there any funds here anticipating the renewal of that authorization?

Mr. HILL. That is correct. The act expired on June 30 of this past summer. The authorization expired.

What that meant was: We could start no new conversion processes on utilities. We could, however, continue to process the ones we issued the initial prohibition orders on.

But we have every expectation that the program will be continued. It was passed in connection with the allocation extension bill that the President vetoed in September. The extension is also included in the conference bill we are working on right now.

We find absolutely no objections anywhere in the Congress to this program, and everybody in the Congress and the Administration are in agreement that it should go forward. We just had difficulty getting that bill to the President, either in clean form or connected with a bill that the President signed, but we think that will happen shortly.

Senator BELLMON. Again, back to the original question: Assuming this authority will be restored and the authorization will be approved and signed by the President, do you have the money in the bill to move ahead?

Mr. HILL. Yes, we do.

Senator BELLMON. What amount?

[The information follows:]

FUNDING FOR CONVERSION TO COAL PROGRAM

The proposed amendment contains a request of \$3.045 million, \$1.516 million for contracts and \$1.43 million for personnel costs, for continued ESECA implementation. These figures represent full personnel requirements and approximately 50 percent contractual support for continued implementation of fiscal year 1975 orders and issuance of fiscal 1976 orders.

According to current work plans, a supplemental request totaling approximately \$2 million will be forwarded in the event that legislation passes.

It should be noted that the program is ongoing. Substantial efforts resulting in significant oil savings have already taken place. At present, work is continuing in expectation of the Congress granting authority.

REIMBURSEMENT OF CONVERSION COSTS

Senator BELLMON. You are saying that there are funds in this budget so if one of our utilities wants to switch over from oil and gas to coal, that the cost of the conversion can be partially returned?

Mr. HILL. No; we do not have funds to help compensate for the cost of the conversion, nor do we have the legal authority, either in the expired version or the new authority. That legal authority is not there for us to make those kind of expenditures.

Senator BELLMON. Could you provide the Committee with some estimate for the amount of money needed to get this program started?

Mr. HILL. I think what we can do is provide you with the prohibition orders issued to date. I think we can indicate the capital requirements for the utilities that we have estimated and which we are now discussing with those utilities as to what it will actually cost in the form of capital expenditures for those utilities to make conversions.

I might add, in the cases we have looked at so far, in the cases where the utility is converting from oil to coal, even though there are some capital costs and they vary utility by utility, some have loading facilities already; others do not, so it will vary.

The cases of oil and coal, we have found, even though there are some capital expenditures associated with the conversion, if you look at it over the full life cycle of the conversion, the money they save by burning coal as opposed to the oil more than makes up the capital investments.

Senator BELLMON. That won't be true in the case of utilities burning relatively low-cost natural gas.

Mr. HILL. That is correct, and we already had a few in Kansas and Iowa where it will mean higher utility rates for the customers of those utilities.

Again, it is not so much the capital costs that are going to raise the prices, but the higher cost of burning the coal overtime as opposed to the lower price of the gas.

PLANT CONVERSION COSTS FROM GAS TO COAL

Senator BELLMON. I don't know if we can be concerned about that increased cost. What concerns me is that there are utilities which have installed plants to put in boilers to burn natural gas, and it is probably in the national interest to get that gas out from under those boilers, but to do this will mean costly conversions from the boilers of natural gas to the coal burners. What we need is the figure from FEA as to what this total conversion cost is likely to be.

Mr. HILL. We will be glad to provide that for you, Senator.

We will also have to provide you with a statement of some of the capital costs of the modifications that are currently underway in both the Senate and the House for the Clean Air Act. The House has adopted a strategy which would require essentially the application of scrubbers everywhere.

As we look at it from the FEA perspective, it is clear to us in the Midwest or West that any conversions that we do from gas to coal or from oil to coal, if that amendment becomes law, probably would require the installation of scrubbers. That is going to have a major significant impact on the capital cost of the conversion program. It could run as much as \$11 or \$12 billion nationwide. We will give you estimates there, too.

It would radically change the economics of the coal conversion program, is what I am saying, if it becomes law.

[The information follows:]

FEA PROHIBITION OF GAS-FIRED POWERPLANTS

Under ESECA, the Federal Energy Administration has issued prohibition orders to 33 natural gas-fired powerplants. Capital required for the conversion is estimated to total \$57 million and will result in annual savings of 5.9 million cubic feet per year. All of these candidates were originally designed as dual-fired powerplants, capable of burning either natural gas or coal.

PROGRESS OF ESECA PROGRAM

Senator BELLMON. Where do you stand on the ESECA program. How many utilities have shifted to coal as a result of your efforts?

Mr. ROSENBERG. It is difficult to estimate how many utilities have actually converted as a result of our efforts. This is due to the indirect effect of the publicity received by the program as well as voluntary conversions due to the embargo of 1974. The program then is two pronged: mandatory and voluntary.

In 1974, at the peak of FEA's voluntary coal conversion program, 22 units at 11 generating stations converted from residual oil to coal. These plants were England, Deepwater, Bergen, Burlington, South Street Station, Salem Harbor, Mt. Tom, Middletown, Lovette, Chalk Point, and Sutton. Recently many of these plants have returned to oil burning due to environmental restrictions.

Six plants are still burning coal in 1975 and were saving approximately 67,000 barrels of oil per day. These plants are England, Chalk Point, Brayton Point, Salem Harbor, Somerset, and Sutton.

FEA has issued prohibition orders to 25 companies covering 32 generating stations and 74 boiler units. Conversion at all of these facilities would result in a savings of 175,000 barrels of oil and 241 million cubic feet of natural gas per day. Additional savings are expected from construction orders calling for coal-burning capability issued to 41 companies and 74 units. The FEA has also conducted a survey of nonutilities preparatory to receiving legislation permitting further prohibition orders. These nonutility oil savings are estimated at 100,000 to 300,000 barrels per day.

PERSONNEL REQUIREMENTS

Senator BELLMON. Your amended budget puts your personnel at roughly the same level as 1975. Since your budget is predicated on the end of petroleum allocation, can you also reduce your personnel as well?

Mr. HILL. As Mr. Zarb indicated, we will be back to the Committee once this is sorted out.

If the controls are extended, if we reach an agreement on the phase-out of oil controls, we will have to come back for additional positions for that program. If the program is terminated, we will have to come back to you with any modifications to our overall ceiling level.

I might add that we do plan, and our budget is predicated on this, even in the absence of controls, we are going to have to have a fairly substantial compliance program, probably until the first or second quarter of calendar 1977. This will be necessary in order to go back and complete all of the audits and investigations we think are necessary of the transactions that occurred during the control period.

So it will be a continuing compliance program for anywhere from 18 to 24 months after the Allocation Act expires, if it expires, say, this November 15.

As to the exact size of that program, which would really be a wrap-up kind of program, we would want to come back to the committee after that issue has been sorted out. Whether it would be less people for FEA or the same number now, but some of them shifted into the compliance program, we don't know at this point.

EXECUTIVE DIRECTION AND ADMINISTRATION

Senator BELLMON. Nearly one-third of your total positions is in executive direction and administration. Why do you need such a large administrative staff?

Mr. NOEL. Senator, we may have broken them out that way.

I would have to say to you, first of all, overhead-wise, in our executive direction, we include our public affairs people, our congressional affairs people, our intergovernmental people. What are normally considered to be overhead people are all lumped together in that single category, which makes the number appear larger than it is. For example, the people presently located in the congressional State liaison offices in the field are included in that figure, as well.

If I may add one thing to the statement completed by Mr. Hill, I think one way to look at the budget at this point, our base budget, if you will, is something on the order of 3,200 people. In the event that controls are totally eliminated on the 15th of November, we then must make allowances and decide what we are going to do with roughly 450 people presently in pricing and allocation functions right now excluding compliance. A portion of these people come from our office of general counsel.

On the other hand, as Mr. Zarb stated before your arrival, we see something on the order of 250 people being required in the propane allocation program if that became necessary.

So, we are proceeding from the general assumption that our strength will be on the order of 3,200, and we will adjust from there, depending on the status of decontrol and perhaps some kind of propane allocation program.

We have broken our budget out and we made it clear those people directly involved in the pricing allocation functions, those people have been set aside for the moment until we have a clear picture of what the Congress is going to do.

DELINEATION OF FUNCTIONS

Senator BELLMON. There is still some confusion over the responsibilities of the various agencies involved in energy programs. Would you please delineate FEA's responsibilities as opposed to those of ERDA, Interior, and others?

Mr. HILL. If you take the case of the Energy Research and Development Administration, their role and mission is that of the research and development organization: to develop new technologies, to do the basic research for those technologies, to do the development of those technologies, and to demonstrate those technologies in selected cases.

Senator BELLMON. Who transfers the technologies developed by this research?

Mr. HILL. This is where you start getting into some of the overlap between ERDA and FEA, even in the R. & D. Program.

RELATION TO ERDA PROGRAM

FEA plays a role with ERDA and with the Energy Resources Council in terms of looking at the economic and environmental aspects of new technologies that are currently under development in the sense

that we would like to insure that investments in R. & D., while they are being made, are being done so with some hopes that the technologies, once they are available, are commercially viable. They are going to operate in the marketplace without massive amounts of Federal financial assistance.

So, in the sense of the economics and environmental aspects of the system, FEA works very closely with ERDA from the early days of any new technology program. That, in a very large way, is a big part of the technology transfer program. If they are not commercially viable, it is going to be very hard to transfer them into the marketplace.

When we do have, however, a commercially proven technology, it is FEA's role in the lineup of energy agencies to work with industry, with utilities, consumers, homeowners, whoever, to make sure that those technologies are understood, the economics are understood, and they are, in fact, brought into the marketplace for widespread use. We do this through educational programs, provision of technical reports and studies to end users, basically trying to make the facts understood and promote their use.

So, when you move from the R. & D. to the technology transfer kind of spectrum, you have ERDA really in charge of the R. & D., and when you get to the technology transfer, you have more of the FEA, but somewhere, when you start getting in the gray area between the two agencies, we do have some overlap and we are working together.

I wouldn't say we are doing the same thing, but we are working together in that sort of gray middle ground between the drawing board and commercial application.

RELATION TO INTERIOR PROGRAMS

In the case of the Department of Interior, the Department of Interior has large program responsibilities for areas such as OCS leasing, coal leasing programs, et cetera. the FEA role in this area is certainly not to run those programs, but FEA does have the policy analysis and coordination role for all of the energy agencies in the Administration. To the extent that our policy analysis work results in policy—say, which changes, how much coal may or may not be produced—that will have an impact on the Interior program, the coal-leasing program. I think that a lot of work done by FEA in the policy analysis area is responsible for some of the changes in the Interior leasing program on the OCS.

So, while we don't run those programs, the broad policy role that we have within the Administration often has an impact on how those programs are actually run, the programmatic policy with those programs.

I think it is safe to say that we have a good relationship with the Interior Department on these broad issues.

NUCLEAR REGULATORY COMMISSION

The Nuclear Regulatory Commission is another one that we relate to, of course. We have to be very careful there not to get involved in any of the decision processes that are involved in particular applications. We do not really get involved in that side of the issue.

But there are a lot of policy matters relating to the regulatory process itself. FEA has a major role with the Administration to continue to review regulatory policies and to recommend changes to both the NRC and the Congress when we feel they are necessary. We were the agency that met in the extension of the Price-Anderson nuclear indemnification legislation in the Congress, and not the NRC.

Within the Administration, we see it as FEA's role when those types of policy recommendations occur to present them to Congress and be responsible for their passage by the Congress.

Senator BELLMON. Two additional questions on that:

One, is FEA finding that the numerous agencies involved in the energy area are making it difficult for us to progress toward energy independence?

Mr. HILL. I think there are a number of constraints and obstacles in the system that are making it very difficult for this Nation to achieve energy independence. I would not necessarily want to lay all of those constraints at the feet of the agencies involved.

I think a lot of people, for example, have spent the last 4 or 5 months taking a lot of shots at the Nuclear Regulatory Commission in the sense that they tried to paint it as an agency that is somehow going to bring an end to nuclear power. I think if you look at that situation carefully, you find it is not so much the agency, but the mandates and authorities under which they operate which create a lot of these problems.

The NRC, for example, did not write or pass the National Environmental Policy Act which required the environmental impact statements. If you look at some of the delays, a lot of them have been generated either by that act or court interpretations of that act, and that is also the case with a lot of our generic authorities. It is true in FEA, Interior, the leasing program.

We are often forced to do things we wouldn't otherwise do in a policy by court decree, which gives us a new interpretation of some of our organic authorities in some of these areas.

I do think, though, a compelling case can be made that given all of the Federal laws that affect the energy area, all the statutes, all the court interpretations and all the Federal agencies that are trying to run these programs, if you add all of that up we have created significant constraints and obstacles and varying levels of harassment toward achieving our energy independence goal. That could go right down the tube in a big pile of paperwork someday if we don't begin to clear some of these up.

FEA'S MISSION

Senator BELLMON. Would you say a fair summary is to state that FEA's mission primarily involves energy policy and management, while research, development and production rests with the Interior and ERDA?

Mr. HILL. I think the primary FEA mission means that it does relate to policy and analysis. It relates to data. I think FEA has a clear role in the area of development of new data systems and refinement of old data systems in the energy area. This is not just true in oil and gas, but in coal, nuclear and so forth.

I think we have the primary data role and the primary policy analysis role. We have the price control mission and allocation mission.

We have the oil import program which we are responsible for running at FEA. We have the coal conversion program. We have a series of conservation programs that we are responsible for. The Federal energy management improvement program is an FEA responsibility.

We feel we have the lead role in taking in these individual projects with maybe three or four Federal agencies, all of which have some kind of stake or interest in that program. We have the primary role for trying to bring all of the agencies together and get them to sort out their differences in an expeditious manner. That has a major thrust in our mind.

We were just looking at some of the projects the other day that we will be taking on over the next 12 months and we will be trying to expedite projects that could add up to well in excess of 1½ million barrels of oil a day once they are brought on line.

While we don't grant the permit necessary to get a project rolling—that is done in Interior or ERDA or somewhere else—we do think we can bring the agencies together and be sure that all the permits that are necessary are done in a much quicker and more expeditious manner.

CLEARINGHOUSE FOR ENERGY RELATED PROJECTS

Senator BELLMON. This is one of the criticisms that we frequently get from the private sector. In a matter of energy related progress, from the time it is conceived until construction can begin, sometimes it takes 3 years to get all the permits and clearances.

Is FEA in a position to expedite this matter now? Are you the final clearinghouse where an energy related project can come for answers?

Mr. HILL. We see that as the case, Senator.

We had the same complaints from the private sector and the public sector. We have States who come to FEA with the same kind of complaints that an industry or company might come to us with.

Here is an application we put in jointly with a company 11 years ago and the thing has been dragging along, and frankly this project is not going to fly financially if we don't get it started soon; because of the capital situation that exists today, some of these things are not going to be financed. That is the primary reason.

It is those complaints and frustrations in both the public and private sector, trying to work with all the various Federal agencies at FEA and throw this thrust of sort of being the management clearinghouse of laying out in advance when a project gets started, all of the permits that are going to have to be obtained and getting commitments from the agencies, and when those permits are going to be completed, to be sure that all the various studies that have to be done to make a good or knowing decision on a permit are actually started.

It is really a major kind of management information type thing—what has to be done, who is accountable, what studies and analyses have to be done, when will those be ready and when will a decision be made.

That role, as I say, that has emerged through the FEA has been very much in response to complaints of citizens in the private or public sector across the country, and we do think we can really begin to bring some order to what I think everyone will agree is a fairly high degree of chaos.

Senator BELLMON. Do you have in this budget funding for the personnel needed to perform this kind of function?

Mr. HILL. Yes.

Senator BELLMON. And do you have the authority for it?

Mr. HILL. Yes, we have the funding, and most of the people are in the development area and the data area.

We feel we have the legislative authority that we need to do this, both in the FEA Act, which really lays on a broad mandate for FEA to expedite the object, but also an executive order that established the Energy Resources Council and named the Administrator as Executive Director of that Council.

We feel that both the legislative authority and the executive branch authority that is needed to carry this function out exists.

SHALE CONVERSION AND SYNTHETIC FUEL DEVELOPMENT

Senator BELLMON. Your main objectives for 1976, as listed in the justifications, include "Promotion of Shale Conversion and Synthetic Fuel Development," both of which are important ERDA projects. What is FEA's exact role in those areas?

Mr. HILL. I think it will break down into several components.

FEA played a major role in the recently completed study on synthetic fuels and the policy options for bringing synthetic fuels into commercial application.

A lot of the effort here is reflected in the new Energy Independence Authority that the President submitted to the Congress 2 weeks ago this coming Friday.

As you know, a large portion of the Energy Independence Authority is devoted to providing financial assistance to synthetic fuels, shale, coal gasification and others. Financial assistance, we believe, is needed to get them over some of the short-term hump and financial constraints that we believe will not lead to substantial problems by 1985, during which time most of these plants will be operating, and they will be commercially viable by that time.

FEA played a major role in that study and had the primary lead for the President for developing his overall Energy Independence Authority proposal.

Apart from the broad policy work, we are also working with the States. We have seven Governors in with us today to meet with us on some of the State and local concerns that have emerged in the fuel area. We believe in working with the State and local groups, environmentalists and others, so that we can work out agreements on individual projects that will enable these projects to go forth.

In the interim, before the EIA statement is approved, we have asked for roughly \$6 billion to get the synthetic fuel program underway. It has passed the Senate and currently is in the House. That program will be administered by ERDA.

ENERGY INDEPENDENCE AUTHORITY

Senator BELLMON. The dollars in the Independence agency will be administered by ERDA?

Mr. HILL. No, the \$6 billion we asked for prior will be administered by ERDA, even though we played a major role in developing that program and will play a major role in working with the States and local governments and others to assure that these programs get underway once they are selected on their R. & D. kind of merit and economic merit.

The Energy Independence Authority will be a separate energy corporation. It will not be part of ERDA or the FEA, even though FEA does have in the legislation some major responsibilities in terms of helping EIA decide which projects they ought to finance and which ones they should not.

Senator BELLMON. It begins to look like Congress is creating an impossible administrative jungle here. We have Interior, which has been in place a long time, FEA, and we just put ERDA in place. Now we are talking about EIA. I don't want to start an administrative civil war here, but it looks as though these ought to be under the same tent, somehow or other.

Mr. HILL. I think there is a great deal of sense in doing that over an extended period of time. We didn't know whether the Energy Resources Council should recommend to the President that he come forward in this session of Congress with an organizational recommendation that would consolidate and rationalize some of the configurations we have right now.

The conclusion was that it was unlikely that the Congress in the remainder of this year or next year—and this was a conclusion drawn from talking to members of the Government Operations Committees, the Interior Committees and others in the Congress—that such a reorganization should probably not be undertaken at the current time.

Some of the reasons were substantive. FEA is very busy right now, working 15 to 20 different pieces of legislation that embody a comprehensive energy program with the Congress, running the allocation of price controls.

The Energy Research and Development Administration has a major task to not only get a new and expanded R. & D. program off the ground, but also to try to consolidate and rationalize in the ERDA environment all the programs they inherited from AEC, so we are just getting these pieces shaped up and we would have to do that prior to doing a major consolidation of the R. & D. parts and policy parts and program parts.

The results of those conclusions were transmitted to the President and he agreed that we should not propose, but instead, we should come forward with a 2-year extension of the Federal Energy Administration, that we continue the current set of agencies as we are operating, continue to use the ERC as the primary coordinating and management body to try to better coordinate all of these agencies, and by the time the FEA extension that we asked for expires, we should have asked for and hopefully received a major kind of energy reorganization package.

This is something that we will probably start working on next year, but probably not finish with the Congress until the following year.

FEDERAL AGENCIES INVOLVED WITH ENERGY

Senator BELLMON. In your work in the energy area, how many different Federal agencies do you find have a piece of the action?

Mr. HILL. Of course, you have FEA, Interior, ERDA, the Nuclear Regulatory Commission, the Federal Power Commission, the Department of Treasury, the Department of State, the Department of Commerce.

The Environmental Protection Agency has a major piece of the action in that things they often do will require adjustments in the energy work.

The Department of Transportation works with energy programs in the transportation area. DOT is one agency that we have formal memorandums of agreement with on what our role is in those areas and what theirs is.

The Department of Defense has a major role. In GSA we find ourselves dealing with quite a bit, not only in the Federal energy management program and in the disposal of surplus properties and trying to get those dedicated for electric power facilities—something like that.

In Housing and Urban Development, we work in areas for housing and new building. We work with the Department of Agriculture. We have a close relationship with them in the propane area in getting their inputs and their views on propane.

We work with education in HEW. We work with FAA in terms of the fuel efficiencies of both aircraft and operating procedures. The regulations of the ICC have a big impact on fuel economy. We work with them. We try to work closely with the CAB in the same kind of relationship that we have with the ICC.

I think it is really the first agencies that I named: Interior, ERDA, EPA. Then you bring up the other set such as Transportation and HUD, where you have a functional area. Then, when you get into all the regulatory agencies, everything they do has an impact on how our energy gets developed or used and we have to be involved in those agencies in helping them and us to understand what the implications of those actions are.

Senator BELLMON. Unless I missed one, you listed 19.

Mr. HILL. I must have missed a couple. There are at least 20 or 22.

Senator BELLMON. There probably isn't a tent large enough to hold all of those.

Mr. HILL. No, I don't think so. I think what you want to do is focus those agencies whose primary mission is reduction, production or conversion or regulation of energy resources.

WORK WITH CONGRESSIONAL COMMITTEES

Senator BELLMON. How many committees of Congress do you deal with? Do you have a list?

Mr. HILL. Thirty-four different committees and 65 different subcommittees that we deal with in FEA in both our program area and in the program areas of other agencies.

I think we have testified before 86 different committees since January. I think we had a rate of about one and a half pieces of testimony

per day that the Congress was in session, just prior to the August recess.

There are a lot of committees, as you can see in the Congress, who either have a role in energy or that impact on energy.

If I may, I would like to provide for the record a complete listing of the congressional committees the FEA has worked with.

Senator BELLMON. Fine.

[The information follows:]

CONGRESSIONAL COMMITTEES INVOLVED IN ENERGY

SENATE

Committee on Aeronautical and Space Sciences

Committee on Agriculture and Forestry
 Subcommittee on Environment, Soil Conservation and Forestry

Committee on Appropriations
 Subcommittee on Defense
 Subcommittee on Interior
 Subcommittee on Public Works

Committee on Armed Services
 Subcommittee on National Stockpile & Naval Petroleum Reserves

Committee on Banking, Housing and Urban Affairs
 Subcommittee on Housing & Urban Affairs
 Subcommittee on Small Business

Committee on Budget

Committee on Commerce
 Subcommittee on Environment
 Subcommittee on Oceans & Atmosphere
 Subcommittee on Surface Transportation
 National Ocean Policy Study
 Special Subcommittee on Science, Technology & Commerce
 Special Subcommittee on Oil & Natural Gas Production and Distribution

Committee on Finance
 Subcommittee on Energy
 Subcommittee on International Finance & Resources

Committee on Foreign Relations
 Subcommittee on Multinational Corporations

Committee on Government Operations
 Permanent Subcommittee on Investigations
 Subcommittee on Intergovernmental Relations
 Subcommittee on Oversight Procedures
 Subcommittee on Reports, Accounting & Management

Committee on Interior and Insular Affairs
 Subcommittee on Energy Research & Water Resources
 Subcommittee on Environment & Land Resources
 Subcommittee on Minerals, Materials & Fuels
 Subcommittee on Parks & Recreation
 Subcommittee on Integrated Oil Operations

Committee on the Judiciary
 Subcommittee on Administrative Practice & Procedure
 Subcommittee on Antitrust & Monopoly

Committee on Labor & Public Welfare
 Subcommittee on Health

- Committee on Public Works
 - Subcommittee on Buildings & Grounds
 - Subcommittee on Environmental Pollution
 - Panel on Environmental Science & Technology
 - Subcommittee on Transportation
- Select Committee on Small Business
 - Subcommittee on Environmental, Rural & Urban Economic Development
 - Subcommittee on Government Regulation
 - Subcommittee on Retailing, Distribution, and Marketing Practices

HOUSE

- Committee on Agriculture
 - Subcommittee on Conservation & Credit
- Committee on Appropriations
 - Subcommittee on Interior
 - Subcommittee on Public Works
- Committee on Armed Services
 - Subcommittee on Seapower & Strategic & Critical Materials
- Committee on Banking, Currency and Housing
 - Subcommittee on International Trade, Investment and Monetary Policy
- Committee on Budget
- Committee on Government Operations
 - Subcommittee on Commerce, Consumer & Monetary Affairs
 - Subcommittee on Conservation, Energy & Natural Resources
- Committee on Interior and Insular Affairs
 - Subcommittee on Energy & the Environment
 - Subcommittee on Mines & Mining
 - Subcommittee on Public Lands
- Committee on International Relations
 - Subcommittee on International Resources, Food & Energy
 - Subcommittee on International Trade & Commerce
- Committee on Interstate and Foreign Commerce
 - Subcommittee on Energy & Power
 - Subcommittee on Health & the Environment
 - Subcommittee on Oversight & Investigations
- Committee on the Judiciary
 - Subcommittee on Administrative Law & Governmental Relations
 - Subcommittee on Monopolies & Commercial Law
- Committee on Merchant Marine and Fisheries
 - Subcommittee on Fisheries & Wildlife Conservation & the Environment

Committee on Public Works and Transportation
 Subcommittee on Public Buildings & Grounds
 Subcommittee on Surface Transportation

Committee on Rules

Committee on Science and Technology
 Subcommittee on Aviation & Transportation Research & Development
 Subcommittee on Energy Research, Development & Demonstration
 Subcommittee on Energy Research, Development & Demonstration (Fossil Fuels)
 Subcommittee on Environment & the Atmosphere
 Subcommittee on Science, Research & Technology

Committee on Small Business
 Subcommittee on Energy & Environment

Committee on Ways & Means
 Subcommittee on Trade

Select Committee on Outer Continental Shelf

JOINT COMMITTEES

Joint Committee on Atomic Energy
 Subcommittee on Communities
 Subcommittee on ERDA, Environment & Safety
 Subcommittee on ERDA, Nuclear Energy
 Subcommittee on Legislation

Joint Economic Committee
 Subcommittee on Energy

WEATHERIZATION PROGRAM AND CSA

Senator STEVENS. I just have come from an HEW-Labor Conference Committee, and I think it is clear we are going to end up with a \$44 million figure for weatherization for CSA in that budget.

Being a member of both of these subcommittees, what concerns me personally is that it looks like FEA wants to take on to itself a lot of the ongoing programs where there is already expertise and personnel and do it on the basis of the conservation aspects of programs that have other purposes.

Have you been working with CSA on the money that we gave them in supplementals as far as this weatherization program is concerned, as part of the overall program to deal with CSA functions to upgrade and standardize housing?

Mr. HILL. Yes, we have. We have had a lot of work at the staff level and I have had a number of meetings myself to insure that FEA and CSA have worked together.

Senator STEVENS. Why do you want to take over that function?

Mr. HILL. Well, you know in the legislation that the President submitted to the Congress in January asking for the weatherization program, the President did propose that that program be carried out by FEA.

Senator STEVENS. What would happen to the CSA program then?

Mr. HILL. We would see that the CSA program be fitted right into the FEA program.

Senator STEVENS. But it is not all weatherization.

Mr. HILL. We would see the weatherization components of that program fitting in. That is why we have been working with them to date on the initial supplemental funding to be sure that a portion of it for weatherization should go in a way that is consistent with the President's request in terms of how the money should be expended and the various formulas that FEA has developed that we think would insure the maximum amount of energy conservation.

Senator STEVENS. CSA does much more than conduct a housing program for fuel conservation purposes. If you take over just that portion of it, we are going to retain the whole CSA budget and all of their staff and everything else, and you people will be going into the same houses they have already been into.

From our point of view, it makes no sense for you to persist in asking for a function that they already have and they are doing and you are advising and they are doing well. One of the reasons we didn't get the full \$55 million that they had requested in their budget was this pending request to change this all over to FEA.

I think you are defeating your purpose if you want to take into FEA the normal routine functions of other agencies. You wouldn't take over portions of HUD, because you are going to advise them how to deal with construction standards of new houses would you?

HISTORY OF CSA

Mr. HILL. I think there is a long history relating to CSA that is important to recall. If you recall, the Office of Economic Opportunity, as conceived, was viewed as an agency whose primary function was to develop new program thrust and, over a period of time, they

would be spun off to the other agencies who have primary responsibility in those areas. Back to the history of the Headstart Program and the Upward Bound Program, that was clearly the purpose.

They were developed by OEO, which is now CSA, but as they began to be proven out as viable programs, they were given to the agencies to have primary responsibility in those areas in terms of the long-term and sustained operation and management of those programs.

I think the President's request in the weatherization areas was entirely consistent both with the history of OEO and CSA and with good operating programs. We would not take into FEA their ongoing program that they have in working with substandard housing. But we would have, under the President's proposal, the responsibility to carry out the weatherization program.

We think that our work in the area has demonstrated that we can do that efficiently, with a minimum of overhead, in a way that will insure that the bulk of these moneys are spent on actually making efficiency improvements in the housing of low-income persons.

AGENCY ROLES IN ENERGY CONSERVATION

Senator STEVENS. What about the Rural Development Agency? Are you going to take over their weatherization program?

Mr. HILL. We would not propose to do that.

Senator STEVENS. What is the difference? CSA is dealing particularly in the poverty level, the same as RDA is dealing with rural people and BIA is dealing with Indians.

Mr. HILL. That is correct.

I think you have to stand back at times and just focus on this thing in terms of primary mission. A lot of the problems we have had in this Government has been the fact that energy was never looked at in total. You had a little here and a little there, but when we added it up in 1973, we found we had something that was unacceptable in terms of energy conservation.

That was the purpose of FEA, to create an agency that could bring all of the energy aspects of the Government together and to implement programs that would have a clear purpose.

Senator STEVENS. But you are not going to do it? Why don't you take it from BIA and RDA? Why just CSA?

I just left that conference and we have people on the other side of the Congress saying FEA informed them that CSA is not coordinating with FEA and is not accepting guidance from FEA and, therefore, we lost \$11 million. We could have had the whole \$55 million, and if that bill did pass, it would have been transferred to you.

Just how big are you going to make this tent? We support FEA and your proposal of being the central focus for all energy programs, but not the house or the tent in which all people live who are involved in anything concerning energy conservation. There is a whale of a difference. I think you ought to reexamine your goals as to what your role should be and I think there ought to be some consistency here.

As a consequence, we have not got the full amount of money that the President recommended. I don't think we are going to put it in this budget to duplicate the functions of the other budget.

Mr. HILL. What the President asked for was funds to weatherize low-income homes. One, to conserve energy; and, second, to give low-income people assistance in making those improvements in their home that would help them adjust to the higher energy costs that we are facing now and in the future. That was the President's request.

We have worked with Congress and the CSA in terms of that supplemental request, and I think fairly well, in terms of when they make expenditures for weatherization, to use the FEA kind of formulas and data and cost effectiveness of the material, et cetera.

CSA has a much larger program in mind. The \$55 million in the CSA kind of situation would not just be for weatherization. A lot of the money they already spent to date was not for weatherization. It was for buying electric heaters, emergency services, fuel bills and things of that sort.

WEATHERIZATION FOR FUEL CONSERVATION

Senator STEVENS. The line item we are talking about right now is weatherization for fuel conservation. We had it spelled out so we could get the full \$55 million. The Senate did that. The supplemental and the money we added there would have been a full \$55 million for weatherization.

I think somebody down at your shop better start studying what we do. I am disturbed because we lost the \$11 million for money that came out of your shop, and part of that money would have gone to people in my State, poor people in Alaska.

I think when you get down to this point you are saying something that you really don't know what you are talking about now—and I do, because I am on both of these committees—that CSA money is weatherization money and we directed them in the supplementals to coordinate with you.

The chairman on the other side said he has been informed that you told them that CSA is not coordinating with you. I intend to show him this record where you just said they are.

Somehow or other we have to get this down to where they have the personnel. You give them advice, but you don't get involved to the point of trying to absorb them to the point where you lose the money that the President wants.

Mr. HILL. I think we do understand what is going on in the Senate, but I think we also understand what has been going on in CSA.

We tried to work with them for the last 9 months and I think we have been successful in working with them. When they decide to use some of that money that they have for weatherization, they do it in accordance with what FEA feels is best.

Senator STEVENS. That is the relationship we sought.

Mr. HILL. We have not had much success in impacting as to how much of that money goes for weatherization. We have continuing concerns about how the weatherization program that was reiterated with the CSA organic authority in terms of only broad guidelines to the local level. They are supposed to try to meet those guidelines and they can also have a high degree of flexibility—once that is placed there—in how it actually operates.

Senator STEVENS. I think you ought to go see how that operates. In some places they have volunteer people from the crafts and trades, some volunteer architects that are going into these homes that are occupied by elderly people, primarily, 8 million homes occupied by poverty level people, and they are putting in all kinds of things. It is true.

But in the process they are also taking your advice as to weatherization, putting up plastic over the old windows or putting in insulation in the ceiling or whatever it might be, but they are getting more out of the dollar than you would get in hiring people to go out and do this.

Mr. HILL. We never intended to go out and hire people. We would be working in the same format. The Governors would be working with us on this program and it would be the same type of volunteer effort at the local level.

Please keep in mind, though, we do feel strongly in FEA that these funds should go for weatherization. They should go to buy the material. Overhead should be absolutely zero in this program and these funds should not be used, in our mind, to buy heaters and pay fuel bills and things of that sort. There are other programs in Government which can provide assistance in those areas.

Senator STEVENS. They have other money for that which you just talked about. They are specifically going to have \$44 million, now, with the supplemental money we just added for weatherization and it duplicates the \$55 million that you requested.

Mr. HILL. Our concern is, if that \$55 million goes as some of the other money has gone, it is not consistent with what the President asked for in his program.

He did not ask for funds to buy heaters in Louisiana. He did not ask for funds for local groups to sue utility companies. A lot of that initial money went into those areas.

We are trying to weatherize their homes.

Senator STEVENS. I appreciate that, but I hope you read the conference committee report and this report. The Congress says how money is going to be spent and that is the \$16 million plus this \$28 million. That \$44 million is for weatherization through CSA along with a lot of other money CSA has to buy heaters and other matters.

This is a duplication, as far as I am concerned, and I think it is an unfortunate thing that we have gotten into what I consider to be a jurisdictional tangle as far as weatherization is concerned. The people hurt are the people living out in those old houses and these are people over 60 years old, primarily.

Mr. HILL. I agree with you. I think it would be awful to have a jurisdictional problem preventing this money from getting down to the people who need it. But I don't see how FEA would result in those kind of delays.

WEATHERIZATION AUTHORIZATION

Senator STEVENS. You don't even have an authorization bill for this. You don't have any authority yet.

Mr. HILL. That is correct.

Senator STEVENS. Do you see any hope of it coming out of Banking in the Senate? I don't.

Mr. HILL. I don't know the status.

Senator STEVENS. It is in the committee. If we give it to you, you can't spend it this year. If we give it to CSA, they can spend it this year with your advice.

Mr. HILL. That is correct.

If we had our legislation out of the Banking Committee, we probably wouldn't have lost the \$11 million. If we could get it moved out of committee—we have the authorization passed out of the House and we are waiting for the action by the Senate Banking Committee.

Senator STEVENS. I understand that, but it is a matter of legislation whether it is going to pass or not.

Mr. HILL. Correct.

REIMBURSEMENTS TO STATES

Senator STEVENS. Your budget request includes \$10 million to continue reimbursement of State expenses, an amount cut in half by the House. This reimbursement program clearly was not intended as an ongoing fixture. What is the need for it in fiscal 1976?

Mr. NOEL. We had significant interest in the State level in the same level of funding they had last year. Most of the States have found they would not have been able to manage and would not have funding, if you will, the State Energy Agency, essentially.

Senator STEVENS. Do you have some guidelines for these grants? I take it they are grants.

Mr. HILL. They are basically contracts, Senator, that we give to the States. Initially, as you know, these started in conjunction with the activities the States took during the embargo period.

But I think the States recognized the same thing that the Federal Government recognized: That there was in most States no single agency or staff expertise that was devoted, or whose mission was to look at the energy situation and analyze it and do program work and policy and analysis work on these States.

Senator STEVENS. I am also on the conference committee on the energy bill and we have just gone over this block of grants for States. Is this the same thing?

Mr. HILL. We would see—that program that you are working on in the conference committee, Senator, should be a much broader based program.

There are a lot of things that would be authorized; some of the States have done well with some of the contract funds they have gotten out of FEA to date.

Senator STEVENS. They are using the money you are giving them to set up offices and hire staff and for conservation programs or energy programs, or are they using it for planning purposes?

Mr. HILL. They are primarily using it for planning. Several States have done some statewide energy conservation promotional programs.

Senator STEVENS. Last year we said it would be a 1-year program and now you come back for another \$10 million, and what I want to know is: Why? If it was for planning, why didn't we get the planning done with \$10 million?

Mr. HILL. Let me give you a breakdown on it. Roughly 32 percent of the funds have gone for the fuel allocation function that the State performed where the State set aside.

Senator STEVENS. Is that for staffing of the State's office for fuel allocation?

STATE ENERGY EFFORTS

Mr. HILL. That is correct; 22 percent has gone for conservation, primarily studies trying to assess the State situation with the energy conservation, trying to analyze what some of the funds might be.

In some cases, they have run a statewide program—say, a seminar or public education campaign—to promote energy conservation. Twenty-one percent has been spent in the energy resource development area looking at opportunities for resource development within each State. About 12 percent has been spent on overall energy management.

Where planning has been done, it has been primarily here. Keep in mind, though, that most of this has been fairly small activities in relation to what the state perceives their needs to be. They picked one or two of the things that they thought had opportunities with the level of funds provided by FEA.

The program you are working on in the conference committee would be a much broader program than what has gone on to date. Basically, it has been providing financial assistance to the States to help them better to understand their energy situation at both the supply level and demand side, and to begin the assessment of their opportunities in each State.

GUIDELINES TO STATES

Senator STEVENS. Have you given them any guidelines as to what you expect them to accomplish with the money you made available?

Mr. NOEL. Yes, we have, and I will provide them for the record. I would point out \$5 million was appropriated in 1975 and \$10 million last year, and we asked for \$10 million this year.

[The information follows:]

GUIDELINES TO STATES ON REIMBURSEMENTSProgram Guidelines

In accordance with the objectives of the Federal Energy Administration Act of 1974 (PL 93-275), the \$10,000,000 appropriated by Congress pursuant to PL 93-322 will be utilized for FEA to reimburse States for expenditures made in the following general areas: Energy Management; Fuel Allocation; Energy Conservation; Energy Resource Development.

In the interest of providing the States with maximum legal flexibility, the programmatic guidelines attached hereto are general in nature. The examples of specific State activities and programs which are included in each guideline are illustrative of the type of programs for which States will be eligible to receive Federal reimbursement and are not intended to be exclusive. States may develop other programs or engage in other activities designed to promote the basic objectives of the guidelines, provided such programs and activities are approved by the appropriate Regional Administrator for reimbursement.

Where appropriate, States may make a portion of this reimbursement available to general purpose local governments, or to statewide associations thereof, for energy problems which are consistent with State programs eligible for reimbursement.

Once States have selected those guidelines they wish to implement through specific State programs or activities, the guidelines selected and the implementation programs agreed upon will be incorporated into a final cooperative agreement.

A. Energy Management Guideline

Goal: The development and/or implementation of a coordinated statewide energy management program. Management programs should provide for the development of objectives, policies, standards, schedules and procedures to guide public and private actions in the allocation, conservation and development of energy resources.

Management programs should also provide an organizational structure for future State actions, appropriately balanced for individual State needs which should encompass all activities, resources, agencies and programs which affect the State's energy future.

Such a management program may include, but is not limited to, any of the following specific activities or programs designed to promote the stated goal:

1. The establishment of a State program for coordinating energy policy and for comprehensive energy planning and management.
2. The development and/or implementation of a state energy information program which includes the collection, analysis and dissemination of information concerning energy reserves, production, demand and related economic and demographic data. The information program should be designed to accommodate the input of other private and public information programs and to facilitate the transfer of information between all such programs.

3. Participation in national, regional and local energy planning and management activities.

4. Development and/or implementation of programs that will provide input into energy planning from a broad range of public and private organizations as well as from the general public.

B. Petroleum Allocation Guideline

Goal: The establishment and operation of a State mechanism or organization which administers the State set-asides for allocated products under the terms and conditions of the mandatory petroleum allocation program and/or provides assistance to consumers in obtaining adjustments and assignments under the terms and conditions of the mandatory petroleum allocation program.

Programs designed to promote the above goal must be consistent with the mandatory petroleum allocation program established by the Federal Energy Administration pursuant to the Emergency Petroleum Allocation Act (PL 93-159).

C. Resource Development Guideline

Goal: To monitor and assist in the development of the State's energy resources in a manner consistent with other priorities of the State and Federal government.

Such a program may include, but is not limited to, any of the following specific activities and programs designed to promote the stated goal:

1. Development and/or implementation of a program for the siting, construction and operation of "energy facilities" (e.g., power plants, oil refineries, coal processing plants, nuclear fuel processing plants, transmission lines, etc.).
2. The development and/or implementation of land use, economic development, public services or other plans for areas impacted by the construction or development of energy facilities.
3. Examination and evaluation of the effects of financial, legal and institutional factors on energy resource development. The examination may include such items as taxation policies, grant and loan programs, utility rate structures, public bonding policies and public acquisition of sites and facilities, etc.

D. Conservation Guideline

Goal: To develop and oversee the implementation of equitable voluntary and/or mandatory energy conservation programs and promote greater efficiency in the use of energy resources.

Such a program may include, but is not limited to, any of the following specific activities and programs designed to promote the stated goal:

1. Experimentation with utility rate structures to encourage load leveling and to remove incentives for increased energy use.
2. Development and/or implementation of conservation programs for the public and private sectors (e.g., reduced lighting levels, carpooling, etc.).

3. Development and/or implementation of experimentation and action programs to accomplish model shifts and improve load factors in the transportation sector, with particular emphasis upon personal transportation.
4. Development and/or implementation of programs of retrofitting of public or private buildings to improve energy efficiency.
5. Evaluation and/or revision of building codes to accomplish conservation objectives.
6. Development and/or implementation of public education and information programs designed to encourage energy conservation.
7. Examination and evaluation of the effects of the financial, legal and institutional structures on energy conservation. Examination may include such items as provision of economic incentives, grant and loan programs utility rate structures, etc.
8. Develop conservation contingency plans for possible energy curtailments.

FEA ASSISTANCE IN FORMULATION OF STATE ENERGY PROGRAMS

Senator STEVENS. How much direction did FEA provide to the States in formulating their energy programs?

Mr. HILL. In addition to the guidelines for development of their programs, FEA personnel, particularly in the regional offices, provided as much direction and assistance as each State requested or required as a result of its initial submission.

Additionally, FEA and the National Governors Conference have designed a joint State/Federal conservation program. The program establishes consistent measurement of energy resource consumption and provides systematic communication and coordination in support of energy conservation efforts. A description of the key elements of this program will be provided for the record.

[The information follows:]

ELEMENTS OF STATE/FEDERAL CONSERVATION PROGRAM

The program provides a framework within which each participating State will collect energy use data; project future energy use; identify and analyze potential conservation actions; set energy conservation goals; announce and implement through its Governor an action plan for the State; and monitor, evaluate, and modify the plan as necessary. FEA will aid the States in collecting data and will provide technical assistance in projecting trends and analyzing the costs and benefits of possible actions. FEA will also provide a network for the transfer of technical information from the Federal government to the States.

I. Data System

Part of the program is a uniform system for reporting and analyzing energy use data. This will provide consumption data categorized according to commonly agreed-upon sets of end users and energy types. It will provide to the States a means of planning and evaluating their own efforts, and a way to compare their efforts with those of other States.

II. Energy Consumption Baseline

With FEA assistance, participating States will project energy use over the next 10 years for each major energy form and demand sector, assuming no new conservation programs. This will establish a baseline on which to set energy saving goals and to measure progress. The baseline will reflect each State's unique residential, industrial, and agricultural growth rates.

III. Energy Conservation Actions

The following are examples of conservation actions that can be undertaken by States. This is not an exhaustive list. Actions that will produce significant reductions in consumption:

- ° New construction standards for energy efficiency in residential and commercial buildings;
- ° Restructuring of utility rates to provide for peak-load pricing and other load management techniques;
- ° Establishing tax incentives or removing disincentives by reducing taxes to encourage improved energy efficiency in homes, increasing taxes on energy inefficient practices, and taxing certain fuels to reduce use;
- ° Sponsoring and extending preferential treatment to carpools and vanpools (such actions might require automatic coverage by auto insurers, allow exchange of money, designate special traffic lanes, establish financial disincentives for parking);
- ° Enacting laws or modifying regulations to improve traffic flow (right turn on red light);

- ° Increasing efforts to enforce the 55-mph speed limit;
- ° Instituting energy management for State-operated buildings and auto fleets, including changes in State procurement policies to reflect life-cycle costing.

Actions that alleviate the burden of higher energy costs on citizens and save energy:

- ° Implementing weatherization programs to insulate existing homes occupied by low-income, elderly and handicapped persons;
- ° Providing improved transportation programs, such as better public transportation, reduced tolls for carpools and van-pools, and construction of bicycle lanes and secure storage racks;
- ° Providing technical information to energy users to demonstrate to them how more efficient use may be made of energy.

Actions that develop awareness, educate the public, and lay the groundwork for future conservation:

- ° Mounting public information campaigns to homeowners, automobile drivers, building owners, and industries;
- ° Requiring that energy-use education be incorporated into primary, secondary, and higher education curricula;
- ° Revising professional certification procedures to require training in energy efficiency.

IV. Energy Conservation Action Plan

After development of multi-year energy projections, States will be able to identify areas that show greatest potential for demand reduction. Actions that could reduce demand can then be analyzed. This process should examine the costs; net energy benefits; feasibility; difficulty in implementation (for example, does the action require appropriation, legislation, changes in State regulations); and benefits to other States objectives (such as improving the environment and mobility of those reliant on public transportation).

Action plans will then be established by the Governors. In many States, this will include energy conservation actions that have already been taken and are continuing.

The plan should indicate priorities and describe for each action the following:

- ° Probable energy saving (by type and sector) in 1976, 1977, 1980 and 1985;
- ° Costs (to government and to the private sector) and benefits (economic, social, environmental);
- ° Plans for implementation, noting constraints (such as constricted labor and materials markets, Federal impediments) and requirements (State legislation, State appropriations, Federal assistance, local ordinances, possibility of implementation administratively by the Governors);
- ° Responsibility for Implementation.

FEA will, upon request, assist in the development of plans. On the basis of the action plan, each Governor will be encouraged to set target energy reduction goals for 1976, 1977, 1980 and 1985.

V. Evaluation and Modification of Plan

This program must be dynamic. Between the time plans are developed, and energy conservation actually begins to occur, events at the national, State, or sub-State levels may require plan modification. Such events might include changes in Federal regulations, enactment of new legislation, changes in Federal or State appropriations, technological developments and breakthroughs in marketing of new energy-efficient devices, or failure to enact desired legislation. Experience with actions will produce new insight into such questions as public receptivity; costs; economic, social and environmental impacts; and actual energy saved.

CONTINUATION OF PROGRAM

Senator STEVENS. Didn't we tell you last year that might be the last year?

Mr. NOEL. Yes. On several occasions FEA informed the States that there was no guaranty that the program would be continued beyond fiscal year 1975.

We feel without the \$10 million this year and without the State assistance we would be unable to get their assistance on many of the following programs.

For example, the 55 mile per hour speed limit; we would be working with them on utility rate structures. We feel an office of this sort is useful in terms of expediting approval of energy siting requirements. With respect to distribution of fuel to needy families, that kind of thing. All of these things we feel that the States would not be able to manage without this.

Senator STEVENS. Have you required matching funds from the States?

Mr. NOEL. Yes, sir, that is right.

Senator STEVENS. Dollar for dollar?

Mr. NOEL. 65-35.

Senator STEVENS. They put up 35 percent and you put up 65 percent?

Mr. NOEL. Yes, sir.

Senator STEVENS. What is the formula for that?

Mr. NOEL. We do have a formula. The moneys were apportioned on a formula basis, \$50,000 plus \$0.0304 per capita.

STATE PARTICIPATION IN FUEL ALLOCATION

Senator ROBERT C. BYRD. Your appeal states that 32 percent of the reimbursements was used by the States for fuel allocation in 1975. In what way did the States participate in fuel allocation?

Mr. HILL. Pursuant to the Emergency Petroleum Allocation Act of 1973, Public Law 93-159, the Federal Energy Administration promulgated the mandatory petroleum allocation regulations.

In order to provide a means of expeditiously meeting hardship and emergency fuel requirements of wholesale purchaser-consumers and end-users of propane motor gasoline, middle distillate and residual fuel oil, the allocation regulations provided for the establishment of a State set-aside program. Under this program, prime suppliers of the fuels subject to State set-aside are required to determine monthly the volume of each product to be sold into the State distribution system for consumption within the State. Based upon a formula established by regulation, prime suppliers must reserve specific volumes of each product for the set-aside program. Distribution of these fuels to applicants experiencing an emergency or hardship is ordered by the State Office.

Authority to administer the program was established by regulation and delegated by FEA to the State Offices of Petroleum Allocation. In addition to administering the State set-aside program, the State Offices receive and process applications for assignment of a supplier from new end-users of allocated products which cannot locate a supplier or which cannot agree with a new supplier upon an allocation requirement and other allocation functions.

FEDERAL REIMBURSEMENT MECHANISM

Senator ROBERT C. BYRD. This reimbursement program appears more like a grant program, which was not the intent of Congress. The intent, as I recall, was to pay States for services required by FEA, mainly in fuel allocation. Instead the funds are distributed on a formula basis. Have you sought legislative authority for a grant program?

Mr. HILL. FEA is most sensitive to the intent of Congress that it not have grant authority. This reimbursement program is not a grant program.

Under the Special Energy Research and Development Appropriation Act, Public Law 93-322, the Federal Energy Administration is authorized to reimburse States for a portion of the cost of high priority energy programs. In accordance with the legislative authority of the Federal Energy Administration Act of 1974, Public Law 93-275, section 7(d), reimbursement of States for energy programs is made under the mechanism of cooperative agreements between FEA and each State. The moneys were apportioned on a formula basis \$50,000 plus 3.04 cents per capita only as an administrative method of equitably dividing the total \$10 million, and were provided on a 2:1 matching basis to ensure State commitment.

The chairmen of both the Senate and House Subcommittees on the Department of Interior and Related Agencies expressly approved the use of these reimbursement funds for State energy management programs which are consistent with the Federal Energy Administration program objectives. After consulting with the States and obtaining congressional approval, the FEA issued program guidelines under which States could apply for reimbursement. Recognizing that the national energy problems went far beyond fuel allocation, the guidelines encouraged States to construct energy conservation, resource development and overall energy management programs that were appropriate for their own situations.

The cooperative agreement was the type of legal instrument chosen to effect the transfer of funds by FEA to the States because this program was to accomplish a public purpose stimulated by Federal statute and substantial involvement between FEA and the State was anticipated. These are generally the circumstances under which the cooperative agreement is used. FEA has not sought grant-making authority in areas associated with the reimbursement program.

STATE ENERGY TASKS IN FISCAL YEAR 1976

Senator ROBERT C. BYRD. What particular energy tasks do you expect the \$10 million reimbursement funding to produce in fiscal 1976?

Mr. HILL. We expect that in fiscal 1976 States will perform such energy tasks as: formulating land use plans which allow for managed development of natural resources, including the Outer Continental Shelf and energy facilities; adopting building codes which are energy efficient; reform of utility rate structures; expediting the approval of new energy facilities; implementing the nationwide joint Federal-State conservation program recently agreed to by the FEA and the National Governors' Conference; and distribution of all types of fuel to needy

users in shortage situations particularly if allocation controls are extended. In any event, we expect shortage situations in many States in natural gas and some other fuels. The State offices would be expected to assist impacted citizens, institutions, and industries.

REIMBURSEMENTS FOR FISCAL YEAR 1974 AND FISCAL YEAR 1975

Senator ROBERT C. BYRD. Please include in the record a table showing the disbursements to States for fiscal 1974 and 1975. Were all 1975 funds obligated by last June 30?

Mr. HILL. Of the \$10 million appropriated for reimbursement to States during fiscal year 1975, \$1,006 was unobligated at June 30, 1975. We will provide a table showing the reimbursements made during fiscal year 1974 and fiscal year 1975.

[The information follows:]

Fiscal Year 1974 Reimbursement to the States

<u>State</u>	<u>Reimbursement</u>
Alabama	\$ 168,314.80
Alaska	19,529.88
Arizona	169,728.67
Arkansas	38,378.08
California	125,811.71
Colorado	15,391.65
Connecticut	47,755.16
Delaware	22,509.18
District of Columbia	11,051.33
Florida	165,278.76
Georgia	118,829.42
Guam	74,337.28
Hawaii	70,697.29
Idaho	36,811.87
Illinois	138,620.47
Indiana	60,188.49
Iowa	37,121.22
Kansas	41,683.07
Kentucky	40,437.87
Louisiana	55,936.01
Maine	73,693.69
Maryland	470,312.81
Massachusetts	23,858.54
Michigan	134,792.38
Minnesota	37,392.49
Mississippi	73,507.92
Missouri	22,673.19
Montana	24,505.23
Nebraska	42,695.86
Nevada	38,999.90
New Hampshire	33,609.48
New Jersey	191,645.57
New Mexico	5,121.56
New York	439,877.73
North Carolina	99,604.24
North Dakota	6,431.97
Ohio	131,760.21
Oklahoma	59,751.66
Oregon	153,590.06
Pennsylvania	477,557.81
Puerto Rico	120,952.17
Rhode Island	11,806.85
South Carolina	49,399.88

<u>State</u>	<u>Reimbursement</u>
South Dakota	\$ 32,185.51
Tennessee	118,119.77
Texas	166,842.64
Utah	17,643.42
Vermont	71,563.17
Virgin Islands	17,572.69
Virginia	75,391.26
Washington	118,640.55
West Virginia	112,231.12
Wisconsin	83,945.98
Wyoming	3,910.48
	<hr/>
TOTAL:	\$5,000,000.00

Fiscal Year 1975 Reimbursement to the States

<u>State</u>	<u>Reimbursement</u>
Alabama	\$ 169,500
Alaska	60,500
American Samoa	11,960
Arizona	111,400
Arkansas	116,700
California	791,700
City of Anaheim, Calif	30,000
Colorado	126,500
Connecticut	155,100
Delaware	69,000
District of Columbia	76,200
Florida	285,400
Georgia	259,100
Guam	53,000
Hawaii	84,200
Idaho	74,286
Illinois	435,300
Indiana	227,825
Iowa	147,900
Kansas	128,000
Kentucky	161,600
Louisiana	176,300
Maine	84,400
Maryland	186,000

<u>State</u>	<u>Reimbursement</u>
Massachusetts	\$ 247,200
Michigan	357,700
Minnesota	257,294
Mississippi	126,900
Missouri	208,850
Montana	74,100
Nebraska	104,650
Nevada	67,000
New Hampshire	75,600
New Jersey	263,420
New Mexico	85,200
New York	700,055
North Carolina	226,200
North Dakota	15,000
N. D. Water Commission	56,400
Ohio	419,300
Oklahoma	138,700
Oregon	130,500
Pennsylvania	458,800
Puerto Rico	161,325
Rhode Island	82,900
South Carolina	139,800
South Dakota	47,749
(S. D.) Black Hills Conservancy Subdistrict & West River Conservancy Subdistrict	25,350
Tennessee	186,000
Texas	438,100
Utah	86,700
Vermont	65,400
Virgin Islands	52,200
Virginia	211,000
Washington	168,200
West Virginia	110,500
Wisconsin	127,530
Wyoming	61,500
 TOTAL:	 \$ 9,998,994
 Total Appropriation	 \$10,000,000
 Balance Available	 \$ 1,006

FEA PERSONNEL INVOLVED IN STATE REIMBURSEMENT PROGRAM

Senator ROBERT C. BYRD. How many FEA personnel are involved in the State reimbursement program?

Mr. HILL. One headquarters person is responsible for coordination of this program and spends approximately 50-60 percent time on it. In addition, numerous others are involved in varying amounts of time.

In the headquarters office there are five intergovernmental relations specialists with other administrative and supervisory support. There are also five to seven people in the Office of Management and Administration's Procurement Office and Budget Office who are involved for administrative purposes.

In the regions, the Regional Administrators, Regional Intergovernmental Relations officers, and Federal-State liaison officers contribute to administration of the program.

ELECTRIC UTILITIES RATE STRUCTURES

Senator ROBERT C. BYRD. Would you elaborate on your study of the rate structures of electric utilities and indicate how much funding is requested for these studies?

Mr. HILL. We have several things underway in the utility rate structure area. We have funded a large number of comprehensive studies on the rate structures. Different rate structures, what their impact is on both energy consumption by utility customers and what their impacts are on the capital requirements of the utilities and so forth.

We have entered into, as you know, contracts and agreements with six public utility commissions and utilities in the past year to actually experiment with the rate structures. We have taken some of the analytical work and some of the information that has been developed there and actually test them with the State PUC's and the local utilities in real life applications.

We feel that the payoff on this particular program could be very significant, both in terms of consumer costs and in terms of the future capital requirements of the utility industry.

We have had, also, I think, expressed from nearly every State, now, interest in doing one of these experiments. This probably is the kind of program that we believe we are going to have to do in one State, because if the PUC tries it one time and it works and it has the benefits that we think it had, and which many of them think it will have and the utilities, then it will become a part of their ratemaking procedures.

It is not a program that you will have to fund for every utility. But the PUC's and the utilities really want to test it out vis-a-vis changes in regulatory practices and how they set rates.

We have asked for another \$8 million to do this in additional States this next year, so each of the additional PUC's can gain their own personal experience in some of the new rate structures as a way of impacting on their regulatory practices in the future.

Senator ROBERT C. BYRD. What proportion of the studies will be conducted under contract and what proportion in-house?

Mr. HILL. I would say about 90 percent. If you take the whole fund, 90 percent of the studies are being done outside on contract

and 10 percent is being done in-house. This is with the PUC's and the utilities.

REFORMS OF ELECTRIC UTILITY RATES

Senator ROBERT C. BYRD. How would the regulatory changes or reforms for electric utility rates be accomplished?

Mr. HILL. We think the primary way to do it is to work with the PUC's and utilities in actual demonstrations in these rate changes or reforms, if you will, and if they are successful, if the consumers find these new rate structures to be acceptable as the utilities and the PUC's do—and we have confidence they will find them to be that way—they will be accomplished by the PUC's itself changing its regulatory practice regarding rates.

They will start allowing and actually promoting, if you will, rate structures that have peak-load pricing that gives discounts for consumers who purchase in the off-peak hours and things of that sort. But that can be done by the State PUC Commission itself.

Again, I think it is going to take for each PUC actually working with one of these rate reforms itself and gaining its own experience and testing it with its own utilities and consumers before they are going to want to move ahead.

They simply do not want to take—and I think, appropriately so—a lot of fancy theoretical and analytical studies that have been done in either government or academia and start down that road of putting those in place. They want to try them out to get the public reaction.

STATE AGENCY ROLE

Senator ROBERT C. BYRD. How much input will the State regulatory agencies have in these studies and recommendations?

Mr. HILL. We actually contract with them. We set out guidelines on certain things that have to be tested.

But the PUC's, in accepting the contract, not only meet those guidelines, but they have several other things they want to test. In many ways we establish the broad guidelines, but they design their own programs. If we find those programs acceptable in terms of the objective we are trying to achieve, we conclude the agreement.

I think they have a major role. None of these contracts or experiments, whatever, occur if the PUC was not the primary agent in trying these things out. So, they have a major role in these.

CONSUMER PARTICIPATION IN RATE STRUCTURE STUDY

Senator ROBERT C. BYRD. What input would consumer interests have in this rate structure study?

Mr. HILL. The consumers would have, I think, a variety of input.

In any case where the tests are going to be run, we are going to have to receive detailed information on consumer responses to the different rate structures. We won't be just getting detailed responses from them on how they use energy under the rate structures, but also on what their opinion is regarding those rate structures. That will be very much a part of the overall test.

I think it is safe to say that any of these rate structures which fly in the face of consumers run into strong opposition from consumers and would likely not be adopted by the PUC's.

I would like to call on Bill Rosenberg, our new Assistant Administrator for Energy Resource Development.

Mr. ROSENBERG. I had occasion to be on the other side of the fence in negotiating with FEA for a contract.

One of the things we were most concerned about in regard to the rate structures was that there might be serious consequences for industry in our State if we implemented the rate structures. So, it was very important and we were concerned that we know what the economic impact would be.

We were also concerned about the need to have conservation and rate structuring and pricing as key functions. But when I was in the State of Michigan, we were also concerned that if we were to have an innovative rate structuring program, that it wouldn't result in cars being built in Ohio instead of Michigan.

So, it was helpful for us to work with FEA to design some specific programs with cooperating utilities and companies in the State of Michigan to see how they would work before any broad policy would be laid down by the Public Utility Commission.

We were also interested in seeing how the time-of-day pricing might affect the attitude of homeowners in using peak electricity.

I think these ideas have a long way to go before they can be implemented, but the only way to sense how they will be implemented is to have those agencies that would be involved in putting them in place to work with local communities and businesses and utilities to test out different ways of doing it.

I think they would be quite anxious to move in that direction if they knew what the effect would be.

Senator ROBERT C. BYRD. Senator Eagleton has expressed concern over the effectiveness of consumer participation in the rate structure study and has proposed bill language that would require such participation. Do you have any observations on this idea?

Mr. HILL. I would like to take a look at the language to see just exactly what he is trying to achieve there.

When we enter into these agreements with the States, we have to feel confident that the consumers are going to be involved. We have had, through our own Consumer Special Impact Advisory Committee, considerable input into our budget utility rate structure experimental program.

There is one area where we have not entered into with the State PUC that has been recommended by this Advisory Committee, and that is in the area of lifeline rates. This is where you would actually run a test of providing very low rates to low income people and higher rates to the higher income people when they are home. This is a concept that they have recommended to FEA that we test out.

We have not found a PUC yet that wanted to test out this program, although the State of Washington is trying one that is fairly similar. They have taken a different cut. So I think we have had a lot of input from our Advisory Committee on this program and they will be involved in reviewing these results.

As I say, we have not ourselves entered into a program with any PUC to test the lifeline concept itself.

COAL BURNING RELEASING RADIOACTIVITY

Senator ROBERT C. BYRD. I have before me a newspaper clipping from the Bluefield Daily Telegraph of October 18, 1975, which discusses a recent study conducted by Marshall University of Huntington, W. Va. This study indicates that the burning of western coals to produce electricity releases large amounts of radioactivity." This article states that geologists from Marshall University burned samples of western coals and compared them with nine samples of Southern West Virginia low sulphur coals, and that the West Virginia coals released significantly lower radioactivity.

I would like to have your comments on this study. Would this type of released radioactivity pose any danger or threat to persons or communities located in the vicinity of the power plant utilizing western coals? In view of the results of this study, do you still feel it is advisable for FEA to promote the burning of large amounts of western coal to produce electricity? I will provide your agency and ERDA with copies of this study and I am asking that you carefully review it and provide written comments for the record.

Mr. HILL. We will be happy to provide the information you have requested for the record.

[The information follows:]

COMMENTS ON MARSHALL UNIVERSITY STUDY

Based on preliminary investigation, FEA does not see that the matter referred to by Senator Byrd will have any serious impact on the Nation's ability to safely use Western coals to meet its energy needs. However, FEA intends to pursue the matter further with the Environmental Protection Agency and would intend to keep the Committee informed of any further developments.

The Office of Coal has contacted the Marshall University scientist who released the study on which the Bluefield Daily Telegraph article was based. The geologist reported minor amounts of uranium in one West Virginia coal seam (the Eagle coal seam) and no uranium (below background) in seven other West Virginia seams examined. Out of three Western coal seams examined, two had minor concentrations of uranium about equivalent to the Eagle seam in West Virginia. However, samples from a third seam from Cave Hills, South Dakota, had very substantial quantities of uranium (0.1%-0.5%). We contacted the South Dakota State geologist who informed us that this ore, because of its high uranium concentrations, has been used as a source of uranium for the nuclear industry in the past. He also said that it is not currently being mined.

The Environmental Protection Agency has the statutory responsibility to ensure that pollutants released from coal burning power plants are within acceptable standards necessary to protect the public health and safety. At present the controls are primarily on sulfur and total suspended solids. It may be that as the use of new coal deposits in both the West and the East is increased, additional standards may be required covering specific impurities, such as uranium or other chemical elements. FEA feels confident that if such standards are determined to be necessary, they can be promptly implemented by EPA and that the technology is available to permit using our abundant coal resources and still meet any necessary health standards.

ADMINISTRATOR'S BUDGET REQUIREMENTS

Senator ROBERT C. BYRD. Why does the Administrator's office need 32 positions and \$1.4 million in 1976?

Mr. HILL. That figure is somewhat misleading, Senator. Actually, there are five offices combined under this heading and the funds for the advisory committees are also included within the Administrator's budget. In addition to his staff of 11, there are 2 deputy administrators with a total of 7 people, 11 people in the correspondence

control unit, and a 3-person support staff for the advisory committee meetings.

PUBLIC ENERGY EDUCATION

Senator ROBERT C. BYRD. Your justifications of executive direction shows more than \$1 million in contracts for publications, advertising film, television and the like. There is a \$24 million contract amount for similar work under conservation. Why is this split up, and how do you avoid duplication?

Mr. HILL. One of the fundamental mandates of the Federal Energy Administration received from Congress was to fully educate and aid the public in understanding and coping with the Nation's energy problem. Two offices in FEA deal with this mandate: the Office of Communications and Public Affairs develops wide ranging programs dealing with all aspects of energy. These programs include informing the public about future energy sources, automobile fuel economy, community efforts to encourage energy awareness, etc. Publications, advertising, television and films are all public affairs responsibilities. Conservation and Environment on the other hand is a program office. It is their job to carry the message on energy conservation to America's energy consumers, specifically to American business and industry. Public Affairs work is not duplicated by Conservation and Environment and vice versa. Before a project is decided on, Public Affairs meets with all parts of FEA to coordinate efforts and avoid duplication.

Senator ROBERT C. BYRD. Why do you need such a large communications and public affairs operation? It totals \$4.3 million and 117 positions.

Mr. HILL. Senator Byrd, the size of the Office of Communications and Public Affairs reflects the variety of the work it performs, certain unique characteristics which set it apart from other public affairs offices and the nature of the subject matter with which it deals, namely, the energy crisis. The Nation's energy problems, for most Americans, are new and highly complex. The job of educating the public to them is immense. Public awareness focuses on the most visible aspects of the crisis—utility bills, gasoline prices, etc. The underlying cause of high prices and shortages is far more elusive. It is the job of this Office to promote that understanding, a job that must be carried on in the midst of controversy and rapidly changing circumstances. This public education effort involves all sections of the country, all segments of the economy and all Americans at every social and economic level. The activity demands a full staff of highly competent public affairs specialists. In addition, this office incorporates a number of functions not found in most public affairs offices. For example, FEA's Freedom of Information activity, mandated by Congress, is conducted within this office. Similarly, the work of the Office's Public Inquiries section, which answers FEA, White House, and congressional mail on energy, is located elsewhere in most agencies. The staffs of these two sections alone account for more than 20 percent of the office's personnel.

SPLIT IN PUBLIC INFORMATION

Senator ROBERT C. BYRD. Doesn't some of the work in Communications and Public Affairs duplicate that conducted under Conservation and Environment as far as getting the energy conservation message across to the public?

Mr. HILL. No, it complements it. Conservation and Environment provides manuscripts, graphics and other materials for special interest audiences such as business and industry to explain and encourage the efficient use, and the conservation of energy while Communications and Public Affairs does the same for general audiences. Also, FEA has a broad mandate to fulfill. In doing so, we have to be responsive to all aspects of our national energy problems. The Office of Conservation and Environment deals specifically with matters concerning energy conservation, including public service messages on ways to save energy, why we need to save energy and so forth. The Office of Communications and Public Affairs, Community Relations/Public Education, on the other hand, covers a much broader area of response. It has to respond to the public need for information about issues like solar energy, level of oil imports, Federal Regulation programs and many others. Furthermore, Public Affairs is responsible for getting the entire energy message across to the public. This includes conservation and awareness of the U.S. energy situation. For example, one of our programs, "Energy Ant," explains the dwindling supply of domestic energy as well as ways the American people can help. Finally, Community Relations/Public Education works with teachers via associations and provides them with information, whereas Conservation and Environment deals with the preparation of such material. Community Relations/Public Education also provides information on subjects other than energy conservation.

In summary, it should be noted that Community Relations/Public Education does stress energy awareness in its programs whereas Conservation and Environment does not.

Senator ROBERT C. BYRD. How many people in FEA are primarily assigned to Consumer Affairs?

Mr. HILL. In fiscal year 1976, 12 headquarters personnel are assigned to Consumer Affairs and 10 regional personnel.

ENERGY POLICY AND ANALYSIS

Senator ROBERT C. BYRD. Your accomplishments for 1976 under policy and analysis include the continued analysis of coal leasing and conversion, Naval Petroleum Reserves 1 and 4 and OCS development programs. What is being done there that is not already being done by the agencies directly responsible?

Mr. HILL. There are a number of agencies working on various aspects of the energy problem. A major role of Policy and Analysis has been to coordinate policy positions for the Energy Resources Council and the FEA in order to provide the requisite information in a form required for a Presidential decision.

With regard to Naval Petroleum Reserves 1 and 4, Policy and Analysis has been working on the legislation necessary to utilize the resources contained in these reservoirs. In addition, plans are being developed for the disposition of the oil from these reserves, which

include using funds obtained from NPR 1 production to develop NPR 4 and to store oil against a future embargo. On OCS programs, Policy and Analysis has been coordinating various issue papers for the ERC and developing legislation.

The program to convert existing and planned oil or gas fired boilers to coal is the direct responsibility of FEA by authority granted by Congress under the Energy Supply and Environmental Coordination Act of 1974. As of June 30, 1975, FEA issued 32 prohibition orders affecting 74 utility boilers and 45 construction orders affecting 55 powerplants in the early planning process. Data is currently being gathered to issue a second round of prohibition orders to utilities and to industrial users if this authority under ESECA is extended.

There has been a moratorium on the issuance of new coal leases on federally-owned lands since 1972. The Department of Interior has traditionally had primary authority to formulate policy in this area. The Federal Energy Administration has had responsibility for relating this policy to overall coal development objectives. FEA's participation in the coal leasing program may have to be broadened in order to facilitate the development of this Nation's coal reserves. The Administrator of FEA views the development of this resource base on an environmentally sound basis as critical to the general objective of Project Independence—to reduce our dependence on foreign sources of energy supply.

The Policy and Analysis staff within FEA supplies general policy guidance and assistance to those responsible for coal leasing and conversion and integrates these program efforts into the framework of overall coal development objectives, i.e., coal use in the synthetic fuels commercialization program, R. & D. developments as they may effect the growth in new coal fired capacity, environmental requirements and/or constraints, and so forth.

DEVELOPING ENERGY DATA

Senator ROBERT C. BYRD. When do you think the Federal Government will be able to produce its own independent and reliable energy data without so much reliance on industry?

Mr. HILL. That is an extremely difficult question to attempt to answer and I'm certain I cannot do so with a specific date. Let me attempt to answer in this manner: We in FEA have been striving for some time now, and have been relatively successful, in developing information through audits, followup studies, secondary sources, etc., which allow us to evaluate the accuracy or adequacy of data provided by industry in response to our requests. Some of the more notable efforts along these lines were those associated with the oil and gas reserves projects where FEA used a combination of audits, quality control and secondary source benchmarking to evaluate the accuracy of responses from industry; the natural gas curtailments project where existing macro level data were used to evaluate adequacy at higher levels of geographic aggregation and responses from other FEA studies were used to identify specific problem areas within the higher levels of aggregation. In addition, of course, the sources of much of the information developed by FEA in the past year or more have been mandatory reports filed with the Compliance and Enforcement units

of FEA and these reports are subject to detailed review and audit at any time.

Data derived from these audit reports assist greatly in our efforts to achieve independent and reliable data. I doubt seriously that we will ever be completely independent of industry, but we have done, and will continue to do, our own thinking and evaluation of the adequacy and accuracy of information provided by industry.

NATIONAL ENERGY INFORMATION CENTER

Senator ROBERT C. BYRD. Tell us about the National Energy Information Center you developed in 1975. What is it, what does it do, how much did it cost and what is the ongoing expense?

Mr. HILL. The National Energy Information Center, NEIC, was established in 1974 to serve as an information center and as a national clearinghouse for technical energy information for the Congress, Federal and State agencies, industry and the public. The staff consists of research analysts, technical information specialists, computer specialist, and Federal and State liaison officers. The center is located in the Federal Building at 12th and Pennsylvania Avenues, N.W.

The center answers or refers questions on all aspects of energy. In order to respond to the questions, it has set up a reference room in which relevant publications have been indexed and processed. It maintains file copies of all FEA technical publications; makes them available, as appropriate, through the National Technical Information Service; and it produces bibliographies of energy technical publications. The NEIC has recently assumed responsibility for an automated locator system that will contain the identification and location of all existing energy information systems in the Federal Government.

The total operating cost of the NEIC in fiscal year 1975 was \$419,000. Fiscal year 1976 costs will be approximately \$1 million.

The current annual operating cost programed for fiscal year 1976 is \$1,056,613. It is anticipated that in future years the NEIC will increase in cost at a rate of approximately 15 percent per year, excluding inflation. This estimate is based on a 15 per cent expansion of information to be cataloged, indexed, abstracted, stored and disseminated each year. After 4 years, the center's growth should level off at approximately 45 employees with an annual operating budget of \$1.5 million.

PROJECT INDEPENDENCE REPORT

Senator ROBERT C. BYRD. Your justification calls Project Independence the most comprehensive and sophisticated energy analysis and forecast ever undertaken by the Federal Government." Does the final product live up to that description?

Mr. HILL. After publication, the Project Independence report replaced all other previous references for long-run energy supply and demand evaluation. It has become the source of energy information for both the Congress and the Executive. The basic data and analytical system have been employed by the various congressional staffs in their own evaluation of alternative legislative policy proposals. It has been used extensively since first development and is recognized by energy analysts as the best available framework addressing the energy

system for the next 10 years. Testimony before the Joint Economic Committee by several independent reviewers confirmed the view that the Project Independence Evaluation System advanced the state-of-the-art.

In addition to its extensive use during the past year in the negotiations on various decontrol and tax policy options, there have been extensive modifications prepared to improve the capabilities during the development of an ongoing revision of the Project Independence reports. The record indicates that the description of the Project Independence system and forecasts is accurate historically and continues to describe the quality of the improvements that are underway.

Senator ROBERT C. BYRD. How much in total do you plan to spend on the continuation of Project Independence analysis?

Mr. HILL. In fiscal year 1976 FEA is undertaking at the request of the President a revision of the Project Independence report in order to update, expand and refine it in relation to the current energy situation. I am sure that you can appreciate that there have been many changes and important developments in the energy environment of the past year. The Project Independence report and related Project Independence Evaluation System forecasting capability provide an invaluable basis for energy policy development and evaluation. The Project Independence Evaluation System is the chief analytical tool available to the U.S. Government to assess national energy policy. In order to keep this system current it is necessary to update and make refinements which developments in the past year have made clear are needed.

In fiscal year 1976, FEA will require approximately \$2.7 million to support the Project Independence revision and follow-on analysis. Of this amount, \$1.2 million is for personnel and \$1.5 million for contract support.

I might add that the fiscal year 1976 undertaking is quite different from the original study in that FEA is shouldering the sole responsibility for the revision and does not have the assistance from other agencies that was available to us during last year's development of the Project Independence report.

Senator ROBERT C. BYRD. What was the total cost of last year's Project Independence study and report?

Mr. HILL. The total cost for the Project Independence study and report was approximately \$5.5 million, of which \$2 million was expended in fiscal year 1974 and \$3.5 million in fiscal year 1975. Of the fiscal year 1975 expenditures, one-third of the expense was for salaries and the remainder for contracts, printing and regional public hearings expenses. I might add that the Project Independence report was a coordinated effort among several Federal agencies, with FEA having the lead responsibility

ESTIMATED OIL RESERVES

Senator ROBERT C. BYRD. The American Petroleum Institute recently reduced its estimates of proved oil reserves. Do you agree with the estimate of 34.2 billion barrels?

Mr. HILL. The estimation of proved reserves always depends upon subjective judgments. Such estimates, even when made by highly com-

petent experts, never do agree precisely. The Federal Energy Administration, in response to the mandate of Public Law 93-275, has completed an independent study of U.S. proved reserves of crude oil and natural gas. Results indicate that crude oil proved reserves at the end of 1974 totaled 38 billion barrels. While the FEA estimate is 11 percent higher than that of the American Petroleum Institute, the difference is not considered unreasonable.

NATIONAL ENERGY ACCOUNTING SYSTEM

Senator ROBERT C. BYRD. Tell us also about the National Energy Accounts which you plan to complete in 1976. Give us the costs involved also.

Mr. HILL. The effort is being concentrated on the energy flow accounts of the National Energy Accounts. Work on the 1947 to 1972 data for the energy flow accounts is nearing completion. The flow accounts record the flows of energy at two key points: The energy sources which are the points where a fuel is mined or energy is captured from another source, and the final uses, which are the points where energy is consumed, dissipated or transformed.

As presently planned, the National Energy Accounting System will have five major parts: (1) The energy flow accounts, which will trace the flows of energy in the United States from sources to uses; (2) the corporate finance accounts for energy, which will use financial data to depict the energy system as comprised by business firms; (3) the energy technology and capital accounts, which show the technological details of how energy is produced and used; (4) the energy resources accounts, which define the stock of energy resources; and (5) the environmental accounts, which show the environmental consequences of U.S. energy production and consumption.

The energy flow accounts total cost is \$325,000 and they will be available in early 1976. The entire Energy Accounting System would cost approximately \$3.3 million, and would not be available before June of 1979. The total cost includes both contract support and FEA personnel.

Senator ROBERT C. BYRD. Was the development of these accounts coordinated with the Council of Economic Advisors?

Mr. HILL. An Advisory Panel, which consists of individuals from Federal agencies, and private research groups, reviews the work done on the National Energy Accounts. Individual staff members of the Council of Economic Advisors were invited to participate on the Advisory Panel.

Senator ROBERT C. BYRD. Who will maintain the National Energy Accounts when developed?

Mr. HILL. After their completion the entire system of National Energy Accounts will be maintained by the Office of the Deputy Assistant Administrator for Data and Analysis.

POLICY AND ANALYSIS CONTRACTUAL REQUIREMENTS

Senator ROBERT C. BYRD. The request in your initial budget submission for Policy and Analysis totals \$25.6 million, an increase of \$3.9 million over the amount listed for 1975. This increase appears mainly for contracting. What is the reason?

Mr. HILL. Policy and Analysis' initial fiscal year 1976 budget was for \$23.5 million and its amended fiscal year 1976 budget request is for \$25.6 million P. & A.'s initial budget required the same contract resources as fiscal year 1975. Of the increase reflected by the amended budget, approximately \$900,000 is for personnel salaries and support, and \$3 million is for contracts. The contract money is necessary to support increased data support to meet the demand from FEA program areas, that is, regulatory and compliance systems management, energy forecasting and analysis, as well as increased demand for administrative and housekeeping support of the agency; data collection, forecasting and economic impact studies; inflation impact evaluation of alternative energy policies as required under Executive Order 11821 and development of State-by-State forecasting capability by fuel type through 1985.

I will submit for the record a list of proposed contracts required under P. & A.'s fiscal year 1976 amended budget.

[The information follows:]

POLICY AND ANALYSIS
 FY 76 AMENDMENT
 CONTRACT FUNDING

	(\$000)
<u>Policy and Analysis Total Contract Amendment</u>	<u>3,030</u>
<u>Data Entry</u> - Provide keypunch key-to-tape , key-to-disk and other data entry services to meet increased demand from FEA program areas.	<u>448</u>
<u>Petroleum Reporting System</u> - Complete first phase of a comprehensive Petroleum Reporting System (PRS) which combines the reporting requirements of the Bureau of Mines, FEA and FPC.	<u>200</u>
<u>Natural Gas</u> - Additional programming support for increased Natural Gas Task Force Requirements to study impacts of natural gas curtailments.	<u>100</u>
<u>Economic Impact</u> - Study impact of energy price changes on unemployment by unemployment by real distribution of income levels and industrial output by sector.	<u>245</u>
Support inflation impact evaluation of alternative energy policies as required under Executive Order 11821.	<u>150</u>
<u>Energy Analysis and Forecasting</u>	<u>150</u>
Develop electricity demand short-term forecasting model.	
Construct, test, validate, calibrate and apply new updated oil and gas supply model for use in analysis of national energy policy issues.	<u>320</u>
Develop and document a complete simulation model which projects transmission fuel consumption on state by state detail.	<u>100</u>
Application, evaluation and expansion of International long-run demand forecasting capabilities.	<u>150</u>
<u>Statistical Analysis</u>	
Collection and organization of data on transportation and utility sector's responsiveness to national energy policies.	<u>300</u>
Develop systems to collect, organize and maintain data on capital and profit requirements, tracking cash flows, and determining price requirements and effects and responsiveness to National Energy Policy for coal, natural gas, petroleum, nuclear and other fuels.	<u>250</u>
<u>Miscellaneous Contracts Under \$100,000</u>	<u>617</u>
In addition, Policy and Analysis requires \$617,000 for several small contracts for: data systems support for market shares, profits, pricing and oil and gas reserves studies; information retrieval, reference collection and bibliographic services, and economic impact assessments.	

DATA PROCESSING ACTIVITIES

Senator ROBERT C. BYRD. Since the oil embargo of last year, FEA spent almost \$13 million in data collection, validation and automated data processing activities. What was accomplished?

Mr. HILL. Data collection, validation and automated data processing activities are by nature supportive functions. The funds expended in this effort have enabled FEA to develop the information which, according to congressional and GAO reviews at the time of the embargo, was so diverse in scope and content as to be virtually unusable, to the current state wherein FEA does have in place major coordinated data files, programs and models which support the analyses necessary to informed policy decisions that are required daily. This activity has provided a basis for analysis and review of the allocation and regulation programs, the monitoring of vital areas such as gasoline stocks earlier this year, and the study of alternative fuel demand due to natural gas curtailments.

The market shares program was initiated on an historical basis in the fall of 1974. This effort involved the collection of sales distribution data from over 17,000 companies and has resulted in the processing of in excess of 775,000 records. This effort is now being developed to provide a monthly monitoring capability for a sample of the previously reporting units. The oil and gas reserves project was also initiated in the fall of 1974 resulting in the collection of oil and natural gas production and reserves data, by operator and lease, from over 22,000 operators. This effort has resulted in the processing of in excess of 75,000 records. The natural gas curtailments effort was initiated in June of this year with collection of deliveries, curtailments and alternative fuels data for end-use customers over 1,800 inter- and intrastate pipelines. This effort has resulted in the processing of in excess of 300,000 records in a 4 month period. These are, of course, the better known efforts in the data collection area and do not include major efforts in the allocation, regulation and policy and planning areas.

To move from a base near zero to one of having installed major data systems is an admittedly expensive process. We have found that at each step of the process our needs and demands become more complex as the questions become more difficult. We are generally pleased with our performance to date and plan to provide continued support at a similar level in the future.

DATA COLLECTION RESPONSIBILITIES

Senator ROBERT C. BYRD. The committee has a statement on energy data and analysis responsibilities furnished on request by the Interior Department. It will be included in the record.

That statement holds that the Interior Department has the responsibility for basic data collection for all energy minerals." It contends that FEA and ERDA should look to Interior for data collection. Do you agree with those statements?

Mr. HILL. As I have not had an opportunity to review the statement submitted by the Interior Department I will, of course, not be able to address specific points in the statement. I will, however, offer

some general comments for the record which might relate to the statement.

[The information follows:]

DEPARTMENT OF THE INTERIOR

"Energy" Information Collection

The Secretary of the Interior by law (including the Mining and Minerals Policy Act, the Defense Production Act, the Strategic and Critical Materials Stock Piling Act, the Organic Acts of the Geological Survey and the Bureau of Mines, the public land laws, and other related acts) is the steward of the Nation's mineral resources, including fuels, as well as mineral resource information and data. The Department considers that the collection of basic minerals data is one of its primary functions.

The Geological Survey, established in 1879, and the Bureau of Mines, established in 1910, are the chief Interior bureaus collecting energy data and have done so for many years under statutory authority. As the attached frequency sheet shows, the Bureau of Mines collects basic energy data by surveying thousands of firms monthly, quarterly, and annually. The data are compiled and integrated into comprehensive data information systems for use by all of the Federal Government, Congress, local governments, industry, universities and the general public. Similarly, the U. S. Geological Survey collects basic information on energy resources and provides energy resource estimates. All Government agencies and international organizations come to the Department of the Interior for some or all of the basic information on minerals including fuels.

While FEA has begun to assemble some basic energy data, Interior has had a long-established, well-functioning, data collection system in place which is run by experienced fuel specialists. These data banks are comprehensive in that they cover the whole spectrum of uses--resource estimates, reserve estimates, production, stock changes, imports and exports and international trade, demands, and end uses. Interior publishes weekly and monthly Mineral Industry Surveys, Mineral Year Books, Technical Reports as Information Circulars and Reports of Investigation, and maps. It is the Department's view that Interior has the responsibility for basic data collection for all energy minerals.

The Federal Energy Administration (FEA)

There is no question that an agency charged with allocations and price control, as was the situation with the FEA prior to the veto of the Extension Act, must have the necessary information to properly discharge its legally mandated responsibilities. However, emergency agencies such as the FEA must utilize to the maximum extent the facilities of established departments to collect information so as to avoid

duplication, confusion of industry and state and local governments, and to maintain the continued flow of information after the specific emergency has passed and the emergency agencies no longer exist. The Bureau of Mines played a lead role in helping the FEO (the predecessor of FEA) establish its data collection, analysis, and dissemination system. Recently, FEA has asked the Bureau of Mines to collect the monthly petroleum information for FEA to avoid duplication. The monthly information collected by the Bureau is generally more comprehensive than that collected by FEA in that it covered more items and permitted the construction of national energy balances. FEA should continue to make working agreements with Interior for collection of data.

Energy Research and Development Administration (ERDA)

Similarly, ERDA must have complete information on various processes of converting raw fuels to useable forms of energy. Toward this end the six Energy Research Laboratories of the Bureau of Mines and the Office of Coal Research were transferred from Interior to ERDA. ERDA needs to build a master reference file for use for Government and industry on the details of energy conversion processes. However, ERDA should look to Interior for fundamental information on fuel resources, reserves, production, stocks, and uses.

Attachment

FREQUENCY OF REGULARLY ISSUED BUREAU OF MINES COMMODITY REPORTS

(W-WEEKLY, M-MONTHLY, Q-QUARTERLY, A-ANNUALLY)

NUMBER BEFORE THE = NUMBER OF FIRMS CANVASSED

" AFTER " = " " " COPIES DISTRIBUTED TO FIRMS,
GOVT AGENCIES, ETC.

MINERAL INDUSTRY SURVEYS:

ABRASIVE MATERIALS (A)		MICA (A)	
ALUMINUM (M,A)		MINERAL PRODUCTION, WORLD (A)	
ANTIMONY (Q,A)		MINOR NONMETALS (A)	
ASBESTOS (A)		MOLYBDENUM (M,A)	
BARITE (A)		2,300 NATURAL GAS (M,A)	4,300
BAUXITE (Q)		708 NATURAL GAS LIQUIDS (Q)	3,200
BERYLLIUM (A)		980 NATURAL GAS PROCESSING PLANTS (BI ANNUALLY)	1,600
BISMUTH (Q,A)		NATURAL GAS PRODUCTION, WORLD (A)	3,000
BORON (A)		NICKEL (M,A)	
BROMINE (A)		NITROGEN (A)	
CADMIUM (Q,A)		174 FEAT (A)	1,100
CALCIUM MAGNESIUM CHLORIDE (A)		174 FEAT PRODUCERS (A)	1,100
CARBON BLACK (Q,A)		PERLITE (A)	
CEMENT (M,A)		PETROLEUM AND PETROLEUM PRODUCTS:	
CESIUM AND RUBIDIUM (A)		141 ASPHALT SALES (A)	1,200
CHROMIUM (M,A)		85 AVIATION TURBINE FUELS (A)	2,000
CLAYS (A)		- BURNER FUEL OILS (A)	2,000
6,500 COAL, BITUMINOUS (W,A)	5,300	- CRUDE OIL PRODUCTION, WORLD (A)	2,600
510 COAL, BITUMINOUS DISTRIBUTION (Q)	1,500	300 CRUDE OIL AND PRODUCTS PIPELINE MILEAGE (TRI ANNUALLY)	3,000
750 COAL, ANTHRACITE (W,A)	2,000	- DIESEL FUEL OILS (A)	2,000
128 COAL, ANTHRACITE DISTRIBUTION (A)	1,300	50 DISTRICT V PETROLEUM STATEMENT (M,A)	3,000
COBALT (M,A)		447 FUEL OIL AND KEROSENE SALES (A)	2,200
COBALT REFINERS (Q)		338 FUEL OILS BY SULFUR CONTENT (M)	1,700
67 COKE AND COAL CHEMICALS (M,A)	3,100	- MOTOR GASOLINES (SUMMER) (A)	2,000
67 COKE DISTRIBUTION (A)	1,500	- MOTOR GASOLINES (WINTER) (A)	2,000
67 COKE PRODUCERS (A)	1,500	271 PETROLEUM REFINERIES IN U.S. (A)	5,000
COLOMBIUM AND TANTALUM (A)		1,390 PETROLEUM STATEMENT, ADVANCE RELEASE (M)	3,800
COPPER INDUSTRY (M,A)		1,310 PETROLEUM STATEMENT (M,A)	7,700
COPPER PRODUCTION (A)		PHOSPHATE ROCK (M,A)	
COPPER SULFATE (Q)		PLATINUM GROUP METALS (Q,A)	
DIATOMITE (A)		POTASH (A)	
FELDSPAR (A)		PUMICE AND VOLCANIC CINDER (A)	
FERROALLOYS (SEMIANNUAL)		RARE EARTH ELEMENTS AND THORIUM (A)	
FERROSILICON (Q,A)		RHENIUM (A)	
FLUORSPAR (Q,A)		SALT (A)	
GEM STONES (A)		SAND AND GRAVEL (A)	
GOLD AND SILVER (M,A)		SELENIUM (Q)	
GRAPHITE (A)		SELENIUM AND TELLURIUM (A)	
GYPSUM (M,A)		SLAG, IRON AND STEEL (A)	
IODINE (A)		SODIUM COMPOUNDS (A)	
IRON AND STEEL (A)		STONE (A)	
IRON AND STEEL SCRAP (M,A)		SULFUR (M,A)	
IRON ORE (M,A)		TALC, SOAPSTONE, AND PYROPHYLLITE (A)	
KYANITE AND RELATED MATERIALS (A)		TIN (M,A)	
LEAD INDUSTRY (M,A)		TITANIUM (Q,A)	
LEAD, PRIMARY PRODUCTION (M)		TUNGSTEN (M,A)	
LIME (M,A)		200 URANIUM (A)	1,000
3,497 LIQUEFIED PETROLEUM GASSES & ETHANE SALTS (A)		VANADIUM (M,A)	
LITHIUM (A)		VERMICULITE (A)	
MAGNESIUM, PRIMARY (Q,A)		ZINC INDUSTRY (M,A)	
MAGNESIUM AND MAGNESIUM COMPOUNDS (A)		ZINC PRODUCTION (M)	
MANGANESE (M,A)		ZINC OXIDE (M)	
MERCURY (Q,A)		ZIRCONIUM AND HAFNIUM (A)	

OTHER REPORTS:

- COMMODITY DATA SUMMARIES (COVERS 95 COMMODITIES) (M)
- MINERALS AND MATERIALS (COVERS 15 COMMODITIES) (M)
- INTERNATIONAL COAL TRADE (Q)
- INTERNATIONAL PETROLEUM ANNUAL (A)
- MINERAL TRADE NOTES (M)
- MINERALS YEARBOOK, VOL. I (COVERS 92 COMMODITIES) (A)
- MINERALS YEARBOOK, VOL. II (COVERS 93 SUBJECTS) (A)
- MINERALS YEARBOOK, VOL. III (COVERS 157 COMMODITIES) (A)
- MINERAL FACTS & PROBLEMS (COVERS 29 COMMODITIES) (EVERY 5 YEARS)

COMMENTS ON INTERIOR DEPARTMENT STATEMENT

FEA STATEMENT ON ENERGY DATA JURISDICTION

First, the Federal Energy Administration Act of 1974 addresses specifically in Section 5, (b) those functions vested in the Federal Energy Administration. Contained therein is the stated responsibility for the FEA to "collect, evaluate, assemble, and analyze energy information on reserves, production, demand, and related economic data". This responsibility was expressly given to FEA by the Administration and the Congress to assure the development of timely and relevant information necessary to the development and maintenance of an effective and impartial energy program. We do not see that this requirement has changed at all since enactment of the law.

Second, the administrative and logistical problems associated with the need to implement rapidly entirely new information systems precludes reliance on existing systems and agencies. The rapidity with which FEA must respond to a new or changing environment often means a complete reallocation of support resources to meet the demand for new data and information. Such rapid changes in priorities and resource allocations would create chaos in major information systems in other agencies, were they required to respond to FEA's requirements as well as their own.

Third, the information gathering activities of many agencies, including the Interior Department and its agencies, are reliant upon a voluntary response wherein the demands made of the FEA to be responsive to the needs of the Congress and the Administration generally require mandatory reporting within a very short time period. To ask another agency to jeopardize its own programs by assisting FEA in enforcing a mandatory program could have serious consequences for both FEA and the host agency. Most agencies would prefer not to enter into such an arrangement unless absolutely necessary.

Fourth, the FEA uses data and information collected from many sources, public and private, in meeting its requirements. These data are often used also in benchmarking FEA data or in evaluation and validation of data collection by FEA or other agencies. The FEA attempts to minimize origination of data collection efforts from a purely pragmatic viewpoint where currently available sources of timely and reliable data exist. Original data collection is both time consuming and expensive—for the Government as well as industry.

FEA's data needs generally involve requirements for information which does not now exist in any one location. As a result, these needs typically lead to a major new data collection effort in perhaps an entirely new direction.

The FEA, however, is not now and has not in the past "gone it alone" with respect to involving other governmental organizations in the planning, development and implementation of its programs. Two recent examples of our efforts to coordinate and integrate our information gathering requirements in the petroleum and natural gas areas are the Natural Gas Curtailments and joint Federal Energy Administration/Bureau of Mines Monthly Petroleum Reporting System projects. In the former, the effort was coordinated with the Federal Power Commission which collected data for interstate pipelines for consolidation with FEA collected data for intrastate pipelines. In the latter, FEA is currently working with the Bureau of Mines to merge our respective data collection activities into one integrated system which will serve both our needs. This integrated system will be operated by the Bureau of Mines and data provided to FEA on a monthly basis.

To the degree that the Interior Department, can provide timely and reliable data, meeting our requirements and within the constraints imposed upon us by the dynamics of the world environment in which we live, we would be happy to use the data developed by the Interior Department. To the degree they and other agencies are unable to respond to our needs, we must have the freedom to develop and implement our own programs.

The FEA also has informal agreements with GAO and OMB whereby all government forms that contain requests to collect energy data are coordinated by FEA.

INTERAGENCY ENERGY DATA AND ANALYSIS EFFORTS

Senator ROBERT C. BYRD. There has been concern over the duplication of energy data and analysis efforts among FEA, ERDA, the Interior Department, and others. What is FEA's specific responsibility in your view? What do you see to be the energy data and analysis responsibilities of ERDA and Interior, and what steps are being taken to assure there is no overlap and duplication?

Mr. HILL. Data and analysis activities within FEA are aimed at the formation and evaluation of national energy policies which can have substantial impact within the next 10 to 15 years. This contrasts with ERDA, where the emphasis is on longer term policies whose impact is influenced by research and development programs. FEA's analyses are strongly influenced by economic considerations, and the effect of prices on energy availability and consumption is always explicit.

A large portion of the FEA analytical work supports short term, month-by-month evaluations of the national energy situation, and the immediate implications of congressional or administrative action. An example of this is the current analysis of natural gas shortages to be expected in the coming winter. Short term forecasts of petroleum supply and demand have been an important function of FEA from its inception.

In carrying out its responsibilities FEA makes extensive use of the data and analysis efforts of ERDA, Interior, the Federal Power Commission, and other Government agencies. A recent example is the development of new estimates of oil and gas reserves by the U.S. Geological Survey with FEA support. These estimates are now in use as a basis for FEA's mid- and long-term oil and gas supply predictions. These predictions have in turn been used within Interior for analyses of impacts of outer continental shelf development. We have paid particular attention to cooperation and interfacing with ERDA. The interchange of data and analyses has been actively encouraged and takes place frequently and regularly.

ERDA projections have been used as input to the Project Independence revision in a number of areas, especially for the 1990 forecasts, and procedures have been established to assure compatibility between the Project Independence assumptions and those used for the longer term analyses of ERDA. FEA is a small agency with a large and important mission.

We recognize that we must make use of the energy-related data and analysis efforts of the entire governmental sector, as well as the private sector whenever possible. Continuing review of publications and contracts of other agencies is maintained by the professional analysts at FEA and close working relationships have been established with colleagues and counterparts in the more closely related areas. FEA has always had a policy of free and open dissemination of its analyses for the use of everyone, so that duplication of our work will not occur through lack of information.

INTERAGENCY TRANSFERS

Senator ROBERT C. BYRD. How much of the total policy and analysis work do you anticipate will be performed by other Federal agencies? Give us dollar estimates.

Mr. HILL. The vast majority of policy analysis dealing with current issues and the near to mid-term is prepared or coordinated by the FEA. Other agencies, notably Interior, Federal Power Commission and Energy Research and Development Administration are directly involved and, individually do not account for more than 5-10 percent of the effort. Their total expenditures would be unlikely to exceed

\$2-3 million. Longer term issues and technological oriented policy issues are dominated by the Energy Research and Development Administration with relatively little contribution from other agencies. The estimated total expenditures by the Energy Research and Development Administration are in the \$5-10 million range.

ROLE OF ENERGY RESOURCES COUNCIL

Senator ROBERT C. BYRD. What role does the Energy Resources Council play in attempting to oversee and coordinate activities such as this?

Mr. HILL. The Energy Resources Council in its role of insuring communication and coordination among the agencies, provides a general oversight of all of the activities in which FEA and other energy interested agencies are involved as they relate to energy related matters. Each representative, representing the national interest and being intimately knowledgeable in those areas in which their respective organizations are expert, provides information, guidance, and direction to the total energy effort. They have in the past provided major input into developmental efforts which resulted in a coordinated interagency effort, such as the natural gas curtailment project. In addition to the ERC, I might mention that the OMB and GAO both serve to screen new requests for information with a view toward coordination and integration of data collection efforts. The combination of the three groups has resulted in a fairly well organized approach to data requirements identification and collection.

PETROLEUM ALLOCATION SUPPORT

Senator ROBERT C. BYRD. The House cut your computer costs by \$1.7 million, which you identify in your appeal as petroleum allocation support. The appeal asks the retention of this amount, to be "reprogrammed to support Congress' intent for allocation programs." What does that mean?

Mr. HILL. I mentioned earlier the rationale by which the \$1.7 million figure was developed. The quotation "reprogrammed to support Congress' intent for allocation programs" refers to the agency's desire to maintain sufficient continuity of data systems and data bases to be able to provide immediate response to congressional direction relative to programs that are to continue even though allocation programs have been terminated; for example, natural gas, standby allocation, and so forth. Changes in reporting requirements, universe structure, or data base content that result from such redirection will be accommodated to the extent made possible by funds remaining at the time the intent of the Congress in these matters is made clear.

ENERGY DATA SYSTEMS FUND REDUCTION

Senator ROBERT C. BYRD. What impact will the House reduction have on your ADP operations?

Mr. HILL. The House cut will have the consequence of forcing a curtailment or suspension of data service activities that were programed on the basis of the availability of those funds. We can attempt to amortize the loss among as many FEA data systems as possible; but we have already cut back ADP support so drastically that it

is difficult to predict the full impact of such an adverse action. The acuteness of the problem perhaps can be better realized if one understands that almost 80 percent of our ADP budget is for machine operations and related support and that the bulk of any cut must be taken from other types of program services, which account for only \$2 million of the fiscal year 1976 base budget.

COMPUTER DATA PROCESSING CONTRACTS

Senator ROBERT C. BYRD. How much of your total contracting involves computer data processing and how does it compare with 1975?

Mr. HILL. As I understand your question, Mr. Chairman, you are looking for the costs associated with contracts involving computer processing per se, or computer system availability and operation as distinct from other data processing related services; that is, application system design and development, keypunching services, and so forth. In fiscal year 1976, we expect that our requirements for computer processing will be met through five contracts with a total expenditure of \$7,823,613.

This is in marked contrast to fiscal year 1975, the first year of FEA's existence, when computer processing requirements were met through a total of 26 contracts with a total expenditure of \$5,651,120.

It is significant to note in this context that, if FEA's computer services expenditures had continued to grow at the same rate we experienced in the first 4 months of fiscal year 1975, and if we had continued the piecemeal approach to meeting our computing services needs that we were forced in the interest of expediency to follow during that time frame, then the projected expenditures for computer services in fiscal year 1976 would have been more than double the \$7.8 million figure.

Senator ROBERT C. BYRD. What is the total cost throughout FEA for automated data processing?

Mr. HILL. The total cost for ADP in FEA using the OMB A-11, 24B compilation amounts to approximately \$15.1 million for fiscal year 1976, which, incidentally, is \$100,000 less than the figure for fiscal year 1975. As you know, the 24B compilation is not program-oriented; hence there is no direct correlation between total ADP costs using this compilation and data services costs as detailed in the program-oriented FEA budget.

Senator ROBERT C. BYRD. Why is it necessary to continue spending at a higher rate when the initial startup costs, baseline data collection, and development of forecasting models have been accomplished?

Mr. HILL. We are still incurring large startup costs associated with new and complex systems, such as those for natural gas curtailments. Moreover, baseline data collection and forecasting model development require additional support as we begin to replace raw data with more sophisticated analytical tools, for example, demographically displayed output. It should be remembered also that intensive maintenance is required for ongoing programs begun in fiscal year 1975 and that major thrusts are just beginning in such key areas as energy resource development, conservation and environment, and international energy activities. Requests for data services can be expected to continue

to increase in complexity coincident with demands for diverse data to support new initiatives being considered by the Energy Resources Council, the White House, and the Congress.

ADP CONSOLIDATION

Senator ROBERT C. BYRD. Your original justification states on page J-5 that the consolidation of all ADP resources throughout FEA saved you \$2.8 million last year and should save \$7.6 million this year. Why, then, do you need an increase of more than \$3 million for expanded FEA computer support as stated on page J-12?

Mr. HILL. The aggregate cost saving for fiscal year 1975 and fiscal year 1976 of some \$10.4 million is a direct result of the centralized data support, cost-effective management, and closely controlled machine operations that characterize FEA's data services activities. The increased costs, overall, for fiscal year 1976 would be substantially greater than they are if such efficiencies did not exist. The \$3 million in additional funding for fiscal year 1976 are necessitated by the increase in program office requests for support.

Fiscal year 1975 was the year during which early versions of FEA's energy data systems were being designed and developed. The costs associated with providing ongoing data collection and data processing support to operational data systems were far greater in the latter months of the fiscal year than in the earlier months. The costs of maintaining these systems in fiscal year 1976 will be at an even higher level than provided in the latter portion of fiscal year 1975 because of maintenance and enhancement requirements and data base requirement. Thus, to average costs by fiscal year and then to compare 1 year to another can be misleading. Also, in fiscal year 1975 data systems requirements imposed by C. & E. and ERD represented only a marginally significant portion of the budget for data collection and data processing, since most of the programs of those offices were only in a formulative stage. During fiscal year 1976, however, those offices will become two of the heaviest users of data services.

Development efforts now in progress include a comprehensive coal data base, an energy consumption data system, natural gas by economic sector, industry conservation monitoring, and a State-Federal conservation program.

Also, the role of the NEIC is being expanded, with the support of OMB, to meet energy information needs of other agencies, the Congress, and the public.

Senator ROBERT C. BYRD. Your budget amendment would add some \$3 million to computer contracts for a total of \$16 million. Why do you need that increase over your original estimates?

Mr. HILL. The amendment request for an additional \$3 million reflects the increase in program office requirements to which I alluded earlier. However, I wish to point out that only \$1.3 million of that amount is associated with data services costs, all of which increase is for contract support. By the very nature of its functions, the data services organization must be able to respond when and as needed by agency components charged with program responsibilities. As program plans become more specific, requirements for data support become better defined. The dynamics of the energy problem are such

that program planning must be constantly updated; this updating has a corresponding impact on the major support area of data services. The \$1.3 million increase is based on a major review and reranking of program plans in August of this year by the Deputy Administrators, in consultation with all program offices.

COMPUTER SECURITY REQUIREMENTS

Senator ROBERT C. BYRD, Chairman Brooks of the House Government Operations Committee has been in touch with me regarding a computer contract situation. The system that has been installed evidently does not meet the security requirements necessary to protect confidential oil industry information. I am going to include his letter in the record at this point and ask you to comment on the situation. Are you familiar with it?

[The letter follows:]

NINETY-FOURTH CONGRESS
 Congress of the United States
 House of Representatives
 COMMITTEE ON GOVERNMENT OPERATIONS
 2157 Rayburn House Office Building
 Washington, D.C. 20515

The Honorable Robert C. Byrd, Chairman
 Subcommittee on Interior
 Appropriations Committee
 United States Senate
 Washington, D. C.

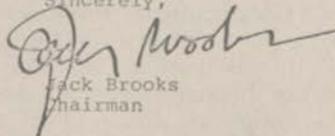
Dear Mr. Chairman:

It is my understanding the Senate Appropriations Subcommittee of which you are chairman is currently holding hearings and preparing to mark up the bill providing appropriations for the Department of the Interior and the Federal Energy Administration. In that regard, I would like to call to your attention two matters that arose too late to take action when the House was considering the bill, but which I think are sufficiently important to warrant a close look by your subcommittee.

One involves a \$7.7 million computer contract entered into by the FEA that could jeopardize the agency's ability to gather the information it needs from the oil industry to carry out its mission. The General Accounting Office has informed me the system installed under the contract does not meet the security requirements of the contract and is thus unable to guard against unauthorized access to the highly sensitive material submitted by the oil companies. The willingness of the oil industry in providing information about production, reserves, and inventories is vital to the development of national energy policy. This cooperation is hardly to be expected if the companies have no assurance their business secrets will be protected.

The GAO takes the view that although the FEA acted improperly in ignoring its own security requirements in the contract award, the contract is too far along to be terminated. I do not agree and I have asked the Subcommittee on Conservation, Energy, and Natural Resources of the House Government Operations Committee to examine the entire procurement. In the meantime, I hope your subcommittee will be able to look into it. A copy of the GAO report is enclosed.

Sincerely,


 Jack Brooks
 Chairman

(The GAO report, B-178205 of July 15, 1975, was submitted and is being held in the subcommittee files.)

CANCELLATION OF OPTIMUM SYSTEMS CONTRACT

Mr. HILL. Congressman Brooks has gone on record as stating that FEA's contract with Optimum Systems, Inc., OSI, should be cancelled. He bases his position on a ruling issued by GAO in response to protests of unsuccessful offerors against the OSI award. Congressman Brooks interprets the GAO report as concluding that the OSI facility provides inadequate protection for oil industry data that is regarded as secret by the respective companies from which it was collected.

In actual fact, the objection cited in the GAO report regarding FEA's award to OSI was based, not on grounds that OSI was incapable of adequately safeguarding sensitive data, but rather on the procurement related grounds that FEA evaluators had waived an RFP requirement for OSI but, had not waived it for other offerors. In particular, GAO alleged that the OS/MVT operating system proposed by OSI did not have a main memory fetch protect feature as required by the RFP. It is the position of FEA that the OSI proposal, and for that matter one other proposal offering OS/MVT, compiled in functionally equivalent terms with the requirement for main memory fetch protection.

FEA and OSI have implemented extensive administrative and technical measures to protect sensitive data, which I have listed here:

(1) A full time security guard monitors access to the FEA facility. Within the facility, movement is controlled by CYPHER lock doors.

(2) OSI has been granted a facility clearance by DOD to process national security classified data up to and including SECRET.

(3) A remote user must present, through his terminal, a valid combination of account code, user identification and sign-on password before he is allowed to access the system.

(4) Features such as file password and encryption are invoked by users for protection of sensitive files.

While we recognize that no system can be regarded as being secure in an absolute sense, and we are continually striving to improve our data security posture, we are confident that the totality of safeguards at the OSI facility provides a level of security that is adequate to protect data collected from petroleum companies.

Senator ROBERT C. BYRD. How did it happen that FEA permitted installation of a computer system with inadequate security in the first place, if that was the case?

Mr. HILL. We believe that the level of security provided by the OSI facility at the time of installation was adequate. Since that time, we have made, and will continue to make, improvements designed to enhance the level of system security.

Both OMB and GSA carefully reviewed, and provided invaluable advice and assistance in development of, the RFP that resulted in award of FEA's computer services contract with OSI. OMB in particular took a keen interest in the security and privacy provision of the RFP. In addition to the RFP itself, OMB reviewed a Privacy and Security Impact Statement developed by FEA at the direction of OMB. Ultimately, both OMB and GSA gave their approval to the RFP, including the security requirements.

As I indicated earlier, we believe that the OSI proposal met the security related requirements of the RFP. The Selection Evaluation

Board, which conducted the technical evaluation of proposals submitted in response to the RFP, concluded that there were three proposals, including OSI's, that provided capabilities which were the same as, or functionally equivalent to, the requirements of the RFP. Of these three, the OSI proposal was lowest in cost, so the contract was awarded to OSI. The system initially installed by OSI featured all the security provisions that were outlined in their proposal.

In summary, Mr. Chairman, the level of security provided by the OSI facility was adequate at the time of installation, it has since undergone continual review and improvement as a result of our ongoing security enhancement program, and it has always been light years ahead of the level of security provided by our previous computer services contracts.

REGULATORY PRACTICES STUDY

Senator ROBERT C. BYRD. Let's go back now to your regulatory programs. Tell us about the \$500,000 request for a study of regulatory practices requested by the President. What does that involve and what will it produce?

Mr. HILL. As one of the President's actions to meet mid-term goals of achieving the capability for energy independence by 1985, the FEA will review and report to the President on the entire regulatory process and financial situation relating to electric utilities and determine what further reforms or actions are needed.

ANALYZING COAL CONVERSION COSTS

Senator ROBERT C. BYRD. Why are you budgeting \$150,000 for analyzing coal conversion costs under regulatory programs? Doesn't that fall within resource development?

Mr. SMITH. This line item is not for the purpose of analyzing coal conversion costs, but rather the conversion of natural gas to liquid fuels as a result of natural gas curtailments. It is requested to provide detailed pricing information on the impact of such conversions and how the change to alternative fuels would effect FEA regulations. This information would be the basis of determining—if these costs are incurred by a refiner, reseller or retailer of petroleum products—the amount of non-product costs incurred and the procedure through which, the extent to which, such non-product costs should be permitted to be passed through to the purchaser of the products.

INVESTIGATION OF FUEL SUPPLIERS TO UTILITIES

Senator ROBERT C. BYRD. The request for regulatory programs totals \$32 million. This is roughly the same level as 1975 with some reduction in personnel. Does this request contain sufficient funding to permit a thorough investigation and follow-up on recent disclosures of possible fuel oil overcharges to electric utilities?

Mr. SMITH. Yes, the request does contain sufficient funding to permit a thorough investigation of possible fuel oil overcharges to electric utilities. However, this area of compliance as well as the other industrial segments program areas will continue into fiscal year 1977 for a total 2-year program.

PHASE-OUT COSTS

Senator ROBERT C. BYRD. You are requesting a \$202,000 increase to relocate phased-out personnel in your regulatory programs. Are you likely to need that now?

Mr. SMITH. The relocation costs requested provide for the outplacement and/or transfer of some 300 positions associated with the allocation programs after the expiration of the EPAA. Because the EPAA is expected to expire on November 15, 1975, these costs are still very essential to the projected phase-out of these programs by June 1976.

ADP FUEL ALLOCATION SYSTEM

Senator ROBERT C. BYRD. Please specify how much of your policy and analysis activity is tied directly to fuel allocation.

Mr. HILL. The bulk of Policy and Analysis activity tied to fuel allocation is related to ADP support and data collection. Policy and Analysis provides allocation ADP systems to obtain: buy/sell information on crude oil; to equalize costs of crude oil to refiners and importers; to determine availability for distribution by state, company and nation; to compute heavy oil deliveries to obtain projections of fuel sources and use; to allocate gas volumes by State; and to service other fuel allocation systems such as heating oil propane, natural gas, refining cost pass throughs and oil imports.

Policy and Analysis is also involved in studying the socio-economic impacts of fuel allocation programs as well as monitoring and developing policy options related to allocation and deregulation strategies.

In fiscal year 1975, Policy and Analysis resources related to fuel allocation involved approximately 32 man-years and \$2.5 million. In fiscal year 1976, resources required to support any fuel allocation program will depend on the future of the EPAA. However, it is estimated that Policy and Analysis will require \$920,000 and 14 man-years to support fuel allocation through its planned expiration on November 15, 1975. Also, ADP support will continue for at least 3 months after the expiration of the EPAA in order to process reporting requirements and phase out the program properly.

I might add that although EPAA is to expire on November 15, programs concerned with mandatory oil imports, propane allocation, standby allocation, and utility distillates will continue to require data services support in fiscal year 1976. In addition, data collection and processing support of compliance activities will require heavy data support from Policy and Analysis

GAO REPORT ON PROJECT UTILITY

Senator ROBERT C. BYRD. The committee would like to have your comments on the July report of the GAO on FEA's "Project Utility" to investigate alleged price gouging by fuel oil suppliers of utilities. GAO contends you had ineffective manpower on that job, that auditing was inconsistent and ineffective, and that no evidence was turned up to point a special finger at this particular sector. What are your comments?

Mr. SMITH. With regard to the GAO contentions, they stated and we agree that (1) the effective manpower assigned to the project

was considerably less than the level reported to FEA headquarters; (2) inconsistent auditing among FEA regions resulted in substantial audit effort in areas unlikely to yield evidence of violations during the initial phase of this project; and (3) FEA officials estimated that potential violations based on cases in process, during the initial phase of the project, at the six regions visited by GAO totaled about \$5.2 million.

Senator ROBERT C. BYRD. GAO submitted several specific recommendations, including the phase-out of Project Utility as a special effort. What has FEA done since receiving those recommendations?

Mr. SMITH. I would like to provide for the record each of the four GAO recommendations and our response.

[The information follows:]

PROJECT UTILITY REVIEW

Recommendation

Phase out Project Utility as a special effort. Complete promising investigations (i.e. those most likely to be in violation) and initiate compliance actions within a specified time frame.

FEA Response

In May, 1973, Administrator Zarb received reports indicating that the size and complexity of the compliance task-and particularly the special program to audit utility suppliers-had been underestimated. Shortly thereafter, the Administrator directed the hiring of additional personnel for the utility program. Although advised by the GAO that they did not see a need for a discrete utilities project or additional staff, the Administrator concluded that FEA needed to expand its efforts in the utilities project temporarily in order to assure the American people that the high electricity rates they are paying are not the result of unlawful pricing of fuel oil. We are, therefore, involved in a special effort to complete the investigation of all first-tier utility suppliers by the end of the year. The Utility Supplier Project is now and will continue to be a part of the wholesaler investigation program.

Recommendation

Return to balanced compliance operations covering producers, refiners, wholesalers, and retailers.

FEA Response

Although additional personnel have temporarily been dedicated to the Utility Supplier Project, they will be utilized in other wholesaler investigations and in other compliance programs at the beginning of next year. In the interim period, existing professional staff resources will be employed in the producer, refiner, wholesaler, and retailer areas in keeping with established compliance priorities.

Recommendation

Refine wholesale (sic) investigations by implementing more consistent criteria for selecting suppliers and for identifying suspicious transactions. Priorities within the wholesale area should be established; utilities and other major fuel users should be used to identify suppliers for audit.

FEA Response

A major improvement in our manner of selecting utility suppliers for audit is currently being implemented. Our new screening system requires the independent gathering of pertinent cost and related data from both the utility companies and the suppliers of petroleum products to the utilities. This system, through interchange and comparison of data, highlights discrepancies in price, volume, type of product and other key factors, thus permitting the selection of the suppliers most likely in violation of FEA regulations.

A priority system for all compliance programs has been established with further breakdown of priorities within the wholesale area.

Recommendation

Promptly inform field auditors of the brokers' proper status under FEA regulations.

FEA Response

A memorandum dealing with the legal status of brokers under FEA regulations has been prepared and is currently under review.

CONTRACT SUPPORT FUNDING

Senator ROBERT C. BYRD. Why do you need \$2 million in contract support for your utilities fuel suppliers audit? Couldn't some of this funding be used more effectively to support your general compliance program?

Mr. SMITH. The primary benefit of the \$2 million contract is the continuing support that it would provide on-site in the regional offices.

Contractor personnel would (1) perform the desk audits; (2) refer and control collateral audits by other regions; (3) perform qualitative reviews including scope and coverage, of completed and in-process investigations; (4) provide inputs and corrections to the data base on utilities and utility suppliers; and (5) make recommendations to the national office on investigative strategy and changes in targeting selection and criteria.

This specialized support and service would permit the utilization of more regional audit and investigative personnel and comprehensive on-site audits of utility suppliers and thus enable FEA to finalize this project on a more timely basis.

With regard to alternative use of some of these funds, there are other compliance programs that could make good use of contractor support and assistance; however, in keeping with Administrator Zarb's promise to the American people that a special effort would be made to detect unlawful pricing of fuel oil resulting in high electricity rates, we believe that this support to the utilities project is essential.

Senator ROBERT C. BYRD. Where does the investigation stand now?

Mr. SMITH. The utility supplier investigation began in early 1975. The two largest utilities in each region were identified and an examination of the transactions between those utilities and their suppliers was initiated. This effort is continuing and some 308 supplier investigations have taken place as of early October 1975.

Our strategy was modified early this summer when it was recognized that more complete coverage of utility suppliers was in order.

First, we identified the utility/supplier universe and found that nationally, 669 utilities were using covered products to generate electricity and some 1,200 firms were first tier suppliers. Next, we obtained a record of all transactions between utilities and their suppliers for 1974. We are now in the process of obtaining information on the same transactions directly from the suppliers. Over 30 percent had replied by mid-October.

We plan to conduct desk audits in the regional offices of the data obtained from these independent sources. We have developed a

scorecard method of targeting for comprehensive on-site audit those suppliers most likely in violation of the regulations. It is our goal to complete the desk audits of all 1,200 of the first tier suppliers and to target all those requiring comprehensive audit by January 1, 1976.

ERD ADMINISTRATIVE COSTS

Senator ROBERT C. BYRD. Going to your Energy Resource Development activity, how much of your request is for administrative costs?

Mr. ROSENBERG. For the ERD activity \$682,000 is requested for 22 positions. We expect to keep administrative costs at a minimum level in fiscal year 1976 and intend to do the same in fiscal year 1977.

ERD CONTRACTS

Senator ROBERT C. BYRD. Your listing of contracts for energy resource development in your amended budget justification is repetitious and confusing. Please reorganize the listing so that the original and amended contract proposals are clearly defined.

[The information follows:]

FEDERAL ENERGY ADMINISTRATION
 ENERGY RESOURCE DEVELOPMENT
 CONGRESSIONAL BUDGET SUBMISSION
 FY 1976

Analysis of FY 1976 Contracts

ENERGY RESOURCE DEVELOPMENT

	(\$000) Cost
-- Complete a draft study of Transportation support facilities needed to handle the oil expected from the Alaskan pipelines.	100
-- Complete a study of the additional Transportation/Market facility of the Northeast.	100
-- Additional Power Plant investigations and hearings (30 middle priority plants).	155
-- Non-utility candidate investigations, power plants.	100
-- Encourage the Federal government implementation of program and incentives to promote utilization of solar energy technologies by determining economic feasibilities developing methods to overcome constraints.	80
-- Detail study of long-term institutional structure of electric utility industry 1985-2000.	100
-- Study to improve domestic reserves of uranium and expansion of enrichment and processing.	50
-- Evaluation of ability of energy industry to generate internal funds and attract external funds.	150
-- Study to determine unit capital costs of incremental supply compared with capital cost of conserving same incremental unit of supply.	127
-- Provide advice to States and local communities for financing energy resource development projects.	100
-- Study to determine preferred alternatives for financing U.S. oil stock with possible participation by other IEA countries.	50

-- Executive Direction contracts to establish a project managements system - intake procedures, inventory, information dissemination, tracking and evaluation.	450
-- Preparation and reviewing of regional study reports.	1150
-- Integration of regional studies into the National Report.	70
-- State Management Programs	
Analyze current state siting procedures and legislation and compare to Section 804 (c).	100
Develop information and procedural guidelines to assist states in developing programs.	100
-- Interstate Compacts (Section 806)	
Recommend methods for encouraging interstate planning and coordination of large energy facilities.	50
Identify energy facilities that have benefits and costs affecting two or more states.	50
-- Federal Agency Approval	
Access current Federal energy facility application requirements and assist in developing composite application.	75
Maintain status report of Federal applications in review process.	15
Develop monitoring technique for determining the status of pending state energy facility applications.	50
Study energy siting concepts such as energy parks, underground siting, etc., that have potential for making energy.	200
-- Feasibility of an accelerated program to produce coal-fired boiler units to replace oil and gas-fired boilers used in industrial applications.	75

-- Assessment of effectiveness of state water resource laws, regulations, interstate agreements and related federal legislation for energy resource development purposes.	50
-- Inventory plans on all energy related facility sites.	100
-- Assess socio-economic impact of the development of large energy projects.	100
-- Provide siting technical assistance to state agencies.	100
-- Energy Resource Council Study of State Regulatory Processes.	500
-- Evaluation of ability of energy industry to generate internal funds and attract external funds.	100
-- Study to determine unit capital costs of incremental supply compared with capital cost of conserving same incremental unit of supply.	100
-- Study to determine preferred alternatives for financing U.S. oil stock with possible participation by other IEA countries.	50
-- Assessment of effectiveness of state water resources laws, regulations, interstate agreements and related federal legislation for energy resource development purposes.	50
-- Refinery Capacity Development - Determine adequate differential to import license fees between crude and products to meet various situations. Determine cost benefit of phasing out Caribbean refineries.	50
-- Commercialization of solar heating and cooling systems.	150
-- Solar Commercialization Electric, Fuel Products, and other applications in the Southwest Project, and Solar Thermal Energy in Alternative Energy Source Studies in Wind Energy, Ocean Energy, Photovoltaics, Bioconversion, and DOD Electric Power Implementation and Commercial/Industrial Applications of Alternative Energy Services.	350
-- Economic Institutional Legal and Environmental Constraints in Capital Formation, Producer Incentives, User Incentives; State Programs including legislation, market development and	93

program support; Workshops/Education and Smithsonian Bicentennial, and Blueprint II.

-- Synthetic Fuels Studies	
Biomass Conversion	10
Oil Shale Resource Development	100
Long Term Synthetic Fuels Program	100
USG Recommendations for Incentive Plans	100
-- Geothermal - accelerate development and the use of geothermal resources.	75
-- Prepare and conduct seminars on the Coal Advisory Program	
Environmental Protection	50
Coal Beneficiation	70
Pricing and Coal Futures	50
Coal Resources	55
Mining Methods	50
-- EXECA Implementation service contracts, interagency agreement as required; other MFBI contracts under direction of Director of the Office of Fuel Utilization and Assistant Administrator.	500
-- Investigate the technical, economic and environmental feasibility of using salt domes as a geothermal energy source.	50
	Subtotal
	6,500

OFFICE OF NUCLEAR AFFAIRS

-- Examining reasons why the cost of building nuclear power plants has recently escalated at a pace far beyond inflation to determine if changed government procedures or standards, standardized technology or other changes might decrease the rapid rate of cost increases.	175
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-- Examining ways of reducing the costs of the nuclear fuel cycle with particular emphasis upon cheaper safe methods of storing for retrieval spent plutonium products.	50
-- An examination of the causes of nuclear delays and recommended changes to administrative and technical	125
-- A study of the problems faced by electric utilities in conforming to State and Federal rules with recommendations to reduce the complexity of these rules and assure an orderly process in rule changes which will not delay nuclear power plant construction.	50
Subtotal	400

NATURAL GAS TASK FORCE

-- Prepare inventory of top priority oil and gas land requirements for exploration, production, right-of-way, terminals, and facilities.	50
-- Analyze impacts of material, equipment and labor constraints on gas production.	50
-- Economic analysis of Natural Gas utilities regarding Rate Schedules FEA/NSF Technological Study Relative Prices	50
-- Identify needs for Synthetic Natural Gas as energy supplement and promote research and evaluation of enhancing SNG development and other programs to include maximization of energy output from the natural gas industry.	100
Subtotal	250
Total Contracts	7,150

NUCLEAR ENERGY OFFICE

Senator ROBERT C. BYRD. Tell us about the new nuclear energy office. What will it be doing that ERDA and private industry are not already doing or planning to do?

Mr. ROSENBERG. FEA's Office of Nuclear Affairs was established because of the vital role nuclear power must play in our pursuit of energy independence goals; the lack of an integrated plan of Federal policies and actions directed toward attainment of needed nuclear growth; the legislated mandate of FEA to promote the expansion of readily usable energy sources and to assist in developing policies and plans to meet the energy needs of the Nation; and the legislated mandate of ERDA which focuses only on research development and demonstration, and proprietorship of enrichment and waste. Thus ERDA was neither mandated nor did it assume the role of accelerating commercial growth on an energy independence time scale.

It was also established because the role of NRC which is limited to regulation and related activities; and lagging introduction of new nuclear capacity. This has resulted not only from altered patterns of electric growth and financial problems, but from unreasonable uncertainties in the fuel cycle such as fuel resources, enrichment permissibility of recycle of spent fuel, waste disposal; moratorium threats; and confusion as to governmental interest.

The Office of Nuclear Affairs will function in resource development and utilization. Based on current nuclear capacity and needed growth consistent with energy independence goals, this function is to assess reasons why commitments to needed industrial capacity have not occurred and to recommend policies and actions to remove barriers to realize the needed capacity.

Its function in regulatory analysis will include the examination of the efficiency, not the technical decision making, of the regulatory processes affecting nuclear power plants including those of the Nuclear Regulatory Commission, other Federal agencies, with emphasis on the interfacial efficiencies between Federal agencies and the State-Federal interface where more and more problems have been creeping up in the past 5 years.

In policy evaluation, this office will participate in the development of an integrated plan of policies and actions that could be taken from the Federal government to substantially reduce uncertainty at levels normally associated with business risks, thereby inducing needed investment on a schedule to meet with national goals.

In addition to the foregoing, all elements of the Office of Nuclear Affairs will be concerned with interpreting to the public the national need for nuclear power, the vital element of attainment of independence from foreign energy sources, and the issuance of position statements on nuclear issues, some of which have been grossly misrepresented to the American public. Here the FEA focus will be on factual presentation.

PROJECT TRACKING SYSTEM

Senator ROBERT C. BYRD. You request \$450,000 for executive direction contracts to establish a project management system—intake

procedures, inventory, information, dissemination, tracking and evaluation for energy resource development. Please translate.

Mr. ROSENBERG. Our request for \$450,000 is to design and implement a project tracking system which will serve as the backbone for operations within ERD. This is part of our effort to develop a project approach to ERD issues. We would like to know, on a site specific basis, major energy projects which might be in need of our assistance. We will develop teams to assess given projects to determine what major constraints will inhibit the successful operation or development of the projects and to offer concrete suggestions to overcome those constraints where appropriate.

METHODOLOGIES OF RESOURCE ALLOCATION

Senator ROBERT C. BYRD. Your original budget justification requested \$275,000 to "Expedite the selection of alternative methodologies for determination of the optimum energy supply program mix." That also needs translation. Is that contract retained in your amended budget request?

Mr. ROSENBERG. This effort is directed towards the development of methodologies to be used in screening, establishing priorities and in allocating resources among the various energy resource development projects. Examples of these projects would include an enhanced oil recovery project, a large oil refinery, a new coal mine, a nuclear power plant, a synthetic natural gas plant, a geothermal plant or a strategic oil storage plant. Such methodologies would also assist in determining project objectives and schedules.

CAPITAL REQUIREMENTS OF UTILITIES

Senator ROBERT C. BYRD. What did you learn from your analysis of the capital requirements of the electric utility industry?

Mr. ROSENBERG. In qualitative terms, our analyses indicate that the investor-owned electric utilities may have difficulty satisfying their capital requirements through the early 1980's. The utilities are currently in a weak financial condition due to regulatory lag; inflationary fuel, operating, and construction costs; interest rates; and low stock prices. Because utility earnings are down, they are not able to generate sufficient retained earnings to finance their capital requirements. Their capital requirements must therefore be met by increased reliance on externally generated funds. For example, the percent of capital requirements met with externally generated funds has increased from 51.6 percent in 1966 to 72.9 percent in 1974. Yet it has been increasingly difficult in recent years to raise external funds through equity and debt sales at reasonable terms. Many utility bond ratings have been downgraded and the average utility common stock is selling at below book value.

In response to these difficulties in meeting their capital requirements, and in response to a decline in demand for electricity, utilities reduced their capital expansion programs by \$22 billion in 1974. This equates to a construction cancellation or deferral of 235 coal and nuclear generating plants representing over 188,000 megawatts of potential generating capacity. Thus far in 1975, few of these cut-backs have been reinstated. If electricity demand resumes its historical

growth rate, there will be an unprecedented demand for externally generated funds to construct generating facilities through the early 1980's. If these funds are not made available at reasonable rates, the result could be power shortages in the late 1970's or early 1980's.

COST OF UTILITY RATE STUDY

Senator ROBERT C. BYRD. Your justification lists a joint utility rate study with regulatory and utility groups costing at least \$10 million over 3 to 5 years. How much would FEA contribute to that total cost?

Mr. ROSENBERG. FEA's contribution to the proposed rate study with regulatory and utility groups is anticipated to be \$4.6 million.

DUPLICATIVE RESEARCH

Senator ROBERT C. BYRD. You list proposed 1976 contracts to study such things as petroleum exploration, oil recovery, potential of existing reservoirs, oil shale processing, water needs of synthetic fuels and the like. Isn't this the responsibility of ERDA and the Department of Interior?

Mr. ROSENBERG. The Federal Energy Administration Act of 1974 required that FEA make a number of reports to the President and to the Congress. Many of the items mentioned were studies that were necessary to make the required reports. I would like to provide several examples for the record, if I may.

[The information follows:]

PETROLEUM EXPLORATION

In making projections of future production that could be expected from our domestic industry, it was necessary to study a number of parameters involved in petroleum exploration. Some of these parameters are: finding rates, expected drilling trajectories, drilling distribution, equipment constraints and many more. It was found that most of the cases where previous studies by the Department of Interior and other agencies existed, they needed updating and, in some cases, new methodology instituted.

OIL RECOVERY POTENTIAL OF EXISTING RESERVOIRS

The FEA Act of 1974 required that a report be made providing a complete and independent analysis of actual oil and gas reserves and resources in the United States and its Outer Continental Shelf as well as the extent to which such capacity could be increased for crude oil and each major petroleum product each year for the next ten years. A knowledge of the recovery potential of existing reservoirs is an essential element of the data required to make such a report.

It is true that ERDA and Interior have interests and responsibilities in oil shale processing and the water needs of synthetic fuel plants. ERDA's interest stems from its role in research and development. Whereas Interior's concern is mainly that of managing Federal lands through its leasing program and monitoring development activities. FEA's principal concern is to develop a broad national energy policy. To do this effectively requires developing reasonable estimates of what production levels a mature synfuels and shale oil industry might attain. We must determine the principal constraints to synfuels production. Once these constraints have been identified, policy options can be clearly evaluated. Thus, an enlightened synfuels policy can be formulated. To date, this has not been done.

SYNTHETIC FUELS

Senator ROBERT C. BYRD. Why are you into synthetic fuels studies, solar energy commercialization and similar programs? Aren't these areas already under intensive study and implementation in ERDA and in pending authorization for commercialization loan guarantees?

Mr. ROSENBERG. FEA concern in synthetic fuels stems from its role as the focal point for energy policy formulation within the Executive Branch. A broad energy policy cannot be adequately formulated without developing a position with regard to synthetic fuels.

FEA's concern in solar energy is twofold. First, we are concerned with the direction of the Nation's solar-related endeavors as part of our national energy strategy. Second, we are concerned with developing the policies, plans, program definitions and implementation strategies for the accelerated commercialization of solar energy. It should be noted that the pending legislation pertains to the first commercial-scale demonstration. Loan guarantees beyond the first commercial-scale demonstration would probably best be considered in the realm of commercialization operations. FEA suggests that the Energy Independence Authority, when enacted, should provide for loans and loan guarantees and, possibly, many of the operational requirements for solar commercialization. FEA would be pleased to work with the Congress on details of this EIA option or any other options for actual commercialization operations.

SYNFUELS COMMERCIALIZATION

Senator ROBERT C. BYRD. What role will FEA play in the synfuels commercialization programs?

Mr. ROSENBERG. FEA's principal interest in synthetic fuels will be to develop a long-range Federal policy. Additionally, FEA will assist the States in minimizing any adverse socio-economic effects of synfuels plants. This will be accomplished by complementing, as necessary, the planning functions of State and local governments. Some States, such as Colorado, have given considerable forethought to the impact of a synfuels plant and will need little assistance in this regard. Other States have done virtually no preparatory work and will need assistance.

Senator ROBERT C. BYRD. Do you know why the Administration has decided to support the \$6 billion loan guarantee program for synfuels commercialization that is in the Senate version of the ERDA authorization?

Mr. ROSENBERG. The Administration feels that it is extremely important to start the synthetic fuels commercialization program as rapidly as possible. There is a long lead time between initiation of this program and actual synfuels production. There is strong reason to believe that we will need significant quantities of synfuels in the 1985-95 time frame. The lead time on a large synfuels plant will vary from 5 to 8 years. Thus, to attain significant production in the 1980's requires that a Federal effort to encourage industry investment start immediately. This can be done with the adoption of the loan guarantee program. Whereas, passage of legislation establishing the Energy Independence Authority may not occur for a while.

ENERGY INDEPENDENCE AUTHORITY

Senator ROBERT C. BYRD. The \$6 billion synfuels program would be administered by ERDA. What is the need, then, to create still another agency for an expanded commercialization program? I'm speaking of the proposed Energy Independence Authority.

Mr. ROSENBERG. The Energy Independence Authority would have the responsibility to carry out a much wider range of projects than is included in the synfuels commercialization program. More importantly, however, is the difference in the concept of how the program would be managed under the two organizations. ERDA is principally a research and development organization. Whereas the EIA will be more business-like oriented, EIA would be a Government corporation with the authority to issue bonds, pay interest on moneys loaned to it and provide financial assistance much like a bank.

Senator ROBERT C. BYRD. If the Senate synfuels commercialization program is adopted by Congress, what is the immediate need for the \$100 billion EIA recently proposed by the President?

Mr. ROSENBERG. The proposed Energy Independence Authority would be authorized to carry out a broad range of energy projects in addition to the synfuels program. For example, uranium enrichment plants, offshore nuclear plants, energy conservation projects, energy parks and geothermal projects, could be carried out by EIA. Thus, even with the passage of the \$6 billion loan guarantee program, there is an urgent need to start other energy projects not included in the synfuels program.

COAL RESERVES

Senator ROBERT C. BYRD. Why do you need \$500,000 to develop an estimate of U.S. coal reserves? Isn't sufficient data available through the Bureau of Mines, the Federal Trade Commission, and others?

Mr. HILL. Mr. Chairman, at the time of this request for funds, Congress, under the Energy Supply and Environmental Coordination Act, required FEA to provide quarterly estimates of coal reserves. The \$500,000 was to be used to conduct a survey for collecting the necessary data to meet this demand. However, since the time of this request it has become clear that collection of new data to meet this demand is not a cost effective approach. What has become even clearer is that all existing data on coal has to be analyzed for gaps, and these gaps have to be filled where there is a need to satisfy the requirements of Government policymaking. It is our belief that it is critical to examine all coal data needs, not only resources and reserves data needs, in order to achieve a consistent approach to coal data with a minimum of duplication. This effort will be done in conjunction with other Government agencies, particularly the Bureau of Mines, the U.S. Geological Survey, the Federal Power Commission, and the Federal Trade Commission. A joint collection program, similar to the one developed in the petroleum area, is envisioned. It is for this comprehensive approach to coal data that the requested funds will be used.

COAL DATA SYSTEMS

Senator ROBERT C. BYRD. Why do you need to develop a new data system covering coal reserves, coal production, and related data? Can't those needs be covered with the necessary updating of data in the Bureau of Mines and other agencies?

Mr. HILL. Coal is our most abundant energy resource. Annual coal production in 1974 was 601 million short tons. If we can double this production over the next 10 years we will in effect reduce oil import requirements by about 5 million barrels a day.

The primary market for coal is the electric utilities industry. Under our coal conversion program FEA has issued orders prohibiting natural gas or petroleum products as primary energy sources to 32 utility powerplants. The coal conversion activity requires a series of complex technical findings prior to issuance of either prohibition or construction orders. For example, we must find that the plant has the necessary equipment to burn coal; that sufficient quantities of suitable coal will be available; that coal transportation systems are capable of delivering the coal; that the conversion is practicable; and that the reliability of service for the area supplied by the order recipient will not be adversely impacted.

The answers to these questions as well as economic implications, and basic supply and demand information will be addressed by a coal data systems. A large portion of this data will indeed be obtained from the Bureau of Mines and any other agency with coal information. However, where an existing data source is not available, FEA will implement the necessary data collection programs. We will of course coordinate new coal data collection programs with the Bureau of Mines.

PROJECT INDEPENDENCE CRITICISM

Senator ROBERT C. BYRD. You are probably aware that a spokesman for the coal industry has called the Project Independence blueprint a flawed document that fails to recognize the potential and the problems of coal. Can you comment on that?

Mr. HILL. The Project Independence report explicitly recognized the vital role that coal must have in our future energy picture. The report indicates areas where coal production could occur and constraints that may hamper development. In particular, the report stressed that coal production could only follow a stable long-term demand for coal and that demand is currently limited by environmental and regulatory uncertainties. The report also discussed possible shortages in equipment, rail transportation, manpower, and capital.

UTILITIES' ENERGY RESOURCE REQUIREMENTS

Senator ROBERT C. BYRD. Coal industry spokesmen have charged that utilities plan to increase their use of oil at a rate that would exceed the expanded use of coal. Are you aware of this allegation? What is your comment?

Mr. ROSENBERG. Yes, we are aware of this allegation. It is common in the course of discussions pertaining to the restrictions posed by environmental regulations, and the impact of nuclear and coal plant construction delays.

Recent forecasts of utility plant mix patterns and related coal consumption, 1975-84, contend that growth in oil usage will not exceed the expanded use of coal. Regional Electric Reliability Council submissions to the Federal Power Commission in April 1975; National Electric Reliability Council summaries of Planned Capacity Additions as

of December 1974; and the Electric World Electrical Industry Forecast of September 1975; all agree that growth in oil usage will decline compared to past patterns and compared to expected growth in coal usage.

FEA is taking two concurrent courses of action under the Energy Supply and Environmental Coordination Act of 1974 to ensure that the trends continue toward increased coal consumption and decreased reliance on oil. Powerplants under construction are required to have the capability to burn coal as their primary energy source. In addition, existing facilities capable of burning coal, but not now using coal, may be issued orders by prohibiting the use of oil or natural gas as a primary energy source.

NATURAL GAS TASK FORCE

Senator ROBERT C. BYRD. Your justification touches briefly on a natural gas task force for which \$183,000 and no positions are budgeted. How will this program operate and on what basis?

Mr. ROSENBERG. Due to the apparent seriousness of the projected natural gas supply deficiencies for next winter, the Energy Resources Council initiated an interagency natural gas task force with the Federal Energy Administration as the lead agency. The task force has been coordinating efforts with other agencies in order to ameliorate the situation.

No positions are budgeted for the \$183,000 used by the natural gas task force because no part of this money will be used for personnel compensation and benefits. Individuals working on the task force are detailed from existing organizations within FEA. The \$183,000 will be used as follows: travel, \$160,000; printing, \$20,000; rents, communications and utilities, \$3,000.

Senator ROBERT C. BYRD. It's not clear from your justification exactly what the natural gas task force will contribute to the gas shortage solutions this winter. Please elaborate.

Mr. ROSENBERG. The current natural gas task force was formed and charged with the supervision and coordination of the Federal response to the natural gas problem. The goals enunciated at that time included: supervision of the implementation of natural gas emergency legislation; development of a continuous data support system; coordination of a public education/conservation program; and coordination of Federal assistance to States.

Although the four preceding goals encompass a large portion of task force activity, programs in other areas—industry communications, correspondence, interagency coordination, and Canadian imports—will also contribute to the general goal of advancing both preventive and relief measures which will moderate the impact of the natural gas shortage.

OUTER CONTINENTAL SHELF

Senator ROBERT C. BYRD. What input does FEA have in the program to accelerate Outer Continental Shelf oil and gas development?

Mr. ROSENBERG. The FEA is dedicated to a comprehensive program to insure the development of energy resources for National needs. Our current energy shortfall results in part from the sporadic Outer

Continental Shelf leasing program of the 1950's and 1960's. To prevent recurrence of such a situation, we encourage and support the other Federal agencies having authority in the program to accelerate the development of the OCS. When delays occur, we attempt to seek resolution of the problems and offer assistance whenever possible although our enabling legislation contains no direct mandate for OCS responsibility. Our offices, both on the National and regional level, are in contact with State and local government officials and we urge cooperation at all levels of Government. Conflicts among the various agencies at all levels of Government could slow the development process and perpetuate the onerous effects of a natural gas shortage. We feel that the OCS may offer the best short-term solution for the problem.

STATE ASSISTANCE

Senator ROBERT C. BYRD. Last June the FEA issued a press release stating that \$115,000 had been provided to the Mid-Atlantic Governors Coastal Resources Council for a study on developing the Outer Continental Shelf. Under what authority and in what manner was this assistance provided?

Mr. HILL. The general authority for fund reimbursement to States was granted FEA in Public Law 93-275, Sec. 7(d) specifically provides authority for reimbursement to States.

The assistance was provided to the State of Delaware representing the Mid-Atlantic Governors Coastal Resources Council under a specific contractual agreement.

SOLAR ENERGY

Senator ROBERT C. BYRD. Coordinating solar energy development is listed as an achievement for 1975. What resulted from this effort?

Mr. ROSENBERG. The focus of the fiscal year 1975 program shifted since the original justification was submitted. The primary emphasis of the FEA solar energy program is twofold:

First, we are concerned with the direction and scope of the Nation's solar-related endeavors as part of our national energy strategy. We are intimately involved in energy policy decisions, and are prepared to offer a broad-base analysis of solar proposals as part of an overall energy development/conservation program. Second, we are developing, implementing and coordinating programs and policies to facilitate the widespread commercial application and accelerated utilization or proven solar energy technologies.

It should be emphasized strongly that the solar energy implementation and commercialization effort is concurrent and not sequential to ERDA's research, development and demonstration program. This is a key point. Concurrent action is necessary because, in some instances, market development requires a longer lead time than does the R. & D. effort.

Specific FEA solar activities are included within Part 1, Energy Research and Development and Small Business, hearings before the Select Committee on Small Business, U.S. Senate, May 13 and 14, page 621.

SOLID WASTE AND FLUIDIZED BED SYSTEMS

Senator ROBERT C. BYRD. Your justification mentions such conservation projects as analyzing solid waste conversion and systems research on fluidized bed technology. Isn't that the province of ERDA?

Mr. HILL. With respect to solid waste conversion, there are presently three barriers that inhibit the productive use of this potential source of energy. These are technological, economic, and institutional barriers. The programs of ERDA are addressed to many of the technological problems, as they should be. While some technological problems still exist, these are no longer the major impediment to recovering energy from solid waste. Moreover, the economic barrier is diminishing because of rising fuel prices and increased costs of alternative means of solid waste disposal.

The last remaining barrier is institutional. It is this barrier to which FEA with its policy-orientation as distinct from ERDA's technological-orientation is directing its efforts. FEA is sponsoring work to identify and develop policies to overcome institutional barriers that prevent the productive use of latent energy in the solid waste stream. Examples of these barriers include legal restraints, such as charters of municipalities prohibiting long-term contracts to use garbage for conversion into solid waste, and regulation that offer little incentive to use refuse-derived fuels.

Fluidized Bed Systems are very common technology in the chemical process industry and are extremely well developed for specific applications. Transfer of the technology to industrial boiler application (steam generation) requires an applied development study of off-the-shelf technology, and hence is not strictly a research and development project. Since the effort is marginally of a developmental nature, ERDA is participating in funding and monitoring the project through an interagency agreement, as is EPA which has an interest in the environmental benefits realized as a result of applying this technology to coal-burning facilities. Hence, the conservation aspect of saving the Nation's more precious energy resources, the environmental aspect of good, built-in control on coal-burning units, and the developmental aspect of transferring technology make the undertaking a suitable joint FEA/ERDA/EPA effort.

COORDINATION BETWEEN ERDA AND FEA

Senator ROBERT C. BYRD. What is being done to coordinate the energy conservation activities of ERDA and FEA to assure there is no duplication?

Mr. HILL. Every attempt is being made to avoid duplication with ERDA in conservation activities. The Assistant Administrators have met and agreed to establish formal interagency teams within each sector to assure systematic coordination.

On a less formal level, program plans have been reviewed and commented upon, meetings have been held to define roles in specific subject areas, and individual projects have been reviewed jointly, some for joint funding. In addition, because of previous professional association, many program managers communicate informally between the agencies on a daily basis. Lastly, final reports of all FEA and ERDA projects that have policy implications are now being abstracted and

published in the Energy Abstracts for Policy Analysis" edited by the ERDA Technical Information Center and Holifield National Laboratory, and funded jointly by FEA and ERDA.

FEA's conservation programs are directed toward identifying and implementing cost-effective actions to maximize energy savings using existing commercial products. Under Public Law 93-275 and as directed by the Energy Resources Council, FEA has the lead-agency role for overseeing the development and implementation of all energy conservation programs in the Federal Government. In this role, FEA is working with the Departments of Commerce, Agriculture, Housing and Urban Development, Transportation and other agencies to develop and reinforce programs for energy conservation using each agency's expertise and operating relationships. As ERDA sponsored programs for technology and product development mature, currently established working arrangements will assure the dissemination, commercialization, and effective use of the technology.

PILOT PROGRAM ON THERMAL UPGRADING

Senator ROBERT C. BYRD. Under your regulatory program objectives you list the expansion of pilot program to upgrade thermal characteristics of existing homes. This sounds like your weatherization program, which isn't authorized yet. How much are you spending on this pilot program and how does it work?

Mr. HILL. This objective was misplaced and misstated under regulatory programs. The pilot program referred to is a part of Project Conserve not the weatherization program. However, the goal to upgrade 650,000 homes refers to the weatherization program.

Assuming authorization for the weatherization program by January 1, we estimate 165,000 homes could be weatherized, not 650,000. The pilot program, funded by FEA through cooperative agreements, has been tested in three cities—Minneapolis/St. Paul, Louisville, and Indianapolis. The program will also be tested in Palo Alto.

The Project Conserve questionnaire was distributed to residential homeowners in each city. Methods of distribution and advertising differed from city to city and were determined by the individual city program coordinators. In two of the cities, Minneapolis/St. Paul and Louisville, a fee was charged the homeowner for processing the questionnaire. In fiscal year 1975, \$329,880 were spent on this program and \$175,000 in fiscal year 1976 to date.

The information from these pilot tests will be used in the final design of Project Conserve.

We have not yet evaluated the data from these pilot programs but would be glad to provide you information when the evaluation is complete.

REDUCTION IN ENERGY CONSUMPTION

Senator ROBERT C. BYRD. The statement has been made that FEA's conservation efforts brought about a 2.2 percent reduction in energy consumption last year. How did you measure that savings?

Mr. HILL. The Bureau of Mines, which for years has been putting together annual figures for the total amounts of energy consumed in the United States, reported last spring that consumption during

calendar year 1974 fell some 2.2 percent below that in 1973. Considering that energy demand grew at about 4.3 percent between 1964 and 1973, this 2.2 percent reduction represents more than a 6 percent reduction from historical rates of growth. The reduction in energy consumption took place for a number of reasons, only one of which was the FEA's conservation efforts. These include the Arab embargo, the precipitous rise in energy prices that began in 1973, the fall-off in the economy, as well as the voluntary and patriotic efforts of millions of Americans taken during the embargo period.

FEA's direct contribution to this effort is estimated to have resulted in energy savings amounting to about 278,000 barrels per day for fiscal year 1975. Most of these savings were due to the Federal energy management program which, at the direction of the President, ordered substantial efforts by Federal departments and agencies to reduce energy consumption. This program proved to be an immediate success. The agencies reduced their anticipated energy consumption about 24 percent, or 247,000 barrels a day in the first year. In addition to this program, other savings can be attributed to specific FEA conservation efforts. In late 1974, we began contacting 10,000 building owners and managers asking them to implement variable lighting and thermal guidelines to reduce their consumption rates. Through the end of fiscal year 1975, we estimate the savings achieved by this program to be about 16,000 barrels per day.

Also beginning in 1974, we initiated a program to obtain commitments from the 10 largest energy-intensive industries to reduce their average consumption per unit of output by between 10 and 15 percent by 1980. We estimate initial savings during fiscal year 1975 at 9,000 barrels per day. During 1974, we also initiated jointly with EPA the placing of auto efficiency labels on 1975 model year cars and, in addition, disseminated thousands of booklets to consumers showing comparisons of the miles per gallon figures for 1975 model automobiles. Although it is impossible to confidently assess the impact of consumer education programs such as automobile labeling, we believe that the joint FEA/EPA effort has probably resulted in additional savings of about 6,000 barrels per day.

To conclude, our savings estimates give at least some idea of the impact of our conservation programs. As our programs can be implemented in a more comprehensive manner, their impact should prove to be much larger.

HOUSE REDUCTION IN CONSERVATION

Senator ROBERT C. BYRD. The House reduced your conservation request by some \$5 million, in part because of an apparent duplication of ERDA conservation efforts. Do you feel at this time that the objections of the House Committee have been satisfactorily resolved?

Mr. HILL. As I indicated, we feel that all overlaps in the two agencies' programs have been eliminated, and that evidence to that effect has been passed on to the House Appropriations Committee. However, we cannot say for certain whether that has resolved the concerns of the House Committee.

COST EFFECTIVENESS OF CONSERVATION EFFORT

Senator ROBERT C. BYRD. The statement is made in your appeal that FEA's conservation effort "is among the most cost-effective energy programs the Government has undertaken." Can you expand on that?

Mr. HILL. Yes. Based on standard investment criteria—those used by most any business venture—virtually all of the energy conservation measures being advocated by FEA programs are extremely cost-effective. That is to say, the investments or expense required to save energy in industry, buildings, or elsewhere are rapidly recouped through lowered energy costs. The return on investment of most conservation measures is, in fact, substantially greater than that attainable through normal business investments.

To compare the cost effectiveness of conservation measures to the available energy supply alternatives, we have calculated the cost-per-barrel saved of a few well known conservation measures. For example, we estimate that a \$300 investment in home insulation is the equivalent of buying fuel oil at about \$5 per barrel. This is less than one-third the price of current retail fuel oil prices and less than one-fourth the price of any foreseeable alternative, such as solar energy, synthetic fuels or nuclear based electricity.

Of course, the investments or costs required to save energy vary widely from one conservation measure to another. In some cases, such as the measures being advocated by FEA's lighting and thermal operations program, there are virtually no investments of costs required even though the potential savings are great. However, for others, such as the installation of storm windows or the modification of industrial processes, the investment might be quite large. Nevertheless, the resulting energy and dollar savings more than justify the additional costs.

The Federal programs that we have proposed to conduct during fiscal year 1976 are directed at encouraging the private sector to implement conservation programs. Based on experience and conservative estimates of the impact of such programs, we believe that these conservation programs alone will result in additional savings exceeding the equivalent of 250,000 barrels per day of oil during 1977. Assuming that the retail price of a barrel of petroleum is \$16, these energy savings translate into dollar savings of nearly \$1.5 billion annually. Furthermore, virtually all of these savings will continue to be realized for many years to come.

The funds requested for the support of FEA's conservation programs during fiscal year 1976 are clearly insignificant when compared to the overall savings that are likely to result.

FUEL SAVINGS FROM CONSERVATION

Senator ROBERT C. BYRD. You claim fuel savings of 278,000 barrels a day as a result of your conservation programs in 1975. How can you calculate such savings with any certainty? Wouldn't increased fuel prices be a factor?

Mr. HILL. Your question raises an excellent point. By their very nature, any calculations of energy savings from our conservation programs must involve a certain amount of estimation. Fuel prices are

indeed an important factor when it comes to conserving energy. In fact, as you know, it is a cornerstone of this Administration's policy that energy conservation would be encouraged by permitting market prices for energy through deregulation and phased decontrol.

Specifically, with respect to the 278,000 barrels a day savings estimated during fiscal year 1975, we have some good evidence that these savings are real and can be traced to our conservation programs. For example, the biggest part of these savings, 247,000 barrels per day, derives from the Federal energy management program, which aims at reducing energy consumption throughout the Federal departments and agencies. Under this program, each agency is required to report every quarter as well as annually on the amount of energy they consumed compared to the same period a year earlier.

We feel these savings have a high degree of accuracy. The remaining 31,000 barrels per day savings estimated for fiscal year 1975 are not based on the same solid evidence as the savings from the FEMP program, but we believe they are reasonable estimates and are above the savings that increased prices alone would have brought about.

FUEL SAVINGS IN FEDERAL BUILDINGS

Senator ROBERT C. BYRD. The biggest part of your claim fuel savings is the Federal buildings energy reduction program, a 24 percent cut saving \$1.14 billion or 247,000 barrels a day. How much did that single program cost in 1975?

Mr. HILL. The Federal energy management program covers all aspects of Federal energy use including: buildings, facilities, transportation, tactical and operational equipment. In fiscal year 1974, Federal departments and agencies cut energy use 24 percent below the fiscal year 1973 baseline, saving the equivalent of about 247,000 barrels a day and \$725 million annually.

The achievements of fiscal year 1975 exceeded the previous year with a savings of 25 percent or about 263,000 barrels a day and \$921 million in avoided costs. The first 2 years resulted in a saving of \$1.64 billion. Within FEA, \$100,000 has been allocated for contractual work under the Federal energy management program during fiscal year 1976. Currently, 20 persons have been assigned to FEMP within FEA of which 10 are at FEA Headquarters and 1 in each regional office.

The costs incurred by other agencies in their efforts to conserve have been relatively small. Twenty-six of the largest departments and agencies have full or part-time energy conservation coordinators who are responsible for the overall energy monitoring and reporting required under FEMP. The amount of time spent on this program by each agency can be roughly correlated to the agency's energy consumption.

The Department of Defense, by far the largest energy user, has several full-time persons coordinating their efforts. The actions taken thus far to conserve energy have generally not required significant investments in equipment or building modifications, but rather improved management of lighting, heating and cooling systems as well as more efficient facility and vehicle operating practices. We do anticipate, however, that it will be necessary to increase FEMP expendi-

tures in order to undertake those conservation measures which would result in substantial energy savings, but would require capital investments. Such investments, of course, would be made on a cost-effective basis.

Senator ROBERT C. BYRD. If the FEMP program is removed from your figures, is the balance of your conservation effort still cost-effective?

Mr. HILL. Yes. Without our FEMP program, we still saved 31,000 barrels of oil per day, or 11.3 million barrels annually. Assuming an average cost of \$16.00 per barrel, the first year savings represent \$180 million. Furthermore, we believe these savings will be ongoing and may, in fact, increase.

Obviously, the achievement of these savings requires some private investment. We believe, however, that the total cost, including both private investment and the funding of our conservation programs, is no more than the dollar savings achieved in just the first year.

Senator ROBERT C. BYRD. What did you accomplish in Federal building energy conservation in fiscal year 1975?

Mr. HILL. In Federal buildings, a small part of the Federal energy management program, a savings of 136,541 trillion Btu's or 15.2 percent was achieved.

PROGRAM EXPANSION IN CONSERVATION

Senator ROBERT C. BYRD. The request for conservation and environment totals \$141.6 million which, as discussed earlier, involves a tremendous expansion in the \$18 million program of last year. Do you have any indication that this kind of program expansion will result in proportionate reduction in energy consumption?

Mr. HILL. We believe that expanded funding of FEA's energy conservation programs will produce substantially greater energy savings than would have been achieved under the original fiscal year 1976 budget request. In most program areas, the increased level of funding can be directly justified on the basis of the cost-effective energy savings that will result and, consequently, the reductions in overall business and consumer costs as well as the lessening of our dependence on imported petroleum.

On the basis of past experience and conservative projections, we estimate that our proposed programs would, by 1977, save the equivalent of 185,000 barrels of oil per day more than would have been achieved under the base fiscal year 1976 budget, and these savings are likely to continue to increase in future years. Assuming a retail oil price of \$16 per barrel, this reduction represents an annual savings of more than \$1 billion in energy costs. Although the achievement of such savings often requires private investment in more energy efficient equipment or processes, these additional costs are more than compensated for by the reduced energy expenditures.

Because we have not tried to attribute significant additional energy savings to all the initiatives, it is evident that virtually all of the projected increase in 1977 energy savings over the base fiscal year 1976 budget is expected to result from four programs: (1) Project Conserve, 36,000 BPD; (2) Industrial energy conservation programs, 100,000 BPD; (3) Vanpooling, 15,000 BPD; (4) Lighting and Thermal Operations, 32,000 BPD.

In conclusion, we believe that our fiscal year 1976 budget request for conservation and environment would result in energy savings the equivalent of 525,025 barrels per day of oil during fiscal year 1977 and beyond. This is an increase of 185,000 BPD over the original fiscal year 1976 budget and more than three times the savings that would have been achieved in the private sector as a result of the fiscal year 1975 program alone.

PROJECTED ADDITIONAL FUEL SAVINGS

Senator ROBERT C. BYRD. Your original budget request of \$27 million for conservation projected 116,000 barrels a day in fuel savings. What is your projection under your proposal to increase the funding five times over and how is it calculated?

Mr. HILL. Because we are not likely to receive funding for the proposed expansion of FEA's conservation programs until late in the fiscal year, most of the savings resulting from these new initiatives will not be realized until fiscal year 1977. For this reason, I would like to compare the projected savings cited in Mr. Zarb's letter of August 29 for 1977 rather than 1976.

In that letter, the savings resulting from the original fiscal year 1976 budget were estimated to be the equivalent of 340,025 barrels per day of oil in 1977. Under the amended fiscal year 1976 budget, we estimate that the equivalent of 522,025 barrels per day of oil will be saved as a result of our conservation efforts—an increase of 182,000 barrels per day in 1977.

As stated in my response to the previous question, virtually all of these additional savings are attributed to four programs: (1) Project Conserve; (2) industrial energy conservation; (3) van pooling; and (4) lighting and thermal operations. These four programs account for only \$26 million of the total increase over the original fiscal year 1976 budget. The remaining increase in the budget is in areas where either projections of energy savings cannot be made, such as public education programs, or where the major benefits of the programs are not overall reductions in energy use, as is the case for both our utilities conservation and weatherization programs.

VANPOOL PROGRAM

Senator ROBERT C. BYRD. Tell us about your \$4 million vanpool program. How would it work and what continued funding would be needed to support it?

Mr. HILL. The vanpool program is a demonstration effort to encourage the use of employer sponsored vans for carrying employees to and from work.

This program consists of two major components—a test marketing program and a series of local seminars to be held throughout the Nation. The \$1 million vanpool test marketing program will test alternative marketing and assistance techniques for encouraging corporations in about four urban areas to implement vanpool programs for their employees and will include in-depth monitoring and evaluation of the employer-sponsored vanpool programs which result at these corporations.

This activity will be followed with a \$3 million program of approximately 600 local seminars to be held throughout the Nation for groups of selected employers in order to promote the vanpooling concept and provide technical guidance to those firms wishing to set up vanpool programs. Each seminar will host about 10 employers, chosen on the basis of location and type of employment, who have the potential for successful vanpool programs.

It is anticipated that, by discussing the benefits of vanpooling to the employer, employee and community and by describing how a vanpool program can be set up, approximately 1,500 employers will choose to establish vanpool programs.

We anticipate that a comparable level of funding will be needed in fiscal year 1977 to extend the program initiatives of the previous year to additional employers as well as institutional organizations, such as universities, nonprofit organizations and large concentrations of Government employees.

Senator ROBERT C. BYRD. Which four cities are you thinking about for the vanpool program?

Mr. HILL. Site selection for the vanpool test marketing program will be based on the joint judgment of the FEA contractor and FEA. Urban areas representative of the Nation's working population will be selected primarily on their value in test marketing the concept.

We are seeking a range of urban areas beginning with areas of at least 750,000 in population, having a representative suburban employment concentration and absence of prior significant vanpooling activity. At this time, it is much easier to exclude cities such as Minneapolis, Houston and Boston, because of their significant vanpooling activity than to specify the cities which will be selected for the test marketing program.

FUEL SAVINGS FROM VANPOOL PROGRAM

Senator ROBERT C. BYRD. What anticipated savings in fuel and dollars do you expect from the vanpool operation? How cost-effective is it?

Mr. HILL. The benefits of increased vanpooling to society are substantial. Not only are the energy and dollar savings substantial, but the impact on reduced traffic congestion, air pollution and acres of parking is also impressive. The average vanpool in operation today travels a round trip of 50 miles, replaces 6 cars and saves 89 barrels of oil per year.

From the consumer standpoint, participation in a vanpool results in considerable financial savings. In fact, the average vanpool fare, approximately \$25 per month, which covers the total capital and operating cost of the vanpool, is approximately one-half the cost of gasoline used to commute in a solo occupant automobile. If one considers the savings associated with the reduced need for an additional car, avoidance of parking fees, reduced insurance rates and decreased operating costs, consumer savings can be greater. One vanpooler in Minnesota has estimated her monthly savings at more than \$100.

As a result of the FEA vanpool program's first year, 1,500 firms are anticipated to set up vanpool programs, averaging 10 vans per

site during the first year. The energy saving as a result of these 15,000 vanpools is estimated at 3,750 barrels of oil per day. At \$.60 per gallon, the annual savings in gasoline alone will be \$35 million. Eventually, it is believed that these 1,500 programs will expand to about 40 vans per site, with substantially greater fuel savings—more than 15,000 barrels per day at these 1,500 firms, or over \$140 million in gasoline costs per year. Annual consumer savings to just the workers who use these 60,000 vanpools—calculated by subtracting vanpool fares of about \$25 per month, which cover capital, operating and administrative costs, from the reduced costs of not using their private automobiles—will equal more than \$160 million. Furthermore, there will be additional savings to non-vanpoolers as a result of increased carpooling at these 1,500 firms and less traffic congestion on the area's roadways. We estimate that these additional savings will amount to approximately \$70 million in gasoline savings, for total consumer savings of \$230 per year.

PROJECT CONSERVE

Senator ROBERT C. BYRD. Is the Project Conserve—questionnaires on residential energy use—worth a \$12 million investment? Please justify this proposal on energy savings and cost-effective bases.

Mr. HILL. On the basis of pilot tests of Project Conserve, we have stated that distributing questionnaires to 10 million homeowners will increase the number making energy conserving home improvements by 1 million. The supplemental funding will be used in an effort to raise the response rate among those contacted.

We propose to distribute a detailed consumer's guide to 10 million additional homeowners at a somewhat higher individual cost. We estimate that this will produce 2 million individual or homeowner investments in conservation which would not otherwise have occurred.

For the total fiscal year 1976 program of \$12 million, we expect 3 million homeowners to spend an average of \$300 each on improvements which yield roughly \$100 per year in savings—oil at \$16 per barrel. Total savings to the Nation will be equivalent to 54,000 barrels of oil per day. Once the tax credit for such actions is available, we expect the response rate to be substantially higher.

CONSERVATION SEMINARS

Senator ROBERT C. BYRD. You have a total of \$12 million in conservation contracts for seminars and follow-up meetings with commercial and industrial executives, all of it proposed in your amendment. Again, give us the expected pay-off on this considerable expense.

Mr. HILL. The \$12 million referred to is broken out as follows:

Buildings—\$4 million, \$3 million for follow-up programs and \$1 million for joint Chief Executive Officer seminars.

Industrial—\$8 million, \$6 million for follow-up programs and \$2 million for joint CEO seminars.

The joint CEO seminars will include buildings and industrial energy conservation and will involve approximately 10,000 executives.

Separate buildings programs activities will include workshops with building managers and engineers and follow-up assistance.

Our initial program plan anticipated seminars for managers of 10,000 buildings, of which 6,000 would reduce consumption for lighting, heating, and cooling by 20 percent. Our costs were to total \$2,210,000 including contracts and regional personnel. With the additional contract funds, we expect to increase our contacts to 15,000 of the larger buildings, and to devote substantially more resources to each.

On the basis of our previous programs, we expect to produce 30 percent savings in 12,000 buildings. Most of these savings will be the result of operational changes with little or no cost. The increase in contract funds may allow us to reduce the number of regional personnel devoted to this part of the seminar program. Total savings for this effort will be equivalent to 48,000 barrels of oil per day.

Separate industrial program activities will consist of 2,000 seminars, with 50-60,000 attendees representing some 20,000 industrial establishments. From experience, knowledge of industrial operations of various types and discussions with industry personnel, we expect that these additional contacts can conserve at least as much, on an energy per unit of output basis, as the more energy intensive companies—toward which our present industrial conservation program has been focused—have achieved.

Taking present program experience and case studies as important benchmarks, we have estimated that the supplemental industrial program will save an additional 95,000 barrels per day in fiscal year 1977. Fiscal year 1977 savings attributed to the total industrial program's activity in fiscal year 1976 would therefore be on the order of 200,000 barrels per day.

UTILITY CONSERVATION DEMONSTRATION PROGRAM

Senator ROBERT C. BYRD. Tell us how your proposed \$8 million demonstration program for utility conservation will work. What kind of matching funds will you require?

Mr. HILL. The electric utilities demonstration program focuses on field testing of innovative rate structures and load management techniques for the purpose of proving the viability of these concepts as conservation measures; and to provide impetus to their wide adoption and implementation. Analysis of rate reform and load management techniques strongly suggests a significant conservation potential; but the realization of such benefits is largely dependent on practical demonstration and impact analyses of specific experiences.

The demonstrations will implement broadly based projects that are truly representative of the diverse utility operating environments and regulatory climates extant in the United States. This program will yield multiple benefits in the form of conservation of utility capital and scarce fossil fuels, and in stabilizing utility rates through the more efficient and cost effective generation of electricity.

Projects are executed through cooperative agreements with State and local government agencies which require cost sharing on the part of the local jurisdiction. Industry matching funds of 10 percent will also be required. By moving project sponsorship and management to the local level the program is able to focus on specific problems that are germane to national interests and at the same time provide

assistance to local jurisdictions. The programs all share a common purpose: the testing of innovative rates and load management techniques. The exact rate forms and load controls being studied vary from project to project.

CONSERVATION MATERIALS FOR SCHOOLS

Senator ROBERT C. BYRD. How do you plan to distribute the \$2 million in conservation materials that are aimed at "every teacher and school administrator in the United States?"

Mr. HILL. We would distribute the material through the States by apprising them of the availability and filling their requests. This is the method we used to distribute the very successful three volume sets of conservation materials developed for us by the National Science Teachers Association.

CONSERVATION ASSISTANCE TO STATE AND LOCAL GOVERNMENTS

Senator ROBERT C. BYRD. You list a \$3 million contract to assist State and local governments in energy conservation. What kind of assistance? How does this differ from the \$10 million reimbursement program?

Mr. HILL. The State/Federal energy conservation program is an effort designed to provide a framework for States' development of comprehensive energy conservation plans. The program, jointly developed and sponsored by the National Governors' Conference and the Federal Energy Administration, contains four basic elements: (1) The development of a coordinated State-by-State data system; (2) the transfer of information basic to the planning, development and implementation of State energy conservation plans; (3) the commitment of States to a comprehensive energy conservation program via announcement of the plan and savings goals by the Governor; and (4) the provision of technical assistance by FEA to individual States.

During the program's initial year of operation, we will concentrate our efforts in two phases of the program. The first, the data package, represents an attempt to provide a firm base for decision on the part of the State. It is a series of historical and forecasted energy consumption data, 1968-1985, by fuel type: For example, motor gasoline, diesel or electricity; and by end-use sector such as transportation or industrial. It will allow the State decision-maker a view of his State's past energy consumption patterns and will give him an idea of which sectors and fuel types should be emphasized in the energy conservation plan.

Aside from its value in the energy conservation decision-making, the energy data package has obvious value in other energy-related areas such as siting, emergency planning, etc. The package will also have significant value when aggregated on the regional and national level.

The second, technical assistance, allows the States to take advantage of the expertise and experience of the FEA national office, regional offices and FEA contractors. We expect to provide technical assistance on an individual State and program basis.

Senator ROBERT C. BYRD. How can \$3 million be used effectively to assist 50 States and innumerable local governments?

Mr. HILL. Although I agree that \$3 million is a small sum considering the importance of the program, it allows for a beginning into this worthwhile cooperative endeavor. We feel that while the Federal Government can do much to foster energy conservation directly, many options exist to reduce energy demand at the State and local government levels. These include of course legal levers, such as police and taxation powers, together with an outreach capability in close proximity to the end user of energy, such as, homeowners or local industries.

We feel that the commitment on the part of the Nation's Governors has been clearly demonstrated by their vote at the June 1975 National Governors' Conference in New Orleans, La., and by the continued support and interest of their offices and staff since that time. The figure may be small but it allows a start.

CONTRACTING FOR CONSERVATION COMMITMENTS

Senator ROBERT C. BYRD. Why is it necessary to contract out the effort to obtain conservation commitments from the utilities and regulatory agencies? Can't that be handled in-house more efficiently?

Mr. HILL. Under most conditions, it normally is more efficient to handle our conservation activities in-house. However, several conditions prevent us from relying totally on in-house staff resources in the Utilities Conservation Action Now programs. The UCAN program is not merely designed to obtain conservation commitments per se. Rather, its purpose is (1) to aid UCAN participants in developing specific energy conservation action plans, with explicit objectives, timetables and conservation measures laid out in detail, (2) to obtain written commitments from participants to implement these action plans, and (3) to aid in the implementation of these plans, and to track their progress in contributing to national energy goals.

The major reason for contracting this function is that the level of program activities are more loaded towards the front-end, or start-up period, when the conservation action plans are being developed, and commitments on them obtained. Since the level of program activity will decline somewhat after the start-up period, it was judged more appropriate to obtain contract support rather than to bring on a permanently higher level of staff positions for use during the peak period.

STUDY OF WORLD TANKER MARKET

Senator ROBERT C. BYRD. What is the status of your continuing study of the world tanker market? Has that study developed anything useful to date?

Mr. CONANT. IEA continues to monitor the world tanker market particularly the growing active interest expressed by oil-exporting states, especially OPEC, to own and operate their own tanker fleets. This topic merits consideration based on its economic and strategic implications for our national security. To date, this effort has yielded information on the formation of joint ventures in the petroleum transportation field, and the potential for disruption of our supply security should certain paths of investment, fleet acquisition and operation be exploited by the oil-producing states singly or in combination.

The significance of these potential threats depends upon more detailed assessments of alternative scenarios and more informed estimates of the future of the world tanker market than exist at present. Until measures such as cargo preference legislation by producers or consumers either are enacted or can be considered likely, it is premature to adopt any specific measures designed to deal with such developments.

Senator ROBERT C. BYRD. Isn't most information on size, composition and ownership of the world tanker fleet already available at the Maritime Administration?

Mr. CONANT. Some information is available through Maritime Administration, but the most useful information on newly formed joint ventures, acquisition plans, ownership by specific companies or interests is not readily available from Maritime sources. It is compiled by Lloyd's list, tanker brokers in London, Oslo and elsewhere and must be followed through current periodical literature and through industrial contacts.

RELATIONSHIP WITH MAJOR OIL COMPANIES

Senator ROBERT C. BYRD. What did your study of existing and probable relationships between major oil companies and the Federal Government produce in the area of international oil trade?

Mr. CONANT. First, the study, "An Evaluation of the Options of the U.S. Government in its Relationship to U.S. Firms in International Petroleum Affairs," "the Krueger Study," was printed and 500 copies distributed to interested Members of Congress, their committee staffs, to various Executive departments, to the press and to representatives of consumer groups, trade associations and oil companies. Two thousand five hundred copies of a summary of the report were given even wider distribution.

The report examined nine policy options and analyzed their projected impact on international oil trade. While the report itself made no formal recommendation, it did suggest that a number of international policy options might have beneficial energy effects. For example, the report outlined the merits of cooperative energy efforts both among consumer governments and between consumer and producer governments. Accordingly, FEA has supported the goals of the International Energy Agency and the upcoming Producer-Consumer Conference. The study also indicated some of the disadvantages of creating a Federal oil company. It also identified a range of complex issues which must be thoroughly examined before final policy options can be selected.

In addition to the Krueger report, the Office of International Energy Affairs published a second study, "The Relationship of Oil Companies and Foreign Governments," which examined government-industry relations in 30 countries. Drawing on these studies and a number of related analyses currently underway, FEA will soon formulate final recommendations for future U.S. Government policy toward the oil industry.

REPORTS REQUIRED UNDER ORGANIC ACT

Senator ROBERT C. BYRD. As you know, your principal authorizing acts, Public Laws 93-319 and 275, required numerous reports with various deadlines. Please submit for the record a list of the completed and pending reports

Mr. ZAUSNER. FEA has completed several of the one-time reports required under Public Law 93-275 and Public Law 93-319. Some of these reports include the Report to Congress on Petrochemicals; the Project Independence Report and Comprehensive Energy Plan; review of foreign ownership of energy sources and supplies, and the Energy Conservation Study required under ESECA, Public Law 93-319. Also, there are several reports that require a monthly, quarterly or semiannual deadline. Examples are the "Market Shares Study" on gasoline, "Quarterly Energy Information Report," as well as a semiannual economic impact analysis study of proposed policy actions. These periodic reports have already been initiated and are on schedule to meet the various deadlines. Mr. Chairman, I will be happy to submit a list of the completed and pending reports for the record.

[The information follows:]

MANDATORY REPORTS

	<u>Completion Date</u>
- Summer Energy Guidelines for Citizens Use	7/74
- Economic and Data Analysis of Petrochemicals	9/74
- Study on Hydroelectric Generating Facilities	9/74
- Comprehensive Energy Plan	1/75
- Foreign Ownership Review	1/75
- FEA Organization Structure	8/74
- Economic Progress Report	Every 6 months
- Redress and Grievances Actions	Quarterly
- Market Shares Study (Gasoline and Other Distillates)	Monthly
- ESECA Conservation Study (PL 93-319)	1/75
- Analysis of Oil and Gas Reserves and Resources	11/75
- President's Report to Congress on FEA	1/76

EXTENSION OF FEA ACT

Senator ROBERT C. BYRD. The President has recommended a 2 year extension of the FEA authorizing Act. Does this proposed extension contain any program changes that would affect your pending budget?

Mr. HILL. The legislation proposed by the Administration would extend for 2 years the Federal Energy Administration Act of 1974, and would make several additional technical amendments designed to improve the operations of the agency. This bill would not, however, contain any programmatic changes that would affect FEA's pending budget request.

SLIPPAGE REDUCTION

Senator ROBERT C. BYRD. Since it appears likely now that this appropriation will not be available until midway in the fiscal year, please submit for the record any reduction in your estimated increases that would result from this slippage.

Mr. HILL. There would be no slippage, Mr. Chairman. The original budget was premised on a reduction in staff from 3,125 positions to 1,715 positions by June 30, 1975. Under the provisions of the Continuing Resolution, Public Law 94-41 FEA was permitted to operate at our 1975 level. This budget amendment is basically to provide the funding to operate at that level. To put it simply, without the budget amendment we would be out of money by late winter.

BASIS FOR 1976 BUDGET ESTIMATE

Senator ROBERT C. BYRD. On what time period was your total 1976 budget estimate based so far as personnel compensation and related expenses? Is it for the full year?

Mr. HILL. Mr. Chairman, of the total revised request of \$260,095,000, personnel compensation and benefits account for \$66,440,000. Our personnel compensation and benefits cost includes the requirements to fund the allocation program through November 15, 1975 as well as new and revised program efforts. None of these latter efforts were budgeted for a full year.

APPLICATION OF HOUSE REDUCTION

Senator ROBERT C. BYRD. Your appeal of the House reduction in Administration indicates that \$1.3 million of the cut would be applied to personnel and cause a reduction of 68 positions. To which subactivities would you apply those reductions?

Mr. HILL. A \$1.3 million reduction in this area would necessitate a reduction in our executive management and support functions—that is, reduce the positions requested in our MBO program area, internal audits staff, personal property management system, community relations and public information offices, the legal support for price control authority and the review and formulation of energy legislation.

JUSTIFICATION OF TRAVEL REQUEST

Senator ROBERT C. BYRD. Your \$3.2 million travel request amounts to \$1,000 for each permanent position and seems excessive. How do you justify the estimate?

Mr. HILL. FEA's travel requirements are broken down into four distinct categories—international trips, audits and investigations travel, advisory committee transportation, and other business requirements.

FEA is in a somewhat unique position in that we are completing regulatory functions within the country but we still provide extensive support to the State Department on international energy problems. FEA provides technical support for the United States' representation at the International Energy Agency meetings, Organization for Economic Cooperation and Development conferences as well as other meetings.

To complete our role in pricing complaints, it may be necessary to travel great distances to audit just one company. Establishing a correct base price for the sale of oil may require the validation of the history of an oil lease. One piece of property may have been owned by as many as seven different companies—all of whom have offices in different areas. In addition, if the audit of a major oil company is undertaken, personnel may be located at the company's headquarters for several weeks to complete the investigation.

FEA is also spending approximately \$250,000 per year on travel funds associated with advisory committee travels. These groups may hold hearings in different major cities in order to collect information that would be relevant in their recommendations on pending programs and regulations. We feel very strongly, as does the President, that our regulations will be successful only if we have the support of the people and the recommendations by these groups are very helpful to us.

The remaining agency travel is minimal. The Administrator makes speeches and represents the agency at various meetings across the country but the bulk of our travel costs are included in those areas I have just mentioned.

ESTIMATE FOR TRANSITION QUARTER

Senator ROBERT C. BYRD. Your estimates for the transition quarter, totaling \$50.8 million, would seem to indicate a decline in the proposed 1976 funding level. Is that a correct assumption? If so, why?

Mr. HILL. Mr. Chairman, the amount requested for the transition period provides funds to allow us to maintain our positions and overhead support costs at the June 30 level; however, contract support has not been requested on a prorated basis for the transition period.

UNOBLIGATED BALANCE FISCAL YEAR 1975

Senator ROBERT C. BYRD. Your budget data show an estimated unobligated balance of \$2.6 million at the end of fiscal year 1975. What is the actual figure? Please detail the 1975 unobligated balance for the record.

Mr. HILL. The total unobligated balance of FEA's fiscal year 1975 appropriation authority is \$3,009,000. The unobligated balance lapsing is \$389,000. The remaining \$2,620,000 unobligated balance of June 30, 1975 is part of the \$3 million no-year funds authorized by the Second Supplemental Appropriation Act of 1975. As of October 22, 1975 only \$243,000 of the \$3 million no-year funds are unobligated.

Senator ROBERT C. BYRD. Please detail that for the record.

[The information follows:]

The no-year funds are detailed as follows:

Program	No-Year Appropriation	June 30 Obligations	June 30 Unob- ligated Balance	Oct. 22 Unob- ligated Balance
Conservation and Environment	\$2,000,000	\$...	\$2,000,000	\$157,000
Energy Resource Development	<u>1,000,000</u>	<u>380,000</u>	<u>620,000</u>	<u>96,000</u>
Totals	<u>\$3,000,000</u>	<u>\$380,000</u>	<u>\$2,620,000</u>	<u>\$243,000</u>

REDUCTION IN RENT AND COMMUNICATIONS

Senator ROBERT C. BYRD. Your amended budget, which doubles your original program, shows a \$1.1 million reduction in rent, communications, and utilities. How did you manage that?

Mr. HILL. When the original fiscal year 1976 budget was established, it was assumed that some of the smaller analytical programs could be accomplished more efficiently in-house through the temporary rental of ADP equipment. However, additional research has demonstrated that such an approach would not be cost effective or possible at this time. Accordingly, FEA now seeks to have these same ends accomplished through contractual arrangements.

CONTRACTS IN ADMINISTRATORS OFFICE

Senator ROBERT C. BYRD. What is involved in the \$380,000 in contracting by the Administrator's office? Why isn't that kind of work handled by the conservation and resource development divisions?

Mr. HILL. Senator, the future objectives of FEA are in a state of flux at the present time. Fiscal year 1975 was particularly challenging in that the agency was asked to respond to additional action plans that had not originally been contemplated. The current 12 months have indications that they will be no less demanding.

We have a few projects in our conservation area that appear to hold great promise of return. However, they have not been sufficiently finalized to the extent that we are willing to include them within the normal request. We have asked for the dollars to be included in the Administrator's account pending some interim results. If they are as promising as we hope, we can continue. If not, they will not be funded.

NEED FOR CONTINGENCY FUNDING

Senator ROBERT C. BYRD. The House reduced your original request for contracts by \$700,000, and your appeal said \$200,000 of it would be contingency contract funding. Why do you need contingency funding? Are your estimates so exact that there is no room for slippage?

Mr. HILL. It is expected that improved administrative planning will obviate many of the unforeseen needs in the various program areas which previously required immediate funding but for which funds were unbudgeted. However, it is expected that there will be special projects which will require action by the Administrator and the contingency fund of \$200,000 is associated with these expected needs.

DETAIL ON "OTHER SERVICES"

Senator ROBERT C. BYRD. Please detail for the record the makeup of the \$2.1 million budgeted for other services.

Mr. HILL. We will be pleased to provide that detail for the record.

[The information follows:]

Reporting services for advisory committees	\$ 60,000
Reporting services for hearings	42,000
Training	530,000
Real property renovations (headquarters)	296,000
Real property renovations (regions)	100,000
Maintenance contracts (headquarters)	174,000
Maintenance contracts (regions)	150,000
Storage of household effects	20,000
Maintenance of data centers	100,000
Maintenance of data terminals	60,000
Contractual services under \$100,000	61,000
Moving and relocation costs (headquarters)	50,000
Moving and relocation costs (regions)	200,000
Graphics and related art work	74,000
Special data processing services (headquarters)	12,000
Data processing services (regions)	30,000
Consulting services not on per diem basis	3,000
Advertising for regulations and legal notices	80,000
Special custodial services (regions)	4,000
Miscellaneous services (headquarters)	14,000
Miscellaneous services (regions)	20,000
Total	<u>\$2,080,000</u>

ADDITIONAL HEALTH SERVICES

Senator ROBERT C. BYRD. Please explain the proposed \$200,000 contract for additional health services.

Mr. HILL. The \$200,000 request provides for health unit services for our regional offices. The request will permit us to install health units in those locations where medical facilities are not reasonably available. The medical facilities will provide for limited medical supplies, oxygen, and trained medical personnel during normal business hours.

COLLECTIONS OF OIL IMPORT FEES

Senator ROBERT C. BYRD. What have been your collections by fiscal year on oil import fees?

Mr. HILL. Total collections of oil import fees are reduced by erroneous or overpayments and payments to Puerto Rico and the Virgin Islands. We will provide a table showing this information for the record.

[The information follows:]

Collections:

Fiscal Year 1973	\$	6,280,310
Fiscal Year 1974		33,886,226
Fiscal Year 1975		422,954,039
Fiscal Year 1976 thru 10/31/75		981,167,369
Total gross collections	\$	1,444,287,944

Funds for erroneous or overpayments:

Fiscal Year 1973 .....	\$	...
Fiscal Year 1974		7,527,819
Fiscal Year 1975		12,926,333
Fiscal Year 1976 thru 10/31/75		44,960,836
Total refunds	\$	65,414,988

Net collections to date \$1,378,872,956

Payments to Puerto Rico and the Virgin Islands:

Payments from fee collections in accord with the Second Supplemental Appropriation Act of 1975:

Puerto Rico	\$1,502,797
Virgin Islands	3,299,674
Total	\$4,802,471

STATEMENT ON CANADIAN PETROLEUM EXPORTS

Senator ROBERT C. BYRD. The committee has just received a letter, statement and question from Senator Mondale concerning petroleum exports from Canada. I will supply you with a copy of that statement and ask you to include it in the record along with FEA's response.

[The information follows:]

LETTER FROM SENATOR WALTER F. MONDALE

October 21, 1975

The Honorable Robert C. Byrd, Chairman
Subcommittee on Interior and Related
Agencies Appropriations
Senate Appropriations Committee
Room 1235, Dirksen Building
Washington, D. C. 20510

Dear Bob:

Enclosed you will find a copy of a statement which I have prepared for the consideration of the Subcommittee on Interior and Related Agencies Appropriations.

My testimony concerns the urgent question of finding a satisfactory long-term solution to the severe regional energy problem created by the phase out of petroleum exports from Canada. This is an extremely important question not only for Minnesota, but for the entire Northern Tier of the United States.

As you will see, my statement calls for a \$1 million study by the Federal Energy Administration of the long-term alternatives to the supply of crude oil from Canada. This study is absolutely essential, for there is little time remaining -- perhaps one year at most -- before a solution must be found for construction of a new pipeline or port facilities to be initiated and completed in time to avoid substantial economic dislocation in the Upper Midwest.

I would appreciate it if the statement could be given careful consideration by the Subcommittee.

Thank you in advance for your assistance.

With warmest personal regards,

Sincerely,

Walter F. Mondale

STATEMENT OF SENATOR WALTER F. MONDALE

Mr. Chairman:

I am pleased to have this opportunity to express my views on the Federal Energy Administration Budget to the Subcommittee on Interior and Related Agencies Appropriations.

The purpose of my statement is to call attention to what I believe to be an urgent regional and in many respects a national energy problem. The Government of Canada in 1973 announced the phase-out of oil exports to the United States. From the 1.1 million barrel per day level in 1973, Canada has reduced its allocation of petroleum for export to the U. S. to 750,000 barrels per day at the present time. The current schedule projects a gradual phasing out of petroleum exports until a near-zero level is reached at the end of 1982. Now there are indications that the cut-off could come sooner. A re-assessment in Ottawa is scheduled for release in November that could result in a total cut off by 1980 or 1981.

In view of our own goal of reduced dependence on imported petroleum, the United States should be sympathetic to Canada's desire to reserve its oil supplies for domestic use. Nevertheless, this decision means that the landlocked refineries in Northern Tier states must find a new delivery mechanism for supply of crude oil if they are to remain in operation in the future.

In Minnesota roughly 60 percent of the petroleum products we consume come from four independent refineries. More than 80 percent of the crude oil used by these refineries comes from Canada. Because no oil pipelines serve Minnesota except from Canada, they have no practical alternative source of crude. This problem is not confined to Minnesota alone. Refineries in Montana, North Dakota and Wisconsin face a similar dilemma. To a lesser extent the States of Washington, Michigan, Wyoming, Ohio, Illinois and Western New York also rely on Canadian crude.

What will happen if our refineries are unable to obtain continued supplies of petroleum? An answer was provided by the Director of the Minnesota Energy Agency, John Millhone, when he testified before the Joint Economic Committee on October 14. He said:

"...The State's economy would be crippled. . . There would be a ripple effect, or perhaps what might appropriately be called a tidal effect. The impact would first affect the refineries, but as inventories were depleted every segment of the state's economy would be harmed. There would be widespread unemployment, economic strife and social unrest."

Over the near-term, several steps can be taken to minimize the effect of Canadian export reductions. The Federal Energy Administration is preparing to implement an allocation program to distribute supplies according to need, provided that the Congress enacts enabling authority such as that contained in a bill I introduced last September 17. Both the F. E. A. and the State Department have also been negotiating with the Canadians to remove any government obstacles to agreements among private Canadian and U. S. companies for swapping of oil.

However, neither allocation nor private swaps can provide more than temporary relief before the reduction in supplies begins to seriously jeopardize essential uses. If U. S. economic recovery proceeds as anticipated, it will, for example, absorb what little excess pipeline capacity there is in the Northeast to arrange for swapping of oil with Canada. By the same token, once supplies have been reduced below the level required to meet essential needs -- roughly 400,000 barrels per day -- an allocation system will be unable to prevent economic disruption.

By 1977 or 1978 at the latest, a long-term alternative to Canadian crude oil must not only be found, but also fully developed and ready to meet the needs of our Northern Tier refineries.

Right now, however, there is no agreed upon alternative supply network. A number of options have been suggested nonetheless, there is disagreement regarding the cost and feasibility of these projects. Moreover, the construction of major new pipelines from the Southwest or Gulf States, or even reversal of the Transmountain pipeline, each raise significant environmental issues that could take not months but years to resolve under the National Environmental Policy Act and state environmental laws.

The importance of these obstacles can be seen in the estimated time required for completion of four of the major alternatives that have been advanced. Two years would be required for the Transmountain pipeline or for extension of the Seaway and Texoma Pipelines. It would take three years for reversal and extension of the El Paso Gasline from the Southwest. At least five years would likewise be needed to widen and extend the Capeline route to Minnesota and on to Montana. Yet even the fastest remedy in terms of construction -- the Transmountain pipeline solution -- faces substantial environmental and political problems that must be considered in estimating requisite lead time.

It is the position of the Federal Energy Administration that private industry must weigh the alternatives and reach its own decision on how best to off-set the loss of Canadian oil. Nonetheless, the elements that enter into this equation are not only financial and technical; they involve environmental and other policy judgments that may well have to be resolved by government, if they are going to be resolved at all.

It would be an act of sheer folly for the federal government to waste the precious time that is remaining, while hoping for a miracle that would either push back the timetable for the shut-off of Canadian supplies, or significantly alter the substantial lead time required for construction of new port facilities or thousands of miles of new pipeline capacity.

It may be that direct federal financial involvement will prove unnecessary. I certainly hope that will be the case. But unless the federal government takes the lead in identifying and facilitating a viable long-range solution, not only private refineries but also homeowners, schools, hospitals, farmers and workers in the Northern Tier will suffer. This is not a matter of mere irritation, it would mean economic strangulation for states like Minnesota; and it could have severe repercussions throughout the nation.

That is why I am proposing that the Federal Energy Administration begin at once a complete study of the long-term alternatives to Canadian oil. This study should be completed within six months, so that the findings will be available to Members of Congress and private industry before the little time we have left has totally elapsed.

I am submitting with my statement suggested language to be included in HR 8773 and in the Committee's report to assure that a thorough study is initiated and completed in time.

Under this proposal the F. E. A. would be required first to tell us how much time we have before economic dislocation is likely to occur. They would be called upon to evaluate the possible alternatives to Canadian-supplied crude. The Administration would be required to assess the cost, the feasibility, including the capability of private industry to finance, the lead time required for construction, the environmental effects and potential legal and political obstacles to implementation of each option. In addition, they would be asked to report on the status of industry attempts to achieve a long-term solution. Finally, they would be required to submit recommendations regarding actions which the federal government might take to ensure that a final solution is achieved before economic hardship occurs.

Mr. Chairman, my proposal in and of itself does not guarantee a satisfactory solution to the problem of Canadian oil export curtailment. However, I am hopeful that it will help to bring us out of the current confusion and focus attention on the tough decisions that must be made and made soon if we are to avoid a crisis.

Should the Northern Tier states become the victims of delay and indecision at this crucial time, I truly fear that we may be faced with a situation more dire than any experienced during the 1973 embargo. America simply cannot afford to let any major region of our country, most particularly the breadbasket of this nation, suffer the kind of dislocation that is literally just a few years away.

I am hopeful that the Committee will respond positively to the proposal I am submitting. It is essential that we come to grips with this critical issue before it is too late.

Suggested Amendment

On page 42, line 12, strike out "\$98,388,000," and insert in lieu thereof "\$99,388,000, of which \$1,000,000 shall be available only for a study by the Administration of the long-term alternatives to the supply of Canadian crude oil to refineries in the Northern Tier region of the United States, and".

Suggested Report Language

The Committee understands the serious problem facing the Northern Tier region in view of the phase-out of Canadian oil exports to the United States. A long-term alternative supply system is urgently needed to assure adequate quantities of petroleum for landlocked refineries. Nevertheless, there is substantial confusion over cost and feasibility of the options. Environmental and political difficulties associated with each alternative could delay any action by private in-

dustry until it is too late to prevent shortages, inflated prices and substantial economic dislocation in the region. Therefore, the Committee has recommended that \$1 million be made available to the Federal Energy Administration to complete within six months a study that would --

- a) assess the amount of time remaining before cutback of Canadian supplies begins to impact essential uses in affected states
- b) evaluate the long-term supply alternatives to Canadian crude oil imports including an analysis of the --
 - . cost, including cost to consumers
 - . feasibility, including the capacity of private industry to provide financing
 - . environmental effects
 - . legal, political and other potential obstacles to construction
 - . lead time required for completion
- c) report on the status of private industry attempts to secure long-term alternative supplies of crude oil
- d) submit its findings and recommendations to the Congress regarding actions which the federal government might take to facilitate implementation of a solution that can assure adequate long-term supplies of petroleum to states that are affected by the phase out of imports from Canada at prices competitive with those in other regions of the country.

QUESTION SUBMITTED BY SENATOR WALTER F. MONDALE

Question. In 1973, the Government of Canada announced its intention to phase out the export of crude oil to the United States. Since this announcement was made, absolute levels have been reduced, with total cut-off expected to occur shortly after 1980. Because so many Northern Tier Refineries are largely dependent upon this source of crude oil, curtailments could pose substantial economic dislocations in many Northern States. Accordingly, it has been proposed that \$1 million be added to FEA's budget to conduct a thorough investigation of possible alternative to Canadian-supplied crude and that this study be complete within six months. What are your feelings on this issue.

Answer. The development of the Northern Tier Refineries, as well as the resulting supply pattern of refined products, has been based upon free access to Canadian crude oil. After already having conducted investigations into the problem of further cutbacks of imported Canadian oil, we concur that a sudden loss of Canadian crude, without alternative supplies, would place a severe hardship on the Northern Tier's existing crude and product distribution system. Problems of serious proportions would occur because many refineries in that region do not have access to existing transportation facilities which would allow for receipt of alternative sources of crude oil.

Imports of Canadian crude have been reduced by more than thirty percent since 1973. Because of this sharp decline and inevitable future reductions, we agree that a study should be initiated which would assess specific economic impacts which might result from the curtailment and propose recommendations relative to intermediate action on behalf of industry and government. In an attempt to relieve the short term situation, the FEA is in the final stages of preparing a proposed rule-making which would establish an allocation program specifically designed to address the future curtailment issue. Beyond this, however, I believe it would be most helpful to conduct a more comprehensive study along the lines which you suggest. I feel that it should be comprehensive and investigatory in nature, but it should not be predicated on the assumption that future Government funds will be committed for the development of alternative sources of crude oil supply and distribution. With respect to the total cost of such a study, my initial reaction is that the recommended one million dollars is probably more than sufficient and the study may be accomplished for considerably less than that amount.

QUESTION SUBMITTED BY SENATORS HRUSKA AND M'GEE

Senator ROBERT C. BYRD. Senators Hruska and McGee had other commitments and could not be here today. They have submitted a series of questions and I will ask you to answer those questions for the record.

Mr. HILL. We will be glad to do that, Senator.
[The questions and answers follow:]

QUESTIONS SUBMITTED BY SENATOR ROMAN L. HRUSKA

Question. As you know, Mr. Administrator, the shortages this winter of both natural gas and propane threaten to impact very heavily on farmers and food processors. This is a matter of great concern in Nebraska and other farm states. Could you explain what steps are being taken by the Federal Energy Administration to insure the essential agricultural users will have adequate supplies of either natural gas or propane this winter in order that they will be able to continue supplying consumers with food?

Answer. Current FEA regulations require only that agricultural users of propane certify their need to their suppliers, who are in turn authorized to supply 100 percent of those needs. The certification, a relatively simple process, is necessary in order for the supplier to obtain sufficient supplies from his supplier to meet those needs. A recent survey of major suppliers to obtain forecasts of propane supplies for the coming winter indicates that supplies will generally be adequate this winter to meet traditional demand. Domestic inventories of propane are at record high levels; and barring any unusually severe winter, the combination of current production and drawdowns of inventory should be sufficient to meet demand.

With regard to natural gas, recognizing that FEA has no direct statutory authority to allocate such gas, certain actions have nonetheless been taken, such as:

- a. Initiation of a comprehensive data collection survey to forecast shortages and alternate fuel requirements.
- b. Establishment of an inter-agency Natural Gas Task Force to prepare policy options and proposed legislation--and the establishment of a follow-on task force to implement approved policy options and serve as a central point of management and coordination for all emergency natural gas efforts within FEA.
- c. Coordination with FPC and other government agencies involved in planning and regulation of natural gas.
- d. Working with the states, industries, and media in publicizing conservation methods.
- e. Ordering, under ESECA, conversions from gas to coal for numerous electric utilities.

Although these actions are not necessarily directly related to agriculture per se, the end-results we hope to achieve should benefit agriculture as well as other historic users of natural gas.

Question. One of the provisions of S. 2310, the Natural Gas Emergency Act of 1975, as originally proposed, is the placement of a price ceiling on "emergency" purchases of natural gas in the intrastate market by interstate pipeline companies. As I understand it, S. 2310 specified that the Federal Power Commission would administer the ceiling. If this provision were enacted into law, do you see any practical consequences for the Federal Energy Administration? For example, would not an allocation program for propane be affected by the success, or lack of success, of the FPC in channeling emergency gas supplies this winter to users who are most in need of gas?

Answer. Propane is a very convenient substitute for natural gas and is very commonly used by natural gas utilities for peak shaving purposes. To the extent the FPC is unsuccessful in channeling emergency gas supplies to users who are most in need of natural gas, the demand for propane is likely to increase and the FEA will be faced with some difficult decisions. Actually, however, there is no possibility that propane alone can have any appreciable impact on the predicted natural gas shortage as only a one percent shortage would be equivalent to 20 percent of the total propane production. To the extent possible, FEA believes propane should be reserved for the historic user although FEA has permitted the importation of additional propane by industry or for sale to industry to preplace curtailed natural gas provided that, if the propane is for resale, the reseller first satisfies its obligations to assigned customers. To prevent the additional imported propane from impacting the price to regular users, FEA has required that such sales be priced separately from usual sales.

If the FPC program is successful there should be no impact on FEA's allocation program.

Question. Since the Federal Energy Administration has had extensive experience in overseeing controls on oil, could you comment on how costly is it to the taxpayers for an allocation program to be run successfully? i.e., how much money must a government agency spend to see that an allocation program gets energy to the intended users?

Answer. Under a severe allocation program where supplies are short, such as an embargo, an estimated 80 million dollars would be required annually. This estimate assumes allocation and pricing programs similar to those administered under the EPAA would be in effect.

However, under a surplus or sufficient supply situation only 15 million dollars per annum would be required. This amount would support a minimal program which would serve to allocate petroleum products and fuels on an exceptional basis; i.e., allocations would be made for spot shortages which could occur. This amount does not provide for any price control program. The detailed allocations programs required under the EPAA are not applicable to a surplus environment and therefore, to a large degree, forces the government to operate costly programs at the taxpayers expense.

Question.

Since energy markets are so interrelated, I would imagine that each time Congress acts in one energy market or another - whether it be oil, natural gas, or coal - the functions of the Federal Energy Administration are affected either directly or indirectly. Would you care to comment on the difficulties this poses for the FEA in planning its programs, budget, and expenditures of funds?

Answer.

The interrelationships existing within the energy market dictate that any action in one market segment, whether it be oil, natural gas or coal, has an impact upon other sectors. An example of this is the shortage of natural gas projected for this winter. Such shortages will enhance both the coal and oil winter demand as those natural gas consumers with dual

fuel capabilities switch to alternative fuels to meet their energy requirements.

Any Congressional activity directed toward energy has a direct effect upon both the thrust and magnitude of FEA policy and future planning activities. A pertinent example is that of current FEA regulatory activities which if terminated, would eliminate the need for FEA resources earmarked for enforcement and compliance activities. If Congress were to enact strict building thermal standards, the corresponding conservation program within FEA would be compelled to expand the scope of its function.

The net impact of Congressional activity upon FEA's planning program and budget areas is to demand a posture of flexibility wherein FEA may react in a timely fashion to conform to Congressional mandates. This creates a minor management problem for FEA at times but poses an even greater problem for the nation in that the need for a cohesive national energy plan becomes more and more apparent as we tinker with or fine tune any one single part of the energy equation.

QUESTIONS SUBMITTED BY SENATOR GALE W. McGEE

Question. The Federal Energy Administration has recognized the necessity of maintaining liaison between FEA and the States. Yet no such liaison personnel have been assigned to Wyoming. FEA has cited budgetary limitations for this. What would the total cost be for establishing such liaison capability between FEA and the States? Between FEA and the State of Wyoming?

Answer. The estimated cost of one state liaison person is \$37,934 and the estimated cost of one liaison person for each state is \$1,896,700.

Question. Please explain in detail the status of the Entitlements Program. How is this program affecting small refiners?

Answer. The entitlements program has been in operation for ten months. Notices of entitlement purchase and sale obligations have been issued for each month from November 1974 through August 1975, involving exchanges totalling \$1,073,922,120.71. As there is a two-month lag in the exchange of entitlement monies, the impact of the entitlements program can only be measured over the first eight months of 1975. The attached table and graphs indicate the impact of the entitlements program on the average crude costs of each of the three classes of refiners: large integrated, large independent, and small. These data show that the class of small refiners, in the aggregate, has been advantaged in each month of the program through entitlement revenues, with the resultant impact of lower post-entitlement crude costs.

This advantage to small refiners results from two particular facts of the program: (1) the small refiner bias which provides for issuance of additional entitlements to small refiners based on their crude runs; and (2) exception relief granted on an expedited basis for small refiners experiencing serious financial hardship or gross inequity.

In summary, the program has narrowed the gap in crude costs between large independent and large integrated refiners, and slightly reduced the lower average crude costs of the small refiners.

PRE AND POST ENTITLEMENT CRUDE COSTS BY CLASS OF REFINERS
(in \$ per Bbl.)

MONTH	LARGE INTEGRATED REFINERS		LARGE INDEPENDENT REFINERS		SMALL REFINERS		SMALL & INDEPENDENT REFINERS		ALL REFINERS	
	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
JANUARY	9.65	9.76	10.29	10.00	9.20	9.06	9.56	9.38	9.63	9.65
FEBRUARY	9.96	10.18	10.59	10.12	9.54	9.23	9.93	9.56	9.95	9.99
MARCH	9.72	9.85	10.63	10.20	9.54	9.52	9.94	9.77	9.79	9.83
APRIL	9.70	9.86	10.81	9.81	9.50	9.42	9.92	9.55	9.77	9.77
MAY	9.74	9.93	10.67	9.76	9.57	9.34	9.92	9.47	9.80	9.80
JUNE	10.04	10.21	11.53	10.74	9.92	9.79	10.48	10.12	10.17	10.19
JULY	10.37	10.59	11.23	10.61	10.33	10.03	10.68	10.25	10.47	10.48
AUGUST	10.59	10.91	11.52	10.22	10.27	9.83	10.73	9.97	10.63	10.63

Question. What is FEA doing to meet the apparent shortages of propane and butane which are projected for next fall and winter? Do you anticipate instituting a priorities and allocation program should such shortages occur?

Answer. We have submitted proposed legislation which if enacted, will provide authority to allocate and establish reasonable prices for propane to assure an equitable distribution of propane among historic propane users and consumers experiencing natural gas curtailments. Although there are other issues presented by the Natural Gas Emergency Standby Act of 1975, certainly the matter of propane allocation and pricing authorities needs and deserves prompt attention on the part of the Congress. This is particularly urgent in view of the uncertainties associated with the EPAA, which is currently scheduled to expire on November 15, 1975.

Further, in light of the projected shortages of propane and butane during this forthcoming winter period, the FEA on August 29, 1975, issued regulations which eased the rules pertaining to the importation of propane and butane. These regulations permit industrial users, and in certain circumstances, gas utilities, to accumulate and use propane and butane imported from sources other than Canada over and above the use limitations and inventory restrictions applicable to the use of domestic propane and butane.

Also, we have pushed and we continue to push for decontrol of natural gas prices. Since 70 percent of propane is derived from natural gas, any action which will increase the production of natural gas will at the same time increase the supply of propane.

Question. What is FEA doing to control the prices of these critical fuels?

Answer. At the production level the FEA has restricted the increased product costs which can be allocated to propane so that propane does not receive any greater share of costs than propane production represents to total production. For example, if three percent of the crude barrel goes to propane production, only three percent of the increased crude costs can be applied to propane. The same is true for propane produced from natural gas.

In an additional effort to protect the residential user, the refiner and gas processor also permitted, under FEA regulations, to pass through increased product costs on a disproportionate basis to purchasers who are not homeowners or independent marketers. If the seller has increased product costs, they can be applied so that they are passed through in a higher amount to the nonresidential and nonindependent marketer provided that the increase to these users does not exceed by one hundred percent of the increase to the residential and independent marketer purchasers.

Finally, the FEA has proposed a change in its regulations which would permit resellers greater pricing flexibility by permitting them to reallocate increased costs from propane to any other product except for No. 2 oils. Refiners already have been given this flexibility. A public hearing will be held on this and several other proposed amendments on November 11 and 12, 1975.

While some butane or butane-propane mixes are used for heating, as most butane is used for motor gasoline production, the FEA has not applied the same regulations to butane preferring the option of using butane as a potential vehicle for increased costs which would otherwise be applied to propane.

FEA has been reviewing various other steps which could be taken to reduce costs to the residential user but to date these have tended to be too cumbersome to implement.

COAL MINE HEALTH AND SAFETY PROBLEMS

Senator ROBERT C. BYRD. Before closing the hearing record on the fiscal year 1976 appropriation bill, I also wish to include questions on coal mine health and safety problems directed to the Interior Department and the responses from Assistant Secretary Carlson.

Any late submissions following this final hearing will also be included in the record at that point.

[The information follows:]

COPY

August 13, 1975

Mr. Jack Carlson
Assistant Secretary for
Energy and Minerals
Department of the Interior
18th and C Streets, N.W.
Washington, D.C. 20240

Dear Mr. Carlson:

During the Senate Appropriations Hearings which were held on April 3, you will recall the colloquy which I had with you relative to the health and safety problems associated with heavy equipment use in the mining industry. I am informed that over 60 percent of surface mining fatalities can be attributed to heavy equipment usage and during the past three years, haulage trucks alone were involved in 81 fatalities, front-end loaders in 58 fatalities, and earth moving equipment in 25 fatalities. I would like to pursue that discussion by asking you a few additional questions.

1. Were the additional accidents recorded in the mining industry with regard to heavy equipment usage beyond those cited above?
2. You mentioned during the Appropriations Hearings that a proposed equipment program was deleted by the Department. What was the proposed program and what did it involve in terms of personnel and costs?
3. In light of the energy crisis and the projected increase in mining productivity over the next five years, what do you expect as an increase in the entire equipment industry and more specifically, the heavy mining equipment industry?
4. Would the program which was originally proposed increase in activity in the equipment industry?

I will very much appreciate comprehensive answers to the above questions and any other comments which you might care to make regarding this subject in order that they may be included in the printed hearings of the Committee.

Sincerely yours.

Robert C. Byrd
U.S. Senator

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

Dear Senator Byrd:

This is in reply to your letter of August 13 in reference to Senate Appropriation Hearings held on April 3 relative to the health and safety problems associated with heavy equipment use in the mining industry. Listed below are the answers to the questions you raised in your letter.

1. Question: Were the additional accidents recorded in the mining industry with regard to heavy equipment usage beyond those cited above?

Answer: From the period January 1 through August 30, 1975, there were a total of 33 fatalities in the mining industry which were attributed to heavy equipment. From 1972 to 1974 there were a total of 2,916 disabling injuries attributable to heavy equipment, and for the first quarter of 1975 there were 206.

2. Question: You mentioned during the Appropriations Hearings that a proposed equipment program was deleted by the Department. What was the proposed program and what did it involve in terms of personnel and costs?

Answer: MESA proposed that a "Mining Equipment and Safety Laboratory" be established. The establishment of such a laboratory was based on results from in-house and contract studies which showed the need for a major coordinated effort to reduce fatalities and injuries resulting from the operation of mining equipment, especially the heavy, high capacity, mobile loading and haulage units.

The program would include a responsibility for the testing, certification and approval, and quality control of all surface coal and metal and nonmetal mining heavy equipment and machinery; and the development of a systematic program to reduce accidents and the severity of injury. This would involve the identification of hazards inherent in the design and use of the equipment; determining the feasibility of design changes and in use of the equipment; determining the feasibility of design changes and of modifications to existing equipment for safety and ease of operation; establishing training programs for operators; and developing standards for safe design and use. The personnel and cost requirements to establish a heavy equipment laboratory was included in the Administrator's testimony before the Senate Committee on Appropriations. A copy of the Administrator's testimony on this subject is attached.

3. Question: In light of the energy crisis and the projected increase in mining productivity over the next five years, what do you expect as an increase in the entire equipment industry and more specifically, the heavy mining equipment industry?

Answer: With the energy crisis our Nation is facing and the push for more coal production as well as other natural resources, the mining industry must and will gear up to meet these critical

demands. The Interagency Task Force on Coal for "Project Independence" stated that the coal mining industry must expand from a 1975 demand of 685 million tons per year to a 1990 consumption need of 1,300 million tons per year. A critical factor in this expansion is the increase in the production of mining equipment and especially high extraction surface mining equipment. Using the Task Force's projections for the number and types of mines that will be required to meet this demand, and the types of equipment needed to produce this tonnage, MESA estimates that by 1990 there will be required approximately 6,000 pieces of surface mining equipment and 33,000 pieces of underground mining equipment. A considerable number of these machines will require some type of approval and certification action. These figures do not include the replacement of mining equipment presently in use that will also require some approval and certification action. MESA's mandated responsibility in this area lies with the authority of the Secretary of the Interior to promulgate regulations under the Federal Coal Mine Health and Safety Act of 1969 and the Federal Metal and Nonmetallic Mine Safety Act which require increased protection to the miners in the use of improved mining equipment.

In the past, MESA only tested and improved equipment for use in gassy mines to insure that they presented no fire or explosion hazard. However, this has been expanded to protect the miners from the day-to-day type accidents in all mines. As we gear up to meet the requirements of "Project Independence," we must insure that our miners are safe from injury or death. The installation of mechanical safeguards into the mining industry has and will provide this protection.

4. Question: Would the program which was originally proposed increase in activity in the equipment industry:

Answer: As previously stated in the answer to Question 3, the demand for increased coal production will greatly affect the mining industry in that the production of equipment will have to be increased, particularly the heavy equipment which would be used in surface mines. Most of this new equipment ultimately will have to be approved by MESA before being used by the coal operators. In view of the demand for more coal as outlined in "Project Independence," this approval must be carried out in a timely and efficient manner in order to insure that safety requirements are met and at the same time insure the efficient production and approval of equipment in order to meet industry demands.

If you require any further or more detailed information, we will be pleased to submit this information to you.

Sincerely yours,

Secretary of the Interior

Honorable Robert C. Byrd
United States Senate
Washington, D. C. 20510

STATEMENT OF SENATOR JOSEPH M. MONTOYA BEFORE THE INTERIOR AND RELATED AGENCIES SUBCOMMITTEE OF THE SENATE APPROPRIATIONS COMMITTEE ON THE F.Y. 76 BUDGET REQUESTS FOR THE DEPARTMENT OF INTERIOR AND RELATED AGENCIES.

My suggestions for changes in the Administration-proposed budget for the Department of the Interior and Related Agencies all concern Indian programs this year. I wish very much that I did not continually have to come before the Committee to request add-ons, but I feel compelled to do so by twin forces. On one hand are the very visible, very real needs of my constituents, and contrasted with these is the administration budget which never has and seems never likely to come close to meeting those needs. Although my requests add up to several millions of dollars, I feel justified in making them because I believe that this branch of government must live up to our obligations to the Indians, even if the Administration is unwilling to do so.

I would also point out that in approving these or similar amendments, the Committee would be acting, in a general way, in concert with the spending priorities laid down by the Congress in the passage of H. Con. Res. 218. Each of the items detailed below falls into the category of expenditures identified by the Budget Committee as "Natural Resources, Environment and Energy." Within this category the President has proposed \$12.2 billion in budget authority and \$10.1 billion in outlays while the Congress, in passing H. Con. Res. 218, has approved \$13.8 billion in budget authority and \$11.6 billion in outlays, an increase of \$1.6 billion in budget authority and \$1.5 billion in outlays.

My only other point, before going to my individual requests, is that a number of them are for construction. I am asking, for example, for funding for several hospitals and schools. I hardly need remind this Committee of the high national rate of unemployment, now in excess of 9%, of the even higher unemployment rate in the construction industry, now in the neighborhood of 20%, and of the Indian rate of unemployment which, at 70% or more in many places, more closely resembles that of underdeveloped nations than that of the United States of America. These construction projects will put people in high unemployment categories back to work at the same time that they produce facilities badly needed to serve the health and educational needs of the Indian people. In short, this year especially, we have more than the ample justification which always existed for these projects. We also have the least possible justification for failing to act.

INDIAN HEALTH

The need for more Indian hospitals has been well documented. The Senate Interior Committee has found that, of existing Indian health facilities, 38 hospitals, 66 health centers and 240 health stations are at least twenty years old. A special committee of the American Hospital Association has found that only twenty-one

of the fifty-one existing Indian Health Service hospitals meet their standards of accreditation and that two-thirds of the hospitals are obsolete, and that twenty-two need complete replacement. And the Indian health service itself last year submitted it to this Committee a list of thirty-six hospital projects identified as needing new construction, modernization or replacement.

Against that background, I was astonished, truly astonished, by the complete failure of the Administration to request any funds for hospital construction, and I asked that the Comptroller of HEW, Assistant Secretary John D. Young, appear before the Committee to explain and justify the Administration's position. He did appear, but, to my mind, he could neither explain nor justify the Administration request. What we did learn from him was that the Indian Health Service had formally requested funds for eight hospitals. Money for five of these hospitals was rejected at the Department level, while money for the other three (Acoma-Laguna, \$5,555,000; Santa Fe, \$9,281,000; and \$800,000 for the second phase of planning for Bethel) was approved by the Department but rejected by O.M.B. I recommend that this Committee exercise its good judgement by funding these hospitals, and I specifically request funding for Acoma-Laguna, and Santa Fe.

ACOMA-LAGUNA

The Acoma-Laguna, Canoncito Hospital is intended to be a 40-bed facility designed to serve the needs of the Pueblos of Acoma and Laguna and the Navajo Community of Canoncito. At present there is no existing in-patient facility serving these people. Medical care is provided on a part-time basis at an out-patient clinic. When the clinic is closed, or if even moderately sophisticated treatment is required, a patient must travel 50 miles to the east to Albuquerque or 35 miles to the north-west over bad roads to the Crownpoint Hospital for care. The planned facility will serve as the focal point of a total health care program. General medical and obstetric care as well as a full range of in-patient and speciality clinics will be provided. By 1985, the out-patient workload is estimated to amount to 18,000 Indian and 5,000 non-Indian visits per year.

The history of the funding of this hospital has been one of promising starts but faltering finishes. In 1972, we provided \$340,000 in planning funds for the hospital, and that work was performed. Last year, the Senate approved \$5.43 million for construction and the conference reduce this to \$1 million. The administration subsequently impounded these funds on the grounds that \$1 million was not enough to build the whole project and that this "new start" would run counter to the then-current policy of "no new starts." For its part, the Indian Health Service requested funds to complete this hospital in both F.Y. 75 and F.Y. 76, but in both instances the request was struck from the President's budget by higher authorities. Meanwhile, the cost has escalated so that it now reaches \$6.555 million as opposed to \$5.4 million last year. I request this Committee to make another start by appropriating the \$5.555 million needed to complement the \$1 million we provided last year.

SANTA FE INDIAN HOSPITAL

The most important health facility for approximately 11,000 Indians of northern New Mexico is the Santa Fe Service Unit, a facility once called a hospital but which has become so dilapidated in condition and obsolete in equipment that it lost its accreditation status with the Joint Commission on Accreditation of Hospitals on February 19, 1971, and now may be called only a "service unit."

The proposed hospital would be composed initially of a 45-bed complement with space provided for the later addition of another 10-bed multi-purpose unit. Comprehensive health care will be augmented by a full range of dental, out-patient, and field health specialists.

This is another project which enjoyed a timely start but fell behind. The program plan was forwarded through channels to O.M.B. on December 9, 1971. Congress subsequently appropriated \$170,000 in planning funds which were apportioned at the time the architect-engineering contract was let in November, 1972. Since then, requests for construction funds have gone up and down between I.H.S. and O.M.B. I.H.S. has launched them, and O.M.B. has shot them down. Again, I recommend that we follow through on our earlier work and accept the recommendation of I.H.S. that \$9,281,000 be appropriated for construction.

OTHER HOSPITALS

I also request the Committee to give consideration to funding a replacement facility for the Crownpoint Hospital. Crownpoint is a 56-bed, 11-bassinet facility which was constructed by the Bureau of Indian Affairs in 1939. Since its erection, the building has been remodeled many times in attempts to keep pace with the greatly increased patient load and with medical advances that have occurred during that period. By now, however, the hospital is in a run down condition and needs to be replaced. I understand that some \$9 million are needed to undertake this work.

EDUCATION-SCHOOL CONSTRUCTION

I am happy to note that we do not have to contend with a zero-dollar budget request for school construction, but I would have been much happier if the BIA had honored the request we made of them in last year's report to provide us with their evaluation of the construction and operating needs of Indian contract schools. This failure, together with the failure over several years to request funds for schools for which Congress has provided planning and/or design funds, leads me to make the following requests.

RAMAH

Is there any member of the Committee who does not now know about Ramah? I doubt it, because this school, the first and the most successful Indian contract school in the country, has received a good deal of well deserved attention. It may interest the Committee to know

that I made a personal visit to Ramah at the end of May and was very favorably impressed. The Ramah Navajo School Board has assembled an extremely competent team of educators who, from all indications, are running a splendid school. The faculty is sharp, the students are interested and enthusiastic, and the cultural traditions of the Navajo are being nurtured and preserved by means of a creative curriculum which reaches parents and community members as well as students. This school represents local education at its very finest. I also observed that construction of the new school is proceeding well and staying within cost and on schedule.

I am very grateful to the Committee for the support which it has shown to me and to this school over the past few years. In 1972, you provided \$950,000 to drill the wells the school would need. In 1973, you accepted the administration request of \$2.7 million to initiate construction. Last year, you provided an additional \$800,000. I now come before you to make what I hope will be my last request for this school. I ask for \$5.9 million to complete the school. These funds will provide a dormitory, a cafeteria, a library, kindergarten, staff housing and a clinic.

While this may sound like a great deal of money for a school, one should bear several points in mind. First, this school is forced, due to its remote location and to the fact that it will also serve as a community center for Ramah, to have features such as staff housing, a clinic and dormitories not normally found in non-Indian schools. This, of course, inflates the cost. Second, the school, when completed, will have cost approximately \$10 million. This stands in sharp contrast to the \$16 million price tag the Bureau of Indian Affairs estimated several years ago as the cost of the school it had planned for Ramah. Over the space of the intervening four or five years, inflation surely would have boosted the BIA estimate to \$20 million or more. I think it can accurately be said that the Ramah school board has prepared reasonable plans which will end up costing the taxpayer only half of what the cost of the BIA-planned project would have been. Finally, it is important that we provide the funds this year so that phase II construction can merge smoothly with the completion of phase I. Otherwise, the equipment and the work crews at this remote school site will have to be removed and a great and unnecessary expense will be incurred when they finally do go back to work.

SAN FELIPE

One of the central ideas behind the Ramah school is to return Indian school children, now spread all over the country, to their homes. The same idea also underlies the desire, which I fully support, of San Felipe Pueblo to build a new day school for 580 pupils in grades K-8. At present, the majority of San Felipe students in grades K-9 attend one of three different schools. The youngest children, some 218 in number who are in K-3, already attend school at the BIA's San Felipe day school, but older children are bused 13 miles to the Santo Domingo public school or ten miles to the Bernalillo Junior High. In addition to preferring that their children stay close to home, the San Felipe parents are understandably concerned that their children grow up in a school which emphasizes San Felipe--rather than Santo Domingo or non-Indian--values and tradition.

I am happy to report that in this case the wishes of San Felipe coincide with the position of the BIA. The Bureau advised me last year that construction of the San Felipe school is number one on the school construction priority list of the Albuquerque area and that it is a high-priority project when considered from a national point of view as well. In F.Y. 1972, we approved \$25,000 for advance planning at San Felipe and a year later provided \$240,000 for architect/engineering work. I propose that we now appropriate the \$4.4 million needed to convert this project from a high priority into a reality.

LAGUNA JUNIOR HIGH

The Pueblo of Laguna is fortunate in having its students attending classes on the reservation, but it faces different and perhaps more serious problems. On one hand, the school is seriously overcrowded (it was designed to house 350 students but now houses 600), and, on the other, it is a public school which is controlled by a non-Indian school board which does not enjoy good relations with and has not been responsive to the wishes of the Indian parents. For example, unlike the situation found in most Indian schools, there are no bilingual or bicultural programs at Laguna. As another example, the severe overcrowding has limited participation in a special education program to 18 children even though there are 38 other children at Laguna who need special educational services and would qualify for them if facilities were available.

To remedy these and other problems, the Pueblo has proposed that the BIA construct a separate and distinct junior high school for some 200 Laguna youngsters. Planning funds were provided by Congress in 1972 and spent, and design funds in excess of \$100,000 were subsequently approved. These funds were deferred, however, while OMB developed a policy on building BIA facilities in the same area as existing public schools. That policy has now been enunciated and the proposed Laguna junior high school qualifies under its terms for construction. I recommend that we write into our report language directing that the design funds be spent forthwith and that we appropriate \$2.75 million needed for construction.

INDIAN EDUCATION--PROGRAMS

NAVAJO COMMUNITY COLLEGE

The struggle for adequate funding for the Navajo Community College shows every sign of becoming an annual affair, and I regret that, for I believe Congress outlined in P.L. 92-189, the law which authorizes grants to the Navajo Community College, a formula which, if followed in spirit, would have resulted in an adequate budget request. The language I am referring to says, in pertinent part, that there is authorized:

an annual sum for operation and maintenance of the college that does not exceed the average amount of the per capita contribution made by the Federal government to the education of Indian students at federally operated institutions of the same type.

It is generally held that the "institutions of the same type" is Haskell College in Kansas, for which the President's F.Y. 76 budget provides a per-pupil cost of \$4,400 per year. By contrast, the proposed budget of \$2,058,000 for N.C.C. for F.Y. 76 amounts to a per-pupil cost of only \$2,058 per year. Both as to the total amount and as to the per-pupil costs, this comes to less than N.C.C. received in F.Y. 75 when it had fewer students and inflation had not yet raised prices to today's level.

I find the discrepancies between Haskell and N.C.C. and between F.Y. 75 and 76 hard to understand, particularly in light of the fact that N.C.C. in early 1974 presented the Bureau with an estimated budget of \$6.5 million for F.Y. 76. According to a statement of general principles contained in a letter signed on March 19, 1974, by Morris Thompson, the Bureau committed itself to negotiate any differences which might arise between the budget proposed by N.C.C. and the proposed budgets of similar Bureau schools, but in this case the Bureau has failed to discuss anything. Instead, it has simply presented N.C.C. and us with a very small and insufficient budget request.

The Navajo Community College is a very important institution. For one thing, it is one of the very few Indian colleges in the country. For another, it has a critical role to play in the effort of the Navajos to economically develop their reservation. The N.C.C. is training people in management skills, in preparation for advanced degrees in science and humanities and in agricultural skills which will be needed very shortly on the Navajo Irrigation Project. It would be short sighted to allow this college to wither into insignificance for lack of funding, and I propose that we appropriate \$2,500,000 over and above the budget request of \$2,058,000 for a total of \$4,548,000. This may be justified by multiplying the \$4,400 per-pupil expenditure at Haskell by the 1,000 pupils expected at N.C.C. and by adding \$100,000 for maintenance and other expenses which N.C.C. must bear by itself, but which are provided free of charge by the Bureau at Haskell. It is my understanding that the Bureau is prepared to inform the Committee that this additional request is justified and that the Bureau can support it.

JOHNSON-O'MALLEY FUNDING

Johnson-O'Malley funds are the principal form of assistance provided by the Federal government to non-BIA boards of education which are educating Indian children. These funds are critically important in my state and in many others because they represent a payment to the educational agencies in lieu of the property and educational taxes which the agencies could be expected to collect were Indians not involved. Recently, the Bureau of Indian Affairs has revised the formula which determines how JOM funds are to be allocated. The formula is somewhat complicated, but provides, in essence, that more assistance will be provided to states which have large per-pupil expenditures than to states which have smaller per-pupil expenditures.

The upshot of this is that 12 of the 24 states receiving JOM funds will get more money than last year, 9 will get less, and 3 states which are served by more than one area office will experience different results in each of the different areas.

As the Committee may appreciate, this situation is causing considerable distress to those states and areas suffering losses as compared to last year's allocations. This distress is compounded by confusing-- and ultimately incorrect-- signals which the Bureau issued in the early part of the year to school boards concerning the level of JOM assistance which they might have expected to receive. In the case of the New Mexico Indian Education Board of Regents, the body which administers JOM funds for all non-Navajo Indians in New Mexico, the new allocations came as a most unpleasant surprise. In February, the Board was assured that the new JOM allocations would provide them with substantial increases. On May 19, however, the Board learned that the actual allocation was being cut from \$296 per-pupil in F.Y. 75 to \$162 per-pupil in F.Y. 76. Not only was the news bad in its own right, but it also came so late in the year that the Board of Regents and the individual school boards will have severe difficulties adjusting their budgets to take this situation into account.

I recommend that we resolve these dilemmas by adopting a funding level of \$29,289,300 which represents a \$3,487,300 increase over the budget request of \$25,802,000. This will enable us to "hold harmless" the states and areas scheduled to lose funds. Such a funding plan would not, I am advised violate either law or regulations.

JOHNSON-O'MALLEY ELIGIBILITY

It has come to my attention that Indian-controlled schools in the states of Alaska, Idaho, New Mexico and Oklahoma (and possibly in other states as well) have encountered difficulty in applying for and receiving Johnson-O'Malley assistance. Some officials of the Bureau of Indian Affairs seem to be taking the position that such schools are ineligible for JOM funds in spite of an opinion of the Associate Solicitor for Indian Affairs, dated February 12, 1975, which concludes that under both existing regulations and the provisions of P.L. 93-638 they are eligible. I believe it would be helpful to the Indian-controlled school boards if we included language in the report reaffirming that Indian-controlled schools are indeed eligible for JOM funding.

INDIAN EDUCATION ACT

Fully half the Tribes and Pueblos in New Mexico have approached me since the beginning of the year to report on educational programs which they started in the last year or two under Part A or B of Title IV of P.L. 92-318, the Indian Education Act, which were working well and showing results but which, suddenly, are going to be cut back to 75% or 60% of last year's funding because of insufficient appropriations. Part A provides federal assistance to public schools on and off Indian reservations for the purpose of supplementing the curriculum in some way to benefit Indian children. Different school districts have used this basic support for a broad range of educational activities, from basic skills such as reading and mathematics programs to counseling services and bicultural/bilingual programs. Part B provides for pilot and demonstration Indian education programs with a stress on innovative programs, bicultural/bilingual education, and special health and nutrition services.

Despite the number of applications filed and the enthusiasm with which this program has been greeted by the Indian Community, neither the Congress nor the Administration has been at all generous in funding it. In the past two

years, we have provided only \$25 billion for Part A, \$12 million for Part B and \$3 million for Part C, and it is this same low level of funding which the President has requested again for F.Y. 76.

While the level of funding has stayed the same in constant dollars (and declined in real dollars) the number of applications has been mounting steadily. In F.Y. 74, 1,098 applications were received for Part A and 854 were funded. In F.Y. 75 there were 1,169 applications of which approximately 850 were funded. In F.Y. 76 the Office of Education is expected to receive 1,300 applications and to fund 1,200 of them. Similar patterns are seen in applications for funding under Parts B and C. The demand for funds may also been seen in terms of dollars. In F.Y. 75, for example, applications totaling \$65.9 million were submitted for Part B, for which only \$12 million was available. For Part C, applicants requested \$16.9 million when only \$3 million had been appropriated

When these increasing figures are placed next to the figures showing what has actually been provided, it is not hard to understand what is happening in New Mexico and around the country. Limited funds are being spread out thinner and thinner, and good programs are starving for funds. I recommend that we take a step toward meeting this problem by appropriating \$30 million for Part A, \$17 million for Part B and \$5 million for Part C.

INDIAN EDUCATION ACT - 1974 AMENDMENTS

I also recommend that we provide funding for the first time for the program in graduate fellowships in engineering, medicine, law, business, forestry and related fields authorized by Title VI, Part C, Section 631 of PL 93-380, signed August 21, 1974. Section 631 amends the Indian Education Act by adding two new sections, one of which (Section 423) accomplishes the purposes outlined above.

The need is growing rapidly to provide fellowship assistance to college-educated Indian students seeking technical or professional training at the graduate level. This need arises from several causes. One is the rapidly increasing number of college-educated Indians; as more earn a B.A. or a B.S., the number realizing their capability to earn a technical or professional degree also increases. Another cause is the increased responsibility which Indians are taking for their own affairs. The enunciation of the self-determination policy, the recent Mancari decision giving Indians preference in hiring and promotion on Federal programs primarily affecting Indians, and the approaching completion of projects such as the Navajo Irrigation Project are all creating a demand for Indians possessing sophisticated technical or professional skills.

One program which I know of personally was begun recently by the Department of Engineering at the University of New Mexico to train Indian students in mechanical, chemical, nuclear, civil and water engineering. The program is seemingly catching on very quickly. In only a few months, 80 applications have been received for 40 available places, all from Indian people who, because of religious beliefs, have very rarely entered engineering in the past. This is a sign of the times, and I believe we would do well to recognize it and other signs by appropriating the \$2 million which the Office of Indian Education estimates will be required for the 200 authorized fellowships.

INDIAN EDUCATION ACT - ADMINISTRATION

A meagre appropriation is not the only problem which the Office of Indian Education has had to grapple with since its creation; there are two major administrative problems which require correction as well.

The first is a staff which is too small to do its job. Very soon, the Office of Indian Education will reach, for the first time, its authorized level of 50 employees. Heretofore, it has always operated with a fewer number despite studies conducted by both HEW and the Office of Education which concluded that a minimum of 33 additional were needed for OIE to do its job properly.

With the increasing workload created by the increasing number of applications for Title IV funds, the Office of Indian Education is able only to receive and then to approve or reject grant applications. It simply cannot evaluate, monitor, or provide technical assistance to the programs now in existence. This problem could be resolved by our decision to authorize 33 additional people, and I recommend that we make such a decision.

I believe we should also authorize the creation of an Associate or Assistant Commissioner of Indian Education at a GS 16 or GS 17 level. Dr. William Demmert, the present commissioner, does an excellent job, but when he leaves his office on travel, as he frequently must, things come to a standstill until he returns. This is the only office of equal rank within the Federal government without an associate or assistant director, and I believe the program would benefit were we to remove this one distinction.

INDIAN SCHOLARSHIPS

Another program which means a great deal to the Indian people is the Indian Scholarship program, but here again the level of assistance which current levels of funding permit is insufficient. BIA officials have told me that the average amount of assistance awarded to an Indian student--married or unmarried, at a private or a public college--is \$1,800 and that the current budget request of \$31,956,000 will provide assistance to some 17,000 students -- approximately the number whom the Bureau considers qualified to go to college and who have made timely applications for funds. It is my understanding, however, that this level of funding imposes severe hardships on two categories of Indian students who deserve to be helped--the married students and the graduate students.

Approximately one half of all Indians in undergraduate school today are married. This is accounted for in part by the fact that many Indians delay their college education or go back to school only after they have had some practical experience in a job which convinces them that a college education would be valuable. For these students, a stipend of \$3,100 would more closely meet their needs than would the \$1,800 now provided. Granting assistance at this level would require an additional \$11,050,000.

Additional assistance in the amount of \$1,225,000 is also needed for graduate students. Present BIA policy is to provide assistance

first to undergraduate applicants and then, if any funds are left over, to graduate students. This works a distinct hardship on the 500 Indians now ready to do graduate work because the funds available to undergraduates are invariably used up. The expertise which Indian graduate students will develop is badly needed in Indian communities, and I believe that an investment in Indian graduate education would be well worth the expense.

Added together, these two requests amount to \$12,275,000. I do not realistically expect the Committee to approve an amendment in this amount, but I do recommend that we increase the higher education budget by some amount and I set forth these figures as a basis on which the Committee may act.

TRIBAL GOVERNMENT NAVAJO LAW AND ORDER

On May 13, representatives of the Navajo Tribe appeared before the Committee and presented an argument in favor of additional funding for law and order programs being carried out at the expense of the Navajo Tribe by the Navajo Division of Law Enforcement. I find this argument to be convincing, and I believe we should support it. As the Committee will recall, the request had three parts: (a) an appropriation of \$4.2 million for public safety services on the reservation (b) language stipulating that the funds go to the Navajo Division of Law Enforcement; and (c) language directing the BIA to eliminate present duplicated public safety services by contracting such services to the Navajo Tribe.

In considering this request, the Committee should recall that the Navajo Tribe voluntarily undertook to provide law enforcement service on the reservation in 1958. Today, the NDLE employs 230 police officers, 54 civilians and 41 persons employeeed under the Federal Public Employment Program. Its annual budget, anticipated at \$4.3 million in F.Y. 76, is totally supported by tribal funds. In contrast, BIA's law enforcement effort on the reservation is limited to 14 special officers with an annual budget last year of \$230,000. This situation exists despite the clear responsibility of the federal government to assure law enforcement and public safety on Indian reservations.

For 17 years, the Navajos have borne this burden alone, despite appeals for help and despite the tremendous drain which it has imposed on the tribal treasury. Now, faced with increasing demands for its resources, the tribe is threatening to rescind its 1958 resolution and return law enforcement responsibilities to the BIA. The response of the Bureau to this situation has been positive--a supplemental request which includes \$2.0 million for Navajo law and order has been prepared--but it does not go far enough. I believe the Congress should provide the assistance requested either by appropriating \$4.5 million in the regular appropriation or by appropriating \$2.0 million in the supplemental and \$2.5 million in this bill.

PREPARED STATEMENT

ROCKY BOY'S (MONT.) HEALTH BOARD

CHIPPEWA-CREE TRIBE, ROCKY BOY'S RESERVATION, MONT.

The Chippewa-Cree Tribe of the Rocky Boy's Reservation, Montana, requests that a total of six hundred and eighty-three thousand dollars (\$683,000) be added to the administration requests for the Indian Health Service budget in Fiscal Year 1976 for improved outpatient health services to the Indian people residing within the Rocky Boy's Reservation area.

I, and other members of the Chippewa-Cree Health Board and Tribal Council, are here today to ask for favorable consideration for the additional appropriation to the Fiscal Year 1976 Indian Health Service budget for the purpose of providing lease funds for a new community health center to be located at the Rocky Boy's Agency, Montana, additional staff, supplies and equipment for a community health center, and eight (8) units of quarters. A new Rocky Boy's community health center will provide comprehensive outpatient health services to approximately two thousand (2,000) Indian people.

The Rocky Boy's Indian Reservation is the smallest - one of the poorest - reservations in the country. Less than twenty-five (25) per cent of our labor force have full-time employment, therefore these people have no means to provide private medical care. The closest community where medical care is available is at Havre, Montana, 40 miles north of the Rocky Boy's Agency.

The Chippewa-Cree Tribal Council is aware of, and concerned about, the need to improve the health care delivery system to the Indian people. The health of the Indian people has improved greatly since 1955 and the Indian Health Service health program continues to expand to meet the health needs of our Indian people. However, the health needs of the Chippewa-Cree Indian people cannot be met due to the serious deficiencies existing

within the present Rocky Boy's Health Center. Lack of space appears to be the major problem, resulting in many other negative by-products, such as:

- Inefficiency
- Hostility between staff and patient
- Increased patient discomfort
- Safety hazards
- Difficulty in recruiting staff
- plus other factors too numerous to list.

The Chippewa-Cree Tribal Council, by Tribal Resolution No. 56-74, dated October 10, 1974, has elected to provide funds for the construction of a new community health center at the Rocky Boy's Agency, Montana, and leasing same to the Indian Health Service. The Tribal Council is very concerned about the health of the Indian people and realizes the emergent need for a new facility. We also realize that Congressional approval for a new community health center through the normal Indian Health Service budgetary process may take two to ten years. Consequently, we, the Chippewa-Cree Tribe, are willing to spend our funds for the construction of a new community health center even though these funds could, and perhaps, should, be utilized for other programs which would benefit our people.

A new community health center would consist of approximately eight thousand five hundred (8,500) to nine thousand (9,000) gross square feet and would be designed and planned to provide total comprehensive outpatient health services to the Indian people living within the area. Some deficiencies within the current facility are:

1. The current Rocky Boy's Health Center has four thousand thirty-two (4,032) gross square feet (2,016 on each level); however, a much larger facility is required to provide adequate space for the delivery of comprehensive outpatient health services.
2. There are only two examining rooms in the existing facility; however, the workload justifies a need for a minimum of six (6).
3. A two-chair (2-chair) dental clinic is currently located in the basement of the health center. The dental clinic should

be on the main floor; and the Indian Health Service dental program epidemiological data justifies a need for a three-chair (3-chair) dental clinic. This addition, plus additional dental staff, would increase the dental services provided by approximately fifty-three (53) per cent.

I have brought with me for presentation to Sub-committee members, copies of our program proposal which identifies many more deficiencies within the existing facility.

Additional resources required to meet the needs of the Chippewa-Cree Indian people are as follows:

A. Leasing (includes housekeeping, utilities and maintenance)	42,000
B. Additional staff - 19 positions	207,000
C. Equipment, Groups I, II, III	150,000
D. Supplies	20,000
E. Housing, 8 units of quarters	<u>264,000</u>
	\$683,000

After the initial construction period, the Indian Health Service budget should receive an increase of approximately \$249,000 per year to cover leasing and staffing costs.

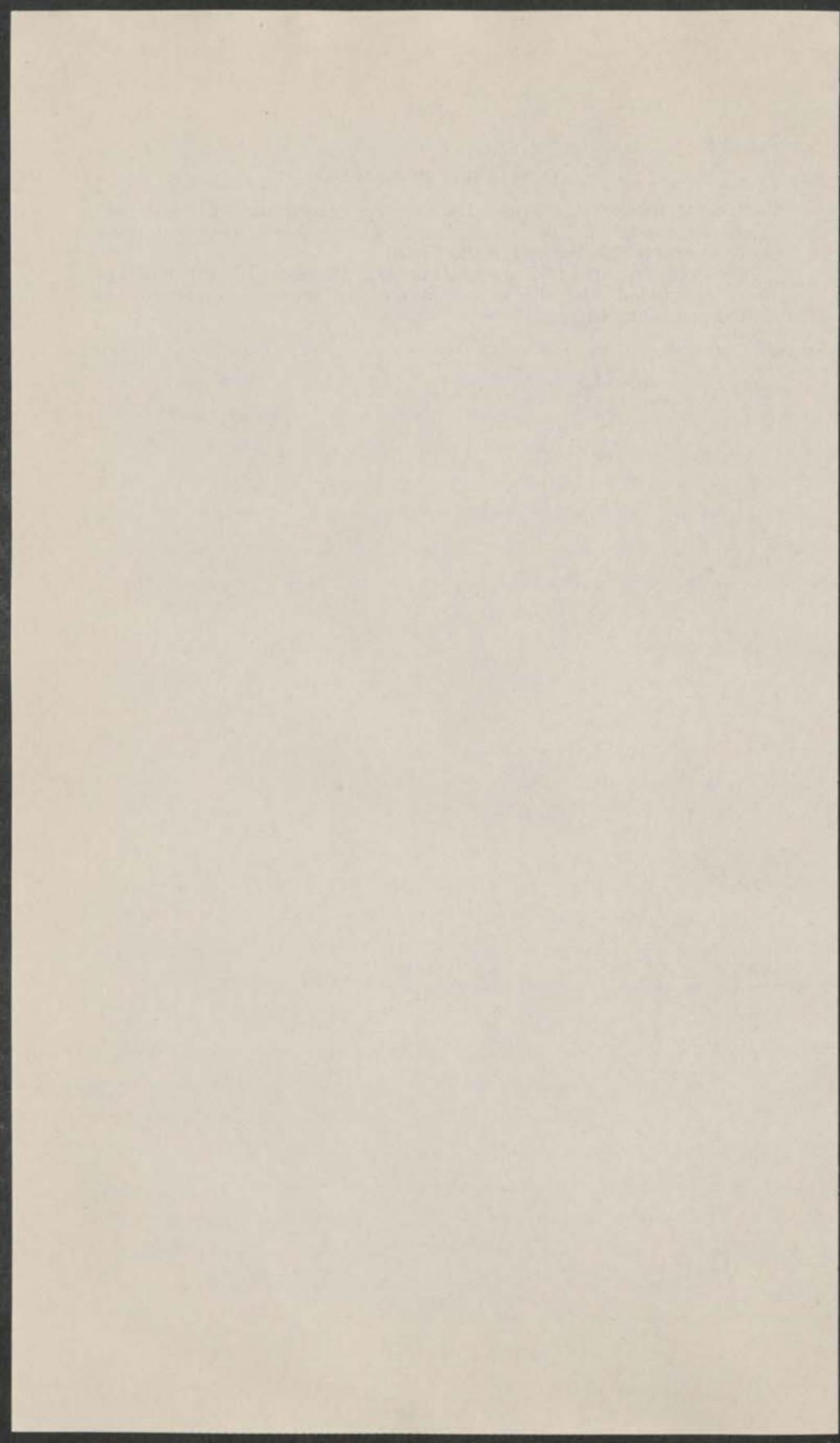
We believe Congress is sincere in its commitment to Indian self-determination as evidenced by Public Law 93-638. Therefore, the Chippewa-Cree Tribal Council has appointed five (5) members to serve on the newly incorporated Tribal Health Board. The Tribal Health Board has the responsibility to direct all Tribal health services.

It is for the above reasons that the Chippewa-Cree Health Board is requesting the support of Congress in order to fulfill its promise to provide adequate health care to the Indian people. The Chippewa-Cree Tribe is ready to begin construction of a new Rocky Boy's Community Health Center; therefore, we have contacted several construction firms. Thank you for your attention.

CONCLUSION OF HEARINGS

Senator ROBERT C. BYRD. The hearing record on the fiscal year 1976 appropriation bill is concluded. The subcommittee will stand in recess subject to the call of the Chair.

[Whereupon, at 12:35 p.m., Thursday, October 23, the hearings were concluded, and the subcommittee was recessed, to reconvene at the call of the Chair.]



CHRONOLOGICAL LIST OF HEARINGS

Thursday, May 15, 1975:	Page
Congressional witnesses.....	2177
Wednesday, October 1, 1975:	
Bureau of Outdoor Recreation.....	2291
Land and Water Conservation Fund; National Park Service.....	2383
Forest Service.....	2419
Fish and Wildlife Service.....	2433
Monday, October 6, 1975:	
Energy Research and Development Administration.....	2461
Nondepartmental witnesses.....	2611
Thursday, October 23, 1975:	
Federal Energy Administration.....	2741

THE HISTORY OF THE
CITY OF BOSTON

FROM THE FIRST SETTLEMENT
TO THE PRESENT TIME
BY
NATHAN OSGOOD

VOLUME I
FROM THE FIRST SETTLEMENT
TO 1780

BOSTON: PUBLISHED BY
J. B. ALLEN, 1856.

LIST OF WITNESSES, COMMUNICATIONS, AND PREPARED STATEMENTS

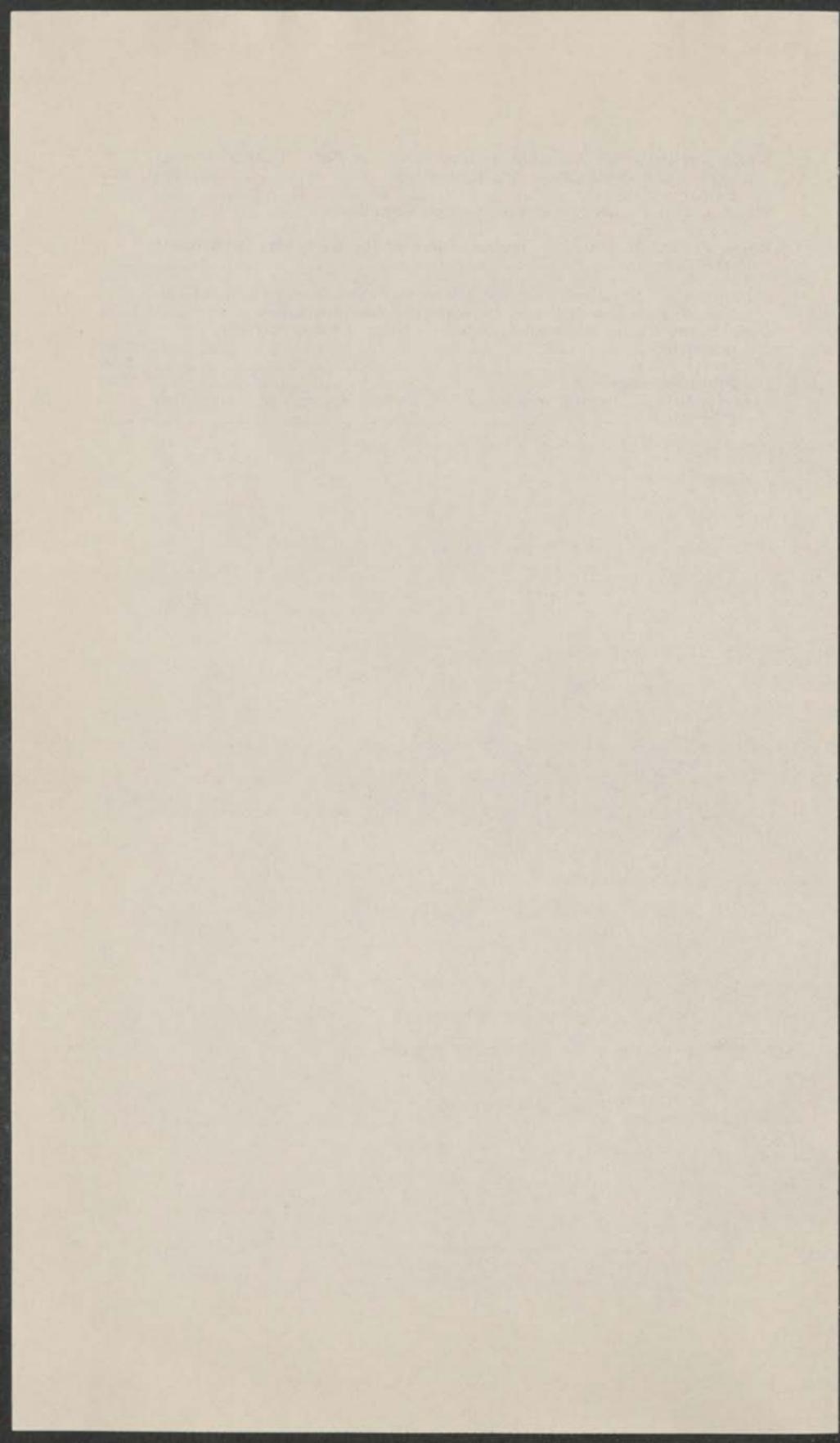
	Page
Abourezk, Hon. James G. (D), U.S. Senator from South Dakota.....	2186
Letter from.....	2253
Prepared statement.....	2189
Anderson, Dale W., president, Hawaii Macadamia Producers' Association:	
Letter from.....	2458
Armbruster, Edward J., sec. mgr. Lake Chelan Reclamation District, Man- son, Wash.:	
Letter from.....	2236
Beckley-Raleigh County Chamber of Commerce:	
Communication from.....	2354
Bellmon, Hon. Henry L., (R), U.S. Senator from Oklahoma.....	2741
Blankenship, Bob, tribal planner, Cherokee Indians.....	2191, 2193
Bradley, Frederick J., Director, U.S. Public Health Service Indian Hos- pital, Cherokee, N.C.....	2191, 2192
Prepared statement.....	2196
Briegleb, Philip A., consulting forester, Oreg.:	
Letter from.....	2285
Brooks, Hon. Jack, (D), U.S. Representative from Texas:	
Letter from.....	2949
Buckley, Hon. James L. (Con. Rep.), U.S. Senator from New York:	
Letter from.....	2225
Prepared statement.....	2226
Byrd, Hon. Robert C., (D), U.S. Senator from West Virginia:	
Letter from.....	2459, 2741, 3001
Campbell, William A., Director, Program Development and Budget, U.S. Forest Service.....	2419
Carlisle, George D., president, Prentiss & Carlisle Co.:	
Letter from.....	2246
Carlson, Jack, Assistant Secretary for Energy and Minerals, Department of the Interior:	
Letter from.....	3002
Chiles, Hon. Lawton, (D), U.S. Senator from Florida:	
Letter from.....	2401
Chippewa-Cree Tribe, Rocky Boy's Reservation, Montana:	
Prepared statement.....	3014
Clancy, Sharon, public communications contact, Coalcon, Inc.....	2611
Cole, Bert L., Commissioner of Public Lands, Washington:	
Letter from.....	2282
Conant, Melvin A., Assistant Administrator, International Energy Affairs. Education.....	2741 2753
Crebar, Carl, vice president, programs, Coalcon, Inc.....	2611
Currier, Ralph W., manager of Woodlands:	
Letter from.....	2249
Curtis, Hon. Carl T. (R), U.S. Senator from Nebraska:	
Prepared statement.....	2229
Curvey, Edward J., Assistant Director for Management and Budget, Bureau of Outdoor Recreation.....	2291
Dahl, Ray W., councilman, ward 4, City of Medford, Oreg.:	
Letter from.....	2272
DeLong, R. L., regional government affairs manager, St. Regis Paper Co.:	
Letter from.....	2240

	Page
Dent, William C., Chief, Division of Budget and Finance, Bureau of Outdoor Recreation.....	2291
Dixon, Charles M., Chief, Facilities Management Division, U.S. Department of Health, Education and Welfare:	
Letter from.....	2188
Prepared statement.....	2190
Doerner, Ray E., commissioner, Board of County Commissioners of Douglas County, Oreg.:	
Letter from.....	2280
Domenici, Hon. Pete V. (R), U.S. Senator from New Mexico.....	2201
Prepared statement.....	2204
Dragon, John, president, Wild Water, Inc.....	2357
Everhardt, Gary E., Director, National Park Service.....	2366, 2383
Prepared statement of.....	2385
Fayette Plateau Chamber of Commerce, Committee for the Establishment of the New River Gorge National Park:	
Communication from.....	2355
Fayetteville Elementary School, Fayetteville, W. Va., students:	
Petition from.....	2347
Fazzari, Anthony M., assistant to the president, Coalcon, Inc.....	2611
Prepared statement of.....	2614
Fish, Manus J., Director, National Capital Parks.....	2407
Fong, Hon. Hiram L., (R), U.S. Senator from Hawaii:	
Letters from.....	2454, 2457
Glenn, Hon. John H., Jr. (D), U.S. Senator from Ohio.....	2215
Gorrell, Joseph W., Deputy Director, Bureau of Outdoor Recreation.....	2291
Greenwalt, Lynn A., Director, U.S. Fish and Wildlife Service.....	2433
Prepared statement of.....	2434
Greer, M. C., Comptroller, Energy Research and Development Administration.....	2461, 2626
Gunvaldson, D. C., president, Western States Regional Council, No. III, Gladstone, Oreg.:	
Letter from.....	2287
Hamilton, George T., director of Parks, New Hampshire:	
Letter from.....	2264
Hampton, John C., president, Willamina Lumber Co.:	
Letter from.....	2289
Hatfield, Hon. Mark O. (R), U.S. Senator from Oregon:	
Letter from.....	2271
Prepared statement.....	2184
Heller, Austin N., Assistant Administrator for Administration, Energy Research and Development Administration.....	2461
Prepared statement of.....	2659
Hess, J. B., executive director, Fayette/Plateau Chamber of Commerce.....	2333
Prepared statement of.....	2348
Hill, John A., Deputy Administrator, Federal Energy Administration.....	2741
Education.....	2750
Holliday, Robert K., editor, Fayette Tribune.....	2333
Holt, Fred E., director, State of Maine Department of Conservation:	
Letter from.....	2250-2251
Prepared statement.....	2252
Hruska, Hon. Roman Lee (R), U.S. Senator from Nebraska:	
Questions submitted by.....	2994
Hughes, Royston C., Assistant Secretary, Program Development and Budget, Department of the Interior:	
Letter from.....	2442
Humphrey, Hon. Hubert H. (D), U.S. Senator from Minnesota.....	2207
Prepared statement.....	2212
Inouye, Hon. Daniel K. (D), U.S. Senator from Hawaii:	
Letter from.....	2453
Jackson, Dr. William, Acting Director, Division of MHD, Energy Research and Development Administration.....	2461

	Page
Jarvis, Destry, administrative assistant, National Parks and Recreation Association	2359
Prepared statement of	2362
Johnson, Dr. Emery A., Assistant Surgeon General Director, Indian Health Service, U.S. Department of Health, Education, and Welfare :	
Letter from	2209
Johnson, Norm, Program Coordinator-Animal Damage Control, U.S. Fish and Wildlife Service	2433
Jones, Fred L., Assistant Director for Federal Programs and Planning, Bureau of Outdoor Recreation	2291
Knight, Fred B., director, School of Forest Resources, University of Maine :	
Letter from	2244
Prepared statement	2245
Lambros, Daniel P., president, Missoula Area Chamber of Commerce :	
Letter from	2255
Prepared statement	2256
McAllester, Walter R., Chief, Division of Realty, U.S. Fish and Wildlife Service	2433
McGee, Hon. Gale W. (D), U.S. Senator from Wyoming :	
Questions submitted by	2329, 2739, 2997
McIntyre, Hon. Thomas J. (D), U.S. Senator from New Hampshire :	
Letter from	2261
McKeown, James, Chief, Budget and Fiscal Management Branch, Energy Research and Development Administration	2461, 2662
McRorey, Russell P., Associate Deputy Chief, National Forest System	2419
Magnuson, Hon. Warren G., (D), U.S. Senator from Washington :	
Letter from	2235, 2237-2239
Questions submitted by	2738
Maines, John T., Maine :	
Letter from	2247
Prepared statement	2248
Mason, H. C., president, H. C. Mason and Associates :	
Letter from	2286
Metcalf, Hon. Lee (D), U.S. Senator from Montana :	
Letter from	2254
Prepared statement	2177
Miller, Robert, chairman, Threshold to Maine :	
Letter from	2242
Misener, Earle C., County Court of Union County, La Grande, Oreg. :	
Letter from	2284
Mondale, Hon. Walter F., (D-Farmer-Labor), U.S. Senator from Minnesota :	
Letter from	2989
Prepared statement	2232, 2990
Montoya, Hon. Joseph M., U.S. Senator from New Mexico :	
Prepared statement	3004
Question submitted by	2994
Morgan, Dr. John D., Jr., Associate Director, Minerals and Materials Supply/Demand Analysis, Bureau of Mines	2378
Morgan, Hon. Robert B. (D), U.S. Senator from North Carolina	2191
Prepared statement	2195
Muskie, Hon. Edmund S. (D), U.S. Senator from Maine :	
Letter from	2241
Natti, Theodore, director, State of New Hampshire, Division of Resources Development :	
Letter from	2263
Nelson, Robert, United Mine Workers of America :	
Letter from	2582
Neville, Howard R., president, University of Maine :	
Letter from	2243
Noel, Thomas E., Assistant Administrator, Management and Administration (FEA)	2741
Norwood, J. Leonard, Associate Director, Administration, National Park Service	2383

	Page
Nunn, Hon. Sam (D), U.S. Senator from Georgia :	
Letter from.....	2265
Oak Hill Elementary School, W. Va., students, Petition from.....	2347
Olson, David P., director, University of New Hampshire :	
Letter from.....	2262
Patt, Olney, Sr., Chemawa Advisory School Board :	
Letter from.....	2277
Quick, W. C., Chief, Programing and Budget Division, National Park Service.....	2383
Ragan, Hudson B., Acting General Counsel, Energy Research and Development Administration :	
Letter from.....	2612
Reed, Nathaniel P., Assistant Secretary for Fish and Wildlife and Parks, Department of the Interior.....	2291, 2383,
Prepared statement of.....	2293
Regula, Hon. Ralph S. (R), U.S. Representative from Ohio.....	2219
Rinaldi, Charles R., Chief, Branch of Coordination and Control, National Park Service.....	2383
Rosenberg, William G., Assistant Administrator, Energy Resource Development (FEA).....	2741
Education.....	2752
Rust, James, vice president, Merchants and Miners National Bank, of Oak Hill, W. Va.....	2333
Prepared statement of.....	2345
Salisbury, Ernest E., Jr., Director, Office of Budget and Financial Management (FEA).....	2741
Sant, Roger W., Assistant Administrator for Energy Conservation and Environment (FEA) :	
Speech.....	2883
Schroeder, I. E., Corvallis, Oreg.; Letter from.....	2288
Schultz, J. D., chairman of the board, Fayette Federal Savings and Loan Association.....	2333
Prepared statement of.....	2334
Seamans, Dr. Robert C., Jr., Administrator, Energy Research and Development Administration.....	2461, 2625
Prepared statement of.....	2529
Searcey, Jan R., executive director, United Indians of Nebraska :	
Letter from.....	2231
Seiberling, Hon. John F. (D), U.S. Representative from Ohio.....	2219
Prepared statement.....	2220
Smith, Gorman C., Assistant Administrator, Regulatory Programs.....	2741
Education.....	2753
Stevens, Hon. Ted, (R), U.S. Senator from Alaska.....	2741
Stewart, Phillip O., Chief of Land Acquisition, National Park Service.....	2378, 2383
Taft, Hon. Robert, Jr. (R), U.S. Senator from Ohio.....	2217
Taylor, Jonathan, vice chairman, Tribal Council, Cherokee Indian Tribe, Eastern Band.....	2191, 2193
Tobin, William T., Staff Assistant, Lands Staff Unit, U.S. Forest Service.....	2419
Tunney, Hon. John V. (D), U.S. Senator from California :	
Letter from.....	2257
Underhill, A. Heaton, Assistant Director for State Programs and Studies, Bureau of Outdoor Recreation.....	2291
Voight, L. P., secretary, Wisconsin Department of Natural Resources :	
Letter from.....	2325
Wahneta, Leroy, vice chief, Eastern Bank of Cherokee Indians :	
Letter from.....	2197
Watt, James G., Director, Bureau of Outdoor Recreation.....	2291
Prepared statement of.....	2305

White, Dr. Philip C., Assistant Administrator for Fossil Energy, Energy Research and Development Administration.....	Page 2461, 2626
Prepared statement.....	2673
Wiggins, Ben T., Georgia Public Service Commission:	
Letter from.....	2651
Wiles, Francis M., Director, Budget, Office of the Secretary, Department of the Interior.....	2291
Zahradnik, Dr. Raymond, Director, Division of Coal Conversion and Utili- zation, Energy Research and Development Administration.....	2461, 2658
Zarb, Frank G., Administrator, Federal Energy Administration:	
Education.....	2750
Letter from.....	2856
Prepared statement.....	2743
Zausner, Eric R., Deputy Administrator, Federal Energy Administration	2741
Education.....	2751



SUBJECT INDEX

	Page
Acoma-Laguna Hospital.....	2201
American Petroleum Institute.....	2934
Anvil Points.....	2731
Ashland Oil, Inc.....	2618
Atlantic Richfield Co.....	2618
Bartlesville Fuels Combustion Research Laboratory, Okla.....	2596, 2599
Bechtel model.....	2577
Belmont County, Ohio.....	2618
Big Cypress National Preserve.....	2303, 2388, 2390, 2392
Big Thicket National Preserve.....	2303, 2390, 2397
Biscayne, N. Mex.....	2387, 2388
Blue River Power Project.....	2341
Bluefield Daily Telegraph.....	2929
Boise-Cascade acquisition.....	2396
Buffalo National River.....	2397
CAA. (<i>See</i> Community Action Agencies.)	
CEQ. (<i>See</i> Council on Environmental Quality.)	
CSA. (<i>See</i> Community Services Administration.)	
Canaveral and Gulf Islands National Seashores.....	2387, 2388, 2393
Cape Lookout, Nova Scotia.....	2390
Catlettsburg project.....	2598
Chelan, Lake, Reclamation District. (<i>See</i> Lake Chelan Reclamation District.)	
Chemawa Indian School.....	2277
Chemawa School and Health Facility.....	2277
Cherokee Indian Hospital.....	2191
Clean boiler fuel.....	2591
Coalcon, Inc.....	2611
Clean boiler fuel.....	2591
Consortium.....	2618
Private sector: Ashland Oil, Inc., Atlantic Richfield Co., Consolidated Gas Supply Corp., DuPont, Martin Marietta, Mobile Research and Development, Reynolds Metals Co., Sun Oil, Y. & O. Coal Co.	
Public sector: Belmont County of Ohio, Ohio Air Quality Development Authority, State of Ohio, State of West Virginia, Wood Co., West Va. Development Authority	
Conversion process.....	2619
Demonstration plant.....	2626
Acceleration.....	2657
Funding.....	2627
Hydrocarbonization process.....	2658
Progress.....	2628
Site selection.....	2629
Environmental factors.....	2621
Fact sheet on Coalcon.....	2614
Funding.....	2627
History.....	2618
Legal opinion re Coalcon Co. contract.....	2612
Phasing.....	2628
Plant facility, status of.....	2622

	Page
Coalcon, Inc.—Continued	
Progress	2628
Project phases	2611, 2628
Project support	2611
Site selection	2620, 2629
Final	2622
West Virginia	2623
Colonial NHP, transition period request	2399
Community Action Agencies	2880
Community Services Administration	2880
History of CSA	2908
Weatherization program	2881
Work with FEA	2908
Conservation research and development	2265, 2267, 2270
Consolidated Gas Supply Corp.	2618
Consumer Special Impact Advisory Committee	2928
Council on Environmental Quality	2563
Cresap, W. Va., facility	2655
Cumberland Island, Nova Scotia	2387
Cuyahoga National Recreation Area	2215-2223
Development pressure	2222
Exhibits	2223
Land acquisition	2215, 2217, 2222
Local zoning	2215
Need	2222
Support petitions	2215, 2219, 2220
Cuyahoga Valley National Recreation Area	2303, 2387-88, 2390, 2395
Delaware Water Gap NRA	2391
Desert National Wildlife Range	2440
Development Sciences, Inc.	2577
Dolores River, Colo.	2311-2312
DuPont	2618
EIA. (See Energy Independence Authority.)	
ERD. (See Energy Resource Development (FEA).)	
ERDA. (See Energy Research and Development Administration.)	
ESECA. (See Energy Supply and Environmental Coordination Act, Public Law 93-319.)	
Earth Resources Observation Systems. (See EROS.)	
Electric World—Electrical industry forecast	2968
Endangered species	2436, 2440
Energy conservation	2265-2270
Energy Conservation and Environment, Office of (FEA)	2768-2771, 2793, 2815
Energy Independence Authority	2642, 2901
Energy Policy and Analysis (FEA)	2793
Energy Research and Development Administration:	
Advanced power system increase	2702
Automotive propulsion, advanced	2596
OMB action on request	2596
Bartlesville Fuels Combustion Research Laboratory, Okla.	2596, 2599
Budget:	
Amendments (summary table)	2489
Justifications	2493
Appropriations requested (chart)	2542
Cost basis proposal	2528
Cost increases, miscellaneous	2569
Funding delays, impact of fiscal year 1976	2569
Personnel increases	2568
Request	2461
Justifications	2463
Travel	2569
Calletsburg project	2598
Clarksburg Energy Conservation Plan	2664
Exist	2664

Energy Research and Development Administration—Continued

	Page
Coal:	
Combustion, direct.....	2717
Industry participation.....	2717
Gasification.....	2549, 2626
Duplication by industry.....	2578
High Btu gasification.....	2708
Funding allocation.....	2709
Future.....	2711
Senate authorization shift.....	2710
Projects.....	2578
Liquefaction.....	2549, 2626, 2706
Coal liquefaction vs. gasification.....	2739
Competing technologies.....	2707
Cost increases.....	2706
Funding, allocation.....	2708
Program, fiscal year 1976.....	2701, 2703
Budget amendment.....	2702
Estimates.....	2701
Transition.....	2725
Research:	
Advanced.....	2718, 2721
Commercial.....	2641
University participation.....	2719
Unobligated balance.....	2589
Resource information exchange.....	2568
Coalcon. (See Coalcon, Inc.)	
Conservation effort, expansion of.....	2888
Coordination between ERDA and FEA.....	2888, 2970
Cresap Liquefaction Facility, West Va.....	2655
Estimated obligations for renovations.....	2656
Operating level.....	2657
Timetable.....	2656
Demonstration plants.....	2629, 2722
Appropriations, use of previous.....	2724
Cost estimates.....	2724
Funding.....	2630
Subprogram breakdown.....	2724
Devonian shale.....	2728
Direct combustion.....	2702
Electric power systems, advanced.....	2716
Commercialization.....	2716
Emission control.....	2599
Energy conservation:	
Additional funds.....	2665
Clarksburg plan.....	2664
Duplication among agencies, industries.....	2561, 2666
Automotive conservation.....	2562
Energy data and analyses.....	2563
Research, advanced.....	2563
End use.....	2669
Expanded budget.....	2664
Programs.....	2546
Reprogramming.....	2665
Request cut OMB.....	2570
Research and development.....	2571, 2658
Advanced conversion.....	2660
Automotive program.....	2667
Budget determination.....	2571
Buildings.....	2659
Costs.....	2575
Duplication among agencies.....	2666
Industry.....	2660-2666
Priorities.....	2548

Energy Research and Development Administration—Continued

	Page
Energy conservation—Continued	
Research and development—Continued	
United Mine Workers comments	2582
Programs, future returns	2663
Research centers	2644
Expansion	2645
Morgantown	2646
Scenario V combination, all technologies	2572
Transportation	2659, 2667
Energy financing authority, proposed	2641
Agency duplication	2642
Energy Independence Authority	2642
Energy Information Center, University of New Mexico	2670
FEA's National Information Center	2670
Energy systems research, advanced program	2545
Energy technologies:	
Cost benefit analyses	2576
Investment estimates	2576
Transfer to FEA	2592
Engine-fuel technology	2599
Engine/vehicle test equipment	2601
European energy R. & D. efforts	2598
Federal Energy Administration	2561
National Information Center	2670
Federal Nonnuclear Energy Research and Development Act of 1974, Public Law 93-577	2541, 2564, 2612
Fossil energy:	
Budget amendment reduction	2625
OMB actions	2594
Carryover funds	2589
Development	2544
Obligations	2590
Pilot plants	2577
Programs	2673
Fossil fuel:	
Achievements, highlights	2591
Coal	2672
Cost overruns on programs	2566
Committee notification	2566
Reserves	2559
Fuel cells	2564
Program	2648
Research	2665
Fuels combustion research, bibliography, Bureau of Mines, 1968- 1974	2603-2610
Fund transfers	2567
Funding delays, impact of fiscal year 1976	2569
Gas and oil:	
Capabilities for increase	2728
Cooperative projects	2728-2729
Devonian shale	2728
Extraction	2564, 2726-2729
Goals	2729
Potential	2727
Private industry	2727
Price incentives, secondary, tertiary recovery	2565
Utilization	2729
Gasification	2549, 2626
Duplication by industry	2578
High Btu gasification	2708
Funding allocation	2709
Future	2711
Senate authorization shift	2710
Projects	2578
General Accounting Office report on mining research and development authority	2560

Energy Research and Development Administration—Continued	Page
Goals, short term, midterm, long-range.....	2549
Headquarters, ERDA interior decoration.....	2643
High-Btu gasification.....	2708
Funding allocation.....	2709
Future.....	2711
Senate authorization shift.....	2710
Hydrane project.....	2649
Hygas Plant, Chicago.....	2710
Institute for Energy Research and Development on MHD, Montana.....	2551
Interagency transfers.....	2945
Laramie Energy Research Center.....	2731, 2733, 2739
Liquefaction.....	2549, 2626, 2706
Coal liquefaction vs. gasification.....	2739
Competing technologies.....	2707
Cost increases.....	2706
Funding, allocation.....	2708
Liquid metal fast breeder reactor:	
Funding.....	2584
Phoenix project, France.....	2584
Safety.....	2585
Storage of nuclear waste.....	2586
Waste disposal.....	2584
Load management.....	2649, 2653
Loan guarantees for synthetic fuel plants.....	2633
Application.....	2634
Earmarking.....	2640
Low-Btu gasification.....	2712
Funding allocations.....	2714
Senate authorization.....	2712
Magnetohydrodynamics.....	2551, 2734
Capability.....	2559
Costs, projected.....	2735
Funding.....	2736
Montana MHD program:	
Montana College of Mineral Science and Technology.....	2552
Montana Energy and MHD Research and Development Institute, Inc.....	2151-2553
Montana State College.....	2551
Montana Tech.....	2551
Montana University System.....	2553
Proposed report language.....	2552
Projects, Individual.....	2735
Soviet Union cooperation.....	2551, 2553
Techniques.....	2735
University of Tennessee.....	2551
Mining research and development authority.....	2559
General Accounting Office report.....	2560
Morgantown Research Center.....	2646
Hydrane project.....	2647
National Energy Research, Development and Demonstration plan.....	2541, 2571
Natural gas.....	2564-2565, 2726
Non-nuclear-energy sources.....	2586
Nuclear fuels and reactors.....	2587
Budget emphasis.....	2587
Comparison with fossil energy, solar, etc.....	2587
Oil and gas. (See Gas and oil.)	
Oil companies in coal.....	2560
Oil equivalents for coal conversion processes.....	2632
Costs per barrel, estimated.....	2632
Oil shale:	
Composition and characterization subprogram.....	2733
Devonian shale.....	2728
Expansion capability.....	2731

Energy Research and Development Administration—Continued		Page
Oil shale—Continued		
Green River Formation, Western.....		2731
Industry participation.....		2733
Oil shale mining research.....		2734
Program.....		2730
OMB reduction of request.....		2625
Research and development.....		2565
Water research, related.....		2732
Organization chart, ERDA.....		2534
Petroleum.....		2726
Pilot plants.....		2702
Cost overrun.....		2705
Estimated investment.....		2705
Financing.....		2705
Priorities, timetable of energy.....	2541,	2547
Private industry, role of.....	2582,	2633
Programs, comprehensive review.....		2541
Industry participation.....		2582
Public participation in energy planning.....		2654
Rapid City plant.....		2711
Relation to FEA.....		2897
Rivesville Pilot Plant, W. Va.....		2717
Seattle's urban waste project.....		2738
South Dakota and Tennessee plants.....		2713
Pilot plant participation.....		2713
Soviet magnetohydrodynamics project, financing.....		2553
Costs, projected.....		2555
Timing and costs.....		2556
Synthetic fuels:		
Commercialization program.....		2635
Feasibility.....		2638
Goals.....		2639
Costs, competitive.....	2632,	2640
Imported oil prices, related to synfuels commercialization.....		2639
Loan guarantee authority.....	2545,	2547
Technology information.....		2654
Technology transfer to FEA.....		2892
Tennessee and South Dakota plants.....		2713
Pilot plant participation.....		2713
Tertiary recovery.....		2597
Fossil energy development tertiary oil recovery projects.....		2597
Underground gasification.....		2714
Senate authorization change.....		2715
Waste conversion:		
Urban.....		2661
Funding.....	2662-	2663
Seattle's project.....		2738
Wood waste.....		2580
Pilot plant.....		2671
Energy resource development (FEA).....	2793,	2891
Energy Resources Council.....		2945
Interagency natural gas task force.....	2773,	2968
Energy Supply and Environmental Coordination Act (ESECA) Public Law 93-319.....		2895
EROS [Earth Resources Observation Systems] Data Center in Sioux Falls, S. Dak.:		
Benefits.....		2187
Digital data processing.....		2187
Quick-look data capability.....		2186
Everglades National Park.....	2389,	2396
Executive Direction and Administration (FEA).....		2792
EXIST.....		2664

FEA. (See Federal Energy Administration.)	
FEMP. (See Federal Energy Administration: Federal Energy Management Program.)	
FWEC. (See Foster Wheeler Energy Corp.)	Page
Fast track system of construction	2193, 2199
Federal Energy Administration:	
Appeal from House of Representatives allowance	2857-2868
Administrator's Office, contracts in	2929, 2986
American Petroleum Institute	2934
Appropriations:	
Authorization in excess of ceiling	2879
Fiscal years 1974, 1975	2785
Crosswalk statements	2796-2798
Language requested, salaries and expenses	2795
Bluefield Daily Telegraph	2929
Budget:	
Amendment, status	2741
Appendix	2778
Basis for 1976 estimate	2984
Budget reduction in House of Representatives:	
Application to personnel	2984
Budget request, 1976, revised	2741
Communications and Public Affairs Office	2930
Freedom of information	2930
Public inquiries	2930
Split in public information	2931
Energy Conservation and Environment	2768-2771, 2793
Administrative and cross-sector programs	2818
Building programs	2816
Changes, analysis of	2820
Commercial building, industrial, and vanpool conservation seminars	2769
Contracts, analysis of fiscal year 1976	2821
Education	2770, 2930
Environmental programs	2817
Industrial programs	2816
Justification	2768
Object classification	2771, 2832
Objectives, major 1976	2818
Public education	2817
Residential building	2769
Split in public information	2931
Transportation programs	2815
Utilities conservation	2770
Utilities programs	2817
Energy Policy and Analysis:	
Changes, analysis of	2805
Contracts, analysis of	2806-2808, 2935, 2937
Analysis, office of	2807
Data office	2806, 2938
Policy Integration and Evaluation, office of	2808
Justification	2760-2761, 2804
Transition	2783
Object classification	2762, 2808
Role	2793, 2931
Energy resource development	2793, 2891
Changes, analysis of fiscal year 1976	2835
Contracts, analysis of fiscal year 1976	2836
Revision	2957
Justification	2772, 2833, 2784
Nuclear Affairs Office	2772
Object classification	2774, 2839
Reduction in program	2802
Shift from oil/gas to coal	2893
Transition period, justification	2784

Federal Energy Administration—Continued

	Page
Budget—Continued	
Estimate, fiscal year 1976.....	2785
Executive Direction and Administration.....	2792
Administrative staff.....	2897
Amendment justification.....	2757-2758, 2790
Changes, analysis of.....	2801
Contracts, analysis of fiscal year.....	2802
Object classification.....	2759, 2803
International Energy Affairs.....	2794
Changes, analysis of.....	2842, 2845
Contracts, analysis of fiscal year 1976.....	2843
Justification.....	2776, 2784, 2840
Object classification.....	2777, 2844
Objectives, major for fiscal year 1976.....	2841
Transition period, justification.....	2784
Justification.....	2754
Personnel requirements.....	2896
Personnel summary.....	2780
Positions, analyses.....	2756
Energy Conservation and Environment.....	2768
Executive Direction and Administration.....	2757, 2759, 2792
Private Grievances and Redress.....	2765
Regulatory program.....	2763
Summary, fiscal years 1974, 1975, 1976.....	2786
Private Grievances and Redress, Office of.....	2765
Regulatory programs, Office of.....	2763
Changes, analysis of.....	2812
Contracts, analysis of fiscal year 1976.....	2813
Justification.....	2763, 2809
Object classification.....	2765, 2814
Transition period, justification.....	2783
Salaries and expenses.....	2778
Analysis by activities.....	2781
Object classification.....	2779
Program and financing, transition period.....	2782
Transition period, justification.....	2783
Transition quarter, estimate.....	2985
Unobligated balance, 1975.....	2985
Canadian petroleum exports.....	2988
Coal:	
Conversion costs, analysis.....	2951
Data systems.....	2966
Radioactivity released in burning.....	2929
Reserves, data available through other agencies.....	2966
Coal mine health and safety problems.....	2988
Compliance and enforcement program.....	2876
Congressional budget submission, fiscal year 1976.....	2788
Objectives, major for fiscal years, 1975, 1976.....	2789-2791
Congressional committees, work with.....	2903
House.....	2906
Joint.....	2907
Senate.....	2905
Consumer compensation for gross price violations.....	2876
Consumer Special Impact Advisory Committee.....	2928
Contingency funding.....	2986
Contractors, outside.....	2877, 2879
Conversion costs, reimbursement.....	2894
Data processing activities.....	2938
Computers security requirements:	
Optimum Systems, Inc.....	2950
Consolidation.....	2947
Contracts.....	2946
Data collection responsibilities.....	2938
Fund reduction.....	2945

Federal Energy Administration—Continued

	Page
Electric utilities:	
Capital requirements.....	2963
Conservation demonstration program.....	2979
Consumer participation in rate study.....	2927
Energy resource requirements.....	2967
Reform of rates.....	2927
State agency role.....	2927
Utility rate study, cost.....	2964
Emergency Petroleum Allocation personnel.....	2877
"Energy Ant".....	2931
Energy conservation.....	2881
Advertisements, paid.....	2889
Agency roles.....	2909
Assistance to State and local governments.....	2980
Budget request, reduction by House of Representatives.....	2972
Conservation materials for schools.....	2980
Conservation seminars.....	2978
Contracting for commitments.....	2981
Coordination between ERDA and FEA.....	2970
Cost-benefit ratio.....	2888
Cost effectiveness.....	2973
"Don't be fuelish" campaign.....	2890
Expansion of effort.....	2888
Fuel savings.....	2973, 2976
Federal buildings.....	2974
Program expansion.....	2975
Reimbursement, guidelines to States.....	2913-2914
State energy effort.....	2913
Energy Conservation and Environment, Office of.....	2786-2771, 2793, 2815
Energy consumption, reduction in.....	2971
Energy data.....	2932
Energy Independence Authority.....	2901-2965
"Energy" Information Collection.....	2940-2941
Energy Policy and Analysis:	
ADP fuel allocation.....	2952
Budget amendment justification.....	2760
Congressional budget submission.....	2804-2808
Object classification.....	2762
Role in FEA.....	2793
Transition.....	2783
Energy programs among agencies:	
Clearinghouse for energy related projects.....	2900
Delineation of functions.....	2897
ERDA.....	2898
FEA.....	2898-2899
Federal agencies involved with energy.....	2561, 2903
Interior Department.....	2898
Nuclear Regulatory Commission.....	2898-2899
Energy Research and Development Administration.....	2888, 2945
Relation to FEA.....	2897
Technology transfer to FEA.....	2892
Energy Resource Development:	
Administrative costs.....	2956
Contracts.....	2836, 2956
Function.....	2891
Methodologies of resource allocation.....	2963
Project tracking system.....	2962
Role.....	2793
Energy Resources Council Interagency Task Force.....	2773
Role.....	2945
Evaluation of options with U.S. firms in international petroleum affairs.....	2982

Federal Energy Administration—Continued		Page
Executive Direction and Administration:		
Budget amendment, fiscal year 1976	-----	2757-2759
Changes, analysis of	-----	2801-2803
Congressional budget submission, fiscal year 1976	-----	2799
Role in FEA	-----	2792
FEA Act, extension of	-----	2983
Federal Energy Management Program	-----	2974
Federal Energy Office	-----	2846
Federal funds. (See Federal Energy Administration: Funds, Federal.)		
Federal reimbursement mechanism	-----	2921
Fluidized bed systems	-----	2970
Fuel allocation:		
ADP system	-----	2952
State participation	-----	2920
Fuel suppliers to utilities, investigation:		
Contract support funding	-----	2951, 2955
"Project Utility," GAO report	-----	2952
Funds, Federal:		
General and special funds	-----	2846
Federal Energy Office	-----	2846
Salaries and expenses	-----	2846
Fuel allocation, oil, and gas programs	-----	2846
Salaries and expenses	-----	2846
Activities, analysis	-----	2851
Object classification	-----	2849
Permanent positions	-----	2850
Program and financing	-----	2847-2848
Transition justification	-----	2852
Secretary, Office of the	-----	2846
Energy conservation and analysis	-----	2846
General Accounting Office:		
Access to FEA records	-----	2877
Project Utility review	-----	2954
FEA response	-----	2954
Recommendation	-----	2954
Guidelines to States on reimbursements	-----	2913
Health services	-----	2987
Interagency energy data and analysis efforts	-----	2943
Duplication among Interior Department, FEA, ERDA	-----	2943
Transfers to other agencies	-----	2944
Interior Department of the:		
Bureau of Mines commodity reports	-----	2942
"Energy Information Collection"	-----	2940
FEA's comments on Interior Department statement	-----	2943
Relation to FEA	-----	2898
International Energy Affairs	-----	2777, 2794, 2840
International Energy Agency	-----	2982
Krueger Study	-----	2982
Marshall University, Huntington, W. Va.	-----	2929
Study on radioactivity in western coals	-----	2929
Mines, Bureau of:		
Commodity reports	-----	2942
National Energy Accounting System	-----	2935
National Energy Information Center	-----	2670, 2933
Natural gas task force	-----	2968
Nuclear Affairs, Office of	-----	2772, 2962
Nuclear Energy Office. (See Federal Energy Administration: Nuclear Affairs, Office of.)		
Oil companies, relationship with major	-----	2982
Oil decontrol plan, compromise	-----	2868
White House fact sheet	-----	2870
Oil import fees	-----	2987
Oil recovery potential of existing reservoirs:		
Duplicative research	-----	2964
Oil reserves, estimated	-----	2934

Federal Energy Administration—Continued	Page
"Other services".....	2986
Outer Continental Shelf.....	2968
Mid-Atlantic Government Coastal Resources Council.....	2969
State assistance.....	2969
Petroleum allocation:	
Contingency plans.....	2875
Continuation.....	2868
Cost estimates for programs.....	2875
Phasing out.....	2875
Support.....	2945
Petroleum exploration:	
Duplicative research.....	2964
President's compromise oil decontrol plan.....	2870
Price violations.....	2876
Private Grievances and Redress, Office of.....	2765
Producer-Consumer Conference.....	2982
Project Conserve.....	2769, 2971, 2978
Project Independence.....	2933
Criticism.....	2967
Evaluation system.....	2934
Project Utility:	
GAO report.....	2952
Propane fuel program.....	2878
Public energy education.....	2930
Radioactivity released in coal burning.....	2929
Regulatory programs:	
Coal conversion.....	2951
Fuel suppliers to utilities.....	2951
Phase out costs.....	2952
Practices study.....	2951
Role of activity.....	2793
Reimbursements to States.....	2912, 2921
FEA personnel in program.....	2926
Fiscal years 1974, 1975.....	2922
"Relationship of Oil Companies and Foreign Governments".....	2982
Research, duplicative.....	2964
Oil recovery.....	2964
Petroleum exploration.....	2964
Synthetic fuels.....	2964
Secretary, Office of the.....	2846
Shale conversion.....	2901
Slippage reduction.....	2983
Solar energy.....	2969
Solid waste and fluidized bed systems.....	2970
State assistance.....	2969
State energy efforts.....	2913
State energy programs, FEA assistance.....	2916
State energy tasks in fiscal year 1976.....	2921
State/Federal conservation program.....	2917
Continuation of program.....	2920
Synthetic fuels.....	2964
Commercialization.....	2965
Development.....	2901
Tanker market.....	2981
Thermal upgrading:	
Pilot program for homes.....	2971
Travel request.....	2984
Utilities Conservation Action Now (UCAN).....	2770
Utilities, shift from oil/gas to coal.....	2893
Plant conversion costs.....	2895
Reimbursement.....	2894
Requirements for energy resource.....	2967
Vanpool program.....	2769, 2976
Fuel savings.....	2977

Federal Energy Administration—Continued

	Page
Weatherization:	
Agency roles.....	2909
Authorization.....	2911
Community Services Administration, work with.....	2908
Fuel conservation.....	2910
Grants to low income home owners.....	2879
Program status and results.....	2880-2881
White House Fact Sheet on Oil Decontrol Plan.....	2870
Crude oil, domestic production (chart).....	2873
Imports (chart).....	2874
World tanker market.....	2981
Federal energy management program.....	2974
Federal Energy Office (FEA).....	2846
Federal Nonnuclear Energy Research and Development Act of 1974, Public Law 93-577.....	2541, 2564, 2612
Fish and Wildlife Service.....	2433
Forest Products Laboratory, Madison, Wis.....	2286, 2289
Forest Service.....	2419
Laboratory at Durham, N.H.....	2261-2263
Oregon.....	2280-2282, 2285, 2288
West coast States.....	2282-2283
White Mountain National Forest.....	2264
Forestry benefit.....	2178
Forestry Sciences Laboratory, University of Montana.....	2254-2256
Foster Wheeler Energy Corp.....	2713
GAO. (<i>See</i> General Accounting Office.)	
GE. (<i>See</i> General Electric Co.)	
General Accounting Office:	
Access to FEA records.....	2877
Project Utility review.....	2952, 2954
FEA response.....	2954
Recommendation.....	2954
Report on mining R. & D. authority.....	2560
General Electric Co.....	2713
Georgia Public Service Commission.....	2649, 2651
Germany Valley Area in West Virginia.....	2313
Golden Gate NRA.....	2387, 2391
Goodrich properties, Montana.....	2428
Great Dismal Swamp.....	2438, 2440
Great Swamp.....	2440
Gulf Islands National Seashore.....	2389, 2393
HEW. (<i>See</i> Health, Education, and Welfare, Department of.)	
HUD. (<i>See</i> Housing and Urban Development, Department of.)	
Harpers Ferry NHP.....	2398
Health, Education and Welfare, Department of.....	2888
Hospitals, Indian:	
Acoma-Laguna.....	2201
Cherokee.....	2191
Finance.....	2203
New Mexico.....	2201
North Carolina.....	2191
Santa Fe.....	2202
Shiprock.....	2202
Housing and Urban Development, Department of.....	2888
Human Kindness Day.....	2407
Complaints.....	2410
Costs.....	2408, 2411, 2413-15
Future plans.....	2418
Incidents.....	2409
Inner-city government responsibility.....	2410
Recurrence of tragedies.....	2416
Hydrane project.....	2649

	Page
Hygas Plant, Chicago.....	2710
Hydrocarbonization process.....	2658
IEA. (See International Energy Affairs (FEA).)	
Indian health facilities:	
Chemawa School and Health Facility.....	2277
Funding, phased.....	2211
Plan.....	2208
\$9.6 million request.....	2210
Red Lake Chippewa facilities.....	2207
Red Lake Reservation.....	2208
Indians, Urban, State of Nebraska.....	2229
Indians in California.....	2257-2260
Interior, Department of the:	
Bureau of Mines commodity reports.....	2942
"Energy Information Collection".....	2940
FEA's comments on Interior Department's statement.....	2943
Relation to FEA.....	2898
International Energy Affairs (FEA).....	2777, 2794, 2840
Lake Chelan Reclamation District.....	2236
Lake Mead.....	2398
Lake Tahoe.....	2429
Land and Water Conservation Fund.....	2383
Program.....	2297
Fish and Wildlife Service.....	2433
Acquisition needs, estimated.....	2435
Animal damage control.....	2443
Reprogramming of funds, areas affected.....	2448
Impact on rodent and bird control.....	2449
Budget:	
Acquisition budget, reduced.....	2435
Highlights.....	2435
Request.....	2433
Transition.....	2440
Coyote control:	
Agriculture contributions.....	2448
Environmental Protection Agency contributions.....	2448
Funding, critical importance.....	2451
Reprogramming of funds.....	2441
Reprogramming request.....	2442
Endangered species acreage acquisition.....	2436
Purchase details.....	2438
Special authorized areas.....	2437
West Virginia Research Station, closure.....	2451
Wildlife recreation areas.....	2437
Forest Service.....	2419
Acquisitions, status of.....	2423
Cost.....	2425
Priorities.....	2425
Projects.....	2426
Budget request.....	2422
Deferrals, 1975.....	2422
Deficiency awards.....	2428
Personnel:	
Ceilings.....	2431
Positions filled.....	2431
Recreation land, need for acquiring.....	2422
Specially designated areas:	
California, Colorado, New Mexico.....	2429
Transition funding.....	2430
Unobligated balance, 1975.....	2422
Western limitation, 100th meridian.....	2429
Wilderness acquisition.....	2428

Land and Water Conservation Fund—Continued	Page
National Park Service.....	2383
Authorized permanent positions in allocation accounts.....	2405
Budget request.....	2383
Corps of Engineers suballocation.....	2405
Positions filled.....	2405
Deferrals.....	2391
Federal programs allocation account.....	2404
Highlights.....	2383
Inholdings.....	2393
Land acquisitions.....	2402
Personnel ceilings.....	2400
Positions:	
Corps of Engineers.....	2405
Explanation.....	2405
Funds.....	2406
Permanent positions.....	2406
Public lands, acquisition.....	2400
Supplemental, 2d, reallocation of the 1975 fiscal year.....	2386
Justifications.....	2386
New River Gorge. (See New River Gorge.)	
Outdoor Recreation, Bureau of.....	2291
Acquisition in urban areas, NPC.....	2300
Administrative expenditure.....	2308, 2325
Background.....	2307
Contingency reserve projects, fiscal years 1973, 1974, 1975, 1976.....	2320-2324
Deferrals:	
Additional appropriations for programs deferral in 1975....	2317
Status of Federal.....	2316
Enlargement of LWC fund.....	2304
Federal land acquisition:	
Coordination.....	2327
Funds needed.....	2298
Federal program.....	2298, 2308
Federal share, increase.....	2299
Grant-in-aid apportionment report.....	2318
Highlights.....	2313
New River Gorge. (See New River Gorge.)	
Opportunity inholding purchase program.....	2298
Positions involved.....	2328
Program.....	2297
State and Federal programs, division between.....	2327
State assistance.....	2297
State grant contingency fund.....	2300
State grant funds carryovers.....	2317
State matching funds, types.....	2319
Transition.....	2308
Travel costs.....	2329
Unappropriated balance in fund.....	2304
Unobligated balances.....	2314
Urban areas acquisitions, NPC.....	2300
West Virginia, State grant funds.....	2317
Wyoming:	
Funds awarded.....	2329
Land acquisition.....	2329
Opportunity inholding program.....	2330
Lower St. Croix NSR.....	2393
Martin Marietta.....	2618
Mason Neck.....	2439
Mead, Lake. (See Lake Mead.)	
Medford, Oregon District Office.....	2271-76
Mid-Atlantic Government Coastal Resources Council.....	2369

	Page
Mobile Research and Development.....	2618
Monongahela Power Co., Rivesville, W. Va.....	2717
Montana College of Mineral Science and Technology.....	2552
Montana Energy and MHD Research and Development Institute, Inc. 2551.....	2553
Montana State College.....	2551
Montana Tech.....	2551
Montana University System.....	2553
Morgantown Research Center.....	2646
Morristown NHP.....	2399
Mt. Hagin Ranch.....	2428
NASA. (See National Aeronautics and Space Administration.)	
NEIC. (See National Energy Information Center.)	
NSP. (See Northern States Power.)	
National Aeronautics and Space Administration, Lewis Center, Cleveland, Ohio.....	2596
National Association of Regulatory Utility Commission.....	2649
National Electric Reliability Council.....	2967
National Elk Refuge.....	2439
National Energy Information Center (FEA).....	2670-2933
National Governors Conference.....	2980
National Laboratories.....	2731
National Park Service.....	2383
New River Gorge. (See New River Gorge.)	
Public Events, Free:	
Costs, 1974, 1975, 1976.....	2416, 2417
Human Kindness Day. (See Human Kindness Day.)	
Summer In The Parks. (See Summer In The Parks.)	
National Plan for Energy, Research, Development, and Demonstra- tion.....	2541, 2571
National Science Teachers Association.....	2980
New Mexico Indian hospitals:	
Acoma-Laguna Hospital.....	2201
Financing.....	2203
Santa Fe Hospital.....	2202
Shiprock Hospital.....	2202
New River Gorge.....	2333
Age of New River.....	2357
Coal mining, fishing and residences.....	2338
Coal reserves, value.....	2378
Costs:	
Fee acquisition.....	2375, 2370
Scenic easements.....	2371
County zoning.....	2368
Criteria of new area, revision.....	2375
Designations:	
National Recreation Area:	
Priority.....	2377
Qualifications.....	2371, 2377
National Parks:	
Priority.....	2377
Qualifications.....	2371
Reasons for designations.....	2339, 2351, 2375
Wild and Scenic River.....	2377
Drawing area.....	2372
Hearings distribution.....	2380
Increasing use.....	2340, 2344
Land ownership distribution.....	2368
Mining studies, funds for fiscal year 1976.....	2379
National Parks and Recreation Association.....	2359
Options.....	2381
Petitions.....	2347
Preservation.....	2333, 2342, 2358

	Page
New River Gorge—Continued	
Public meetings held by BOR	2335, 2340, 2373
Recreation development in nearby towns	2369
Report by BOR, comments on	2336, 2340, 2350
Resolutions	2354-2356
Scenic easements, cost of	2371
State parklands	2369
Structures, exclusion of	2370
Summary of issues	2380
Unique and scenic values	2336
Visitation, projected	2371
Water flow standards	2369
Wild Water, Inc	2357
Zoning:	
Areas similar to New River Gorge	2366
Local to preserve natural areas	2365, 2367
North Central Forest Experiment Station, St. Paul	2232
Northern Forest Fire Laboratory, Missoula, Mont.	2254-2256
Northern States Power	2713
Nuclear Affairs Office (FEA)	2772
Nuclear Energy Office (FEA). (See Nuclear Affairs Office (FEA).)	
Nuclear Regulatory Commission	2898-2899
OPEC. (See Organization of Petroleum Exporting Countries.)	
Oak Creek Canyon	2430
Office of. (See other part of title.)	
Olin Air Quality Development Authority, Ohio	2618
Olympia Research Laboratory	2238, 2240
Optimum Systems, Inc	2950
Organization of Petroleum Exporting Countries (OPEC)	2981
Outdoor Recreation, Bureau of	2291
Acquisitions backlog, NPS	2301
Budget estimates	2292, 2397
Transition request	2307
Compliance inspection intervals	2326
Environmental Impact Statements, assistance in	2326
Estimated acquisition costs by NPS after fiscal year 1975 (table)	2302
Expenses, administrative	2308, 2325
Federal coordination costs, allocation	2310
Highlights of statement	2297
Land and Water Conservation Fund. (See Land and Water Conservation Fund.)	
National Environmental Policy Act, cost related	2310
New River Gorge. (See New River Gorge.)	
Newly authorized areas	2303
Program restriction	2309
Rivers designated for study, Public Law 93-621:	
Study deadlines	2312
Study responsibility:	
BOR: Big Thompson, Colo., Colorado, Colo. and Utah, etc	2312
Joint Bureau of Outdoor Recreation and Forest Service:	
Dolores, Colo., etc	2312
Forest Service: American, Calif., Au Sable, Mich., etc	2312
Salaries and expenses	2304
State grant contingency fund	2300
State planning efforts	2327
Technical assistance:	
Costs, allocation	2310
Private sector	2309
Travel costs	2311, 2329
Urban campgrounds	2310
Wild and scenic rivers, House add-on	2311
Pacific Crest Trail	2459
Pacific Northwest Forest and Range Experiment Station	2281, 2287

	Page
Phoenix Project, France.....	2584
Point Reyes National Seashore.....	2387, 2392
Private Grievances and Redress (FEA).....	2765
"Project Conserve".....	2769, 2971, 2978
"Project Independence".....	2933-34, 2967
"Project Utility".....	2952, 2954
Rapid City Plant.....	2711
Red Lake Chippewa facilities.....	2207
Red Lake Reservation.....	2208
Regional Electric Reliability Council.....	2967
Regulatory programs, Office of (FEA).....	2763
Reynolds Metals Co.....	2618
Rivesville Pilot Plant, W. Va.....	2717
Rogue River.....	2459
St. Croix, Lower NSR. (See Lower St. Croix NSR.)	
St. Francis Indian School.....	2253
San Bernard NWR.....	2439-2440
San Francisco Bay NWR.....	2436
Santa Ana NWR.....	2441
Santa Fe Hospital.....	2202
Sawtooth National Recreation Area.....	2423
Seneca Nation of Indians.....	2225-2228
Shiprock Hospital.....	2202
Sleeping Bear Dunes NL.....	2389, 2397
South Dakota and Tennessee Plants (Low Btu pilot plants).....	2713
Soviet magnetohydrodynamic project, financing.....	2553, 2557
Spruce-budworm.....	2241-2252
Spruce Knob-Seneca Rocks deferral.....	2423
STRETCH.....	2286
Summer In The Parks/Parks For All Seasons.....	2412
Sun Oil.....	2618
Synthane Plant.....	2591
Tahoe, Lake. (See Lake Tahoe.)	
Tennessee and South Dakota Plants (Low Btu pilot plants).....	2173
Tinicum Environmental Center.....	2436
Union Carbide Corp.: Coalcon, Inc.....	2611
United Indians of Nebraska.....	2231
United Mine Workers.....	2582
United Technologies, Inc.....	2648
University of Tennessee.....	2551
Virgin Islands NP.....	2395
Voyageurs NP.....	2389, 2395
Water Conservation Fund. (See Land and Water Conservation Fund.)	
Water Resources Council.....	2564
Weed control, Oregon.....	2284
West Virginia (State).....	2618
White Mountain National Forest.....	2264
Wood County, W. Va. Development Authority.....	2618
Wood waste pilot plant.....	2671
Y. & O. Coal Co.....	2618

